NATURAL RESOURCES CONSERVATION BOARD

Application No. 1701

SPRINGBANK OFF-STREAM RESERVOIR PROJECT

P R O C E E D I N G S

Volume 4

March 25, 2021

(Via videoconferencing)

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

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(PROCEEDINGS COMMENCED AT 8:30 A.M.)

THE CHAIR: Good morning, everyone. We left off yesterday actually completed with Transportation and cross, and we're ready for Stoney Nakoda's direct this morning.

Before we get started, any prelim matters or housekeeping?

MS. SENEK: Good morning, Mr. Chair. It's Melissa Senek from the City.

The City of Calgary sent an undertaking response to Mr. Rae and Ms. Friend respecting our undertaking about the government of Alberta and TransAlta agreement. And we sent that yesterday afternoon. So my understanding, our undertakings are now complete.

THE CHAIR: Thank you. And was that sent to the Board as well?

MS. SENEK: It was sent to Ms. Friend, yes.

THE CHAIR: It was. Okay.

MS. SENEK: I don't think they meant it as an exhibit, though. And I do realize that I didn't copy Ms. Louden on that, so I can forward that to her as well.

MS. LOUDEN: I have received it through Mr. Rae. Thank you.

MS. SENEK: Perfect. Thank you.

MS. FRIEND: And this is Laura. I have entered it as Exhibit 363. So it is on the website.

THE CHAIR: And it's already posted? Okay, thank you, Ms. Friend.

So 363. Did I hear that right?

MS. FRIEND: Yes, that's correct.

THE CHAIR: Okay. Thank you, Ms. Senek.

EXHIBIT 363 - CITY OF CALGARY UNDERTAKING RESPONSE RE GOVERNMENT OF ALBERTA AND TRANSALTA AGREEMENT

THE CHAIR: Anything else?

Okay, Ms. Louden, you've got around two hours and 40 minutes, I believe, is the requested and approved, so that'll take us through a good part of the morning for sure, but we'll likely have a break. I'll try to get a break in there somewhere if it's sort of a natural spot, but we'll just sort of play that by ear, but for now, then, the floor is yours. And welcome.

MS. LOUDEN: Thank you, sir, and good morning.

The Stoney Nakoda witness panel today for Topic 2 includes members of the distinct nations of Bearspaw, Chiniki, and Wesley First Nation; namely, Mr. William Snow, Elder Jackson Wesley, Elder Henry Holloway, Elder John Snow, Jr., Larry Daniels, Jr., and Chris Goodstoney.

Also sitting on the panel this morning is Ms. Megan Berry. She's an archeologist contracted by the Stoney Nakoda Nations as part of their review of the S -- sorry, as part of their review of the SR1 project application.

So, this morning, Elder Jackson Wesley will be performing a prayer with each of the Stoney Nakoda witnesses which serve as their affirmation this morning.

So, in particular, the prayer will serve as affirmation for Elder Jackson Wesley himself, William Snow, Elder Henry Holloway, Elder John Snow, Jr., Larry Daniels, Jr., and Chris Goodstoney.

After Elder Jackson has performed the prayer to affirm those witnesses, I suggest that, at that time, the court reporter swear or affirm Ms. Megan Berry.

So, at this time, I will turn to Elder Wesley and suggest that now is the time for him to perform the

prayer.

Sorry, I'm just looking.

ELDER WESLEY: Good morning. Can you hear me? Sorry about that. My name is Jackson Wesley --

THE CHAIR: Excuse me, excuse me. Sorry to interrupt, our court reporter is having difficulty hearing you. Is it possible maybe for you to speak up? We want to get this on the record so that we --

Ms. DiPaolo, can you just give us maybe a quick check.

ELDER WESLEY: Good morning. Hello? Good morning.

THE CHAIR: That's much better. Thank you.

ELDER WESLEY: Sorry about that. My name is Jackson Wesley. I'm a Stoney First Nation.

And every time we do something like a ceremony or a gathering, we always do the opening prayer first for Creator first. We pray and, at the end, we always say a closing prayer too. So we hopefully do that at the end, so somebody can do that.

So I'm going to say a prayer in my language, so please bear with me and help me.

(OTHER LANGUAGE SPOKEN)

ELDER WESLEY: Amen. Thank you. Thank you.

MS. LOUDEN: Thank you, Wesley.

So now I would suggest would be an appropriate time for the court reporter to swear or affirm Ms. Megan Berry. Sorry.

THE CHAIR: Yes.

W. SNOW, J. WESLEY, H. HOLLOWAY, J. SNOW JR., L. DANIELS JR., C. GOODSTONEY, M. BERRY (For Stoney Nakoda Nations), affirmed through prayer/affirmed

MS. LOUDEN EXAMINES THE PANEL:

Q. Thank you. Now, I'll just briefly introduce Ms. Megan Berry and ask her to confirm her credentials, and then I'll turn it over to Mr. William Snow who will introduce himself and the other Stoney Nakoda witnesses.

Ms. Berry, your CV is on the record as Exhibit 343. Can you confirm that your CV is accurate?

A. MS. BERRY: Yes.

Q. And can you confirm that you were contracted by the Stoney Nakoda Nation to do archeological and cultural heritage assessments relating to the SR1 project application?

A. MS. BERRY: Yes.

Q. Can you provide a brief summary of your education and experience?

A. MS. BERRY: Yes, I'm an archeologist and a

cultural heritage manager. I have worked in the heritage field professionally since 2010.

I received my PhD in archeology from the University of Western Australia in 2018 and my masters in cultural and environmental heritage from the Australian National University in 2011.

I also hold a bachelor of fine arts from the University of Lethbridge, which I was awarded in 2007.

I'm a permit-holding archeologist in Alberta, and I have undertaken historic resource impact assessments for industry and development projects, and I have supported traditional land use and knowledge surveys and studies.

Most recently, I was privileged to be part of the Writing-on-Stone, Aisinai'pi, UNESCO World Heritage Nomination Team and support the management of heritage sites within Aisinai'pi.

I'm currently an archeological and cultural heritage consultant.

Q. And can you explain briefly what your role was in helping the Stoney Nakoda prepare evidence regarding the SR1 project?

A. MS. BERRY: Yes. I supported and co-authored the Stoney Nakoda interim traditional land use reports, and I also supported the Stoney Nakoda response to the

EIS.

Q. Thanks, Ms. Berry.

Mr. William Snow, can I ask you to confirm that you are the consultation manager for Stoney tribal administration?

A. MR. W. SNOW: Yes, I am.

Q. And can you confirm that the evidence of the Stoney Nakoda Nations in this hearing was prepared by you or under your direction and control?

A. MR. W. SNOW: Yes, I can confirm that.

Q. And do you, therefore, adopt this evidence on behalf of the Bearspaw First Nation, Chiniki First Nation, Wesley First Nation, as well as the wholly-owned company Woste Igic Nabi Ltd.?

A. MR. W. SNOW: Yes, I can confirm.

Q. Thank you, Mr. Snow. I will now turn it over to you to introduce yourself, as well as the other Stoney Nakoda witnesses, and then we can begin the direct evidence of this panel?

A. MR. W. SNOW: Thank you, Sara. Good morning to the Chair and Panel of the NRCB.

Good day, this -- my name is William Snow. I'm the consultation manager for Stoney Nakoda Nation, and I am a Wesley band member. And I want to thank the Board. I want to thank the Elder Jackson Wesley for

beginning our prayer today to start us off in a good way. And I want to thank the Board for recognizing Stoney Nakoda Nation and allowing for our time here to speak today.

I have been in this role of consultation manager since 2012. I'm a graduate of the University of Lethbridge in business administration and also attended post-secondary courses at Mount Royal College.

I am -- have been in this role since 2012, as I said, and I am coordinating many of the provincial industry and federal projects on Crown lands within Stoney traditional territory, and have been doing this with a team of someone from our -- taking part in our presentation today.

I will introduce some of the speakers as we go prior to their speaking. But for now, I would like to begin with my own presentation here to get us started -- started off.

There's also -- would also like to mention that I attended Springbank high school, along with many of my brothers and sisters in the 1980s and '90s and have -- have connections in the community over many years.

Today, I will be speaking about the opposition that Stoney Nakoda Nation has to the SR1 project. First, I will speak about the misunderstanding of

Treaty rights; and then I will turn to the incomplete interim cultural assessment reports; I will also comment briefly on the disrespectful treatment of Alberta Transportation during the fieldwork; and I will also then talk about the cultural importance of wildlife; and then I will talk about the -- some of the misunderstandings about the capacity for this project for Stoney Nakoda Nation; and then I will conclude with some comments around the impact of COVID-19 on Stoney Nakoda Nation.

As signatories to Treaty 7, the understanding of Treaty rights by First Nations and by government differs greatly. These differences should well -- should be well understood, especially for projects like Springbank dam.

These differences include Indigenous and western cultural differences in language and communication, and differences for the purpose of the Treaty. To illustrate some of these differences, I have present -- I will be speaking on portions of the book, "These Mountains are Sacred Places" by Chief John Snow.

Regarding Indigenous and western cultural differences on page 39, Snow states: (as read)

The cultural misunderstanding surrounding the Treaties were very deep

and very serious, indeed. During the Treaty making, two parties representing two significantly different cultures attested their signatures: One was my people who had an oral tradition and history. Under North American Indian law, whatever words were spoken and oral promises given during the formal negotiations were remembered and were legally binding. The other party was the federal government representing the Queen of England. Under their system, only the written word in black and white was the law."

Regarding language and communication, another quote begins: (as read)

"The Treaty commissioners performed their assigned tasks, oftentimes unaware of the full meaning of Aboriginal law and title, without knowledge of our language, without the benefit of the most elementary background as to our history, culture, and way of life.

Many of our present-day problems derive from the consequent confusion,

misunderstanding, and apprehensions which surround the signing of the Treaties."

Another quote begins: (as read)

"Common justice and common sense suggests that both North America Indian law and British law should have been binding in the Treaties. Yet, I'm sure that the government representatives and the negotiation -- at the negotiations were well aware that, in the future, only the written statements contained in the documents would be honoured and upheld by the courts if there were any disputes.

This is now true. Only a narrow and literal interpretation of the Treaties, in most cases, is upheld in court today.

But my people who had an oral traditional and had honoured verbal agreements in the past thought that the government would also honour what was spoken during Treaty making."

Closed quote.

Regarding the purpose of the Treaty, another quote begins: (as read)

"Another basic misunderstanding at the negotiations concerned the purpose of the treaties. The federal government wanted legal title to the entire Northwest Territories so that they could be developed by the white men, and the Treaties were a natural outgrowth of federal policy. We, on the other hand, understood them to be strictly peace Treaties. Given the difficulties in translation and the different cultural attitudes towards the use of ownership of land, our forefathers did not realize that they were seeding land to white men for all time. The question of restricted land and the number of acres per family never came up until the coming of the surveyors and railways with the subsequent flood of ranchers and settlers."

Closed quote.

These give some background -- these quotes give some background as to our understanding of Treaty.

Yesterday we had some discussion of Treaty rights, so I thought it would be important to understand that there are two different perspectives when it comes to Treaty rights.

Another quote from -- from the book begins: (as read)

"It seems that some of this misunderstanding was intentionally allowed by the government because it was to its advantage to extinguish title to Indian land as quickly as possible. By creating a legal situation in which it could soon send out surveyors to make legislation stating that there must be legal land descriptions and titles to the land, the government set its own stage for control of our land and resources. The government kept these papers in its office, and, therefore, controlled the land. My people had very little say, if any at all, about the land after the Treaties were signed."

The misunderstanding of Treaty and the protection of Treaty rights is in the heart of this SR1 project.

The taking up of land by this proposed dam will

impact lands where my ancestors have camped, hunted, gathered, fished, and trapped, as well as other activities since time immemorial.

The interim cultural assessment report created for this hearing was incomplete and does not discuss all of the impacts to the Stoney -- Stoney Nakoda Nation Treaty and Aboriginal rights in the proposed project area.

With regards to the incomplete interim cultural assessment report, Stoney consultation completed an interim report for this hearing.

Over the years, Stoney has conducted fieldwork where we have been able to conduct it in such a way where we address our cultural concerns regarding landscapes. For example, our elders and consultation officers were not able to travel to all the areas that they wanted to see during the fieldwork. Fieldwork had to be conducted by a group and travelling around in an area -- travel by an individual was not allowed.

In terms of consultation fieldwork for many other projects, this type of restriction was never in place.

During the course of fieldwork for many other projects, we have had access as groups, as individuals, to go out to many places for our consultation work over the years, and this is the one time where we were -- where we had this type of restriction to only travel in

groups.

One important part of the cultural assessment process is to conduct -- is the conduct of an elder's meeting after the fieldwork is complete. This elder's meeting should have taken place to recap the findings of the field works and then these comments would have been incorporated into our final report.

This whole piece of the report was not conducted properly. We were rushed in order to comply with this NRCB filing deadline. We were rushed because of the incidents that happened during the fieldwork. We never had resolution on those items, and we'll speak a little bit more to those comments later.

The -- the cultural assessment report concluded 13 recommendations that focused mainly on mitigations for archeology, wildlife, and cultural monitoring.

Having culturally appropriate protocols in place for the project is important should the project be approved.

I would note to the Board that within the current *First Nations Sacred Ceremonial Objects and Repatriation Act*, there is no regulation concerning artifacts for Stoney Nakoda Nation.

I would also note that Stoney Nakoda Nation has been involved in the repatriation of human remains on

Crown land and private land in Alberta.

I would also note that there are no real protections in place for Indigenous grave sites and cemeteries in Alberta.

Regarding the disrespectful treatment during the fieldwork, I will leave that portion to my colleagues, some of whom took part during that time out in the field and give you their -- their firsthand culture of their experiences at that time.

Turning to the cultural importance of wildlife. In 2016, the Stoney Nakoda had the opportunity to conduct a study titled "Enhancing Grizzly Bear Management Programs Through the Inclusion of Cultural Monitoring and Traditional Ecological Knowledge." Through this study, the Stoney Nakoda were able to identify a culturally important species, that are grizzly bears, in a culturally important landscape, the Galatea region of Kananaskis, and offer some alternatives to understanding how grizzly bear behaviour -- understanding the foundations of grizzly bear behaviour and habitat.

The knowledge from this study was based on Stoney Nakoda traditional knowledge and oral history. This is the type of study that should have been afforded to Stoney Nakoda for the Springbank dam project area.

We have included a copy of the 2016 grizzly report

in our submissions.

Regarding project capacity in the Alberta Transportation responses, there was discussion about the funding amounts that were identified as being available for Stoney Nakoda Nation to conduct studies in the project area.

What is absent from this explanation is that, regarding federal funding, much of this funding was only accessed in December 2020. Prior to this time, project funding was only available on a reimbursement basis.

As a First Nations government department, Stoney Nakoda does not have the ability to fund load funding for projects such as SR1. In other words, Stoney doesn't have a hundred thousand dollars in our bank account just waiting to take on expenses. We had no arrangements in order to access funding for this kind of project prior to December 2020.

I would also note that overall consultation funding for Stoney consultation decreased from 2020 to the 2023 term.

The impact of COVID-19 on Stoney Nakoda Nation has been severe.

For Stoney Nakoda Nation, the first state of local emergency began on March 17th, 2020, and was in effect until June 19th, 2020. The second state of local

emergency began on January 11th, 2021, and is still in effect.

Also, since March 20 -- March 10th, 2021, there has been a curfew in place for the Stoney communities from 12:00 a.m. to 6:00 a.m.

Additionally, the first consultation pause started on March 25th, 2020, and ended on April 21st, 2020, as well. The second consultation pause started on April 23rd, 2020, and is currently still in effect.

I would note that some of the archeological fieldwork for SR1 took place in July 2020. Given the state of local emergency, Stoney Nakoda Nation did not participate in this fieldwork due to ongoing COVID-19 and other concerns.

The Stoney Nakoda communities at Bighorn, Morley, Rabbit Lake, and Eden Valley do not have -- do not have modern infrastructure, telecommunications, or facilitates of many non-Indigenous communities.

Housing shortages for families on reserve create crowded living conditions. These crowded living conditions can exacerbate the health issues presented by COVID-19.

In the AT responses, AT comments the abundance of time available to Stoney Nakoda Nation to meet and to be consulted on SR1, yet there was no mention of this --

the state of local emergency. Similarly, there is no mention of the consultation pauses that have been in effect and are still in effect.

In summary, the misunderstanding of Treaty rights, the incomplete interim cultural assessment report, the disrespectful treatment of Stoney Nakoda elders and officers during fieldwork, the incomplete assessment of culturally important wildlife, the lack of understanding of project capacity for First Nations, and the lack of understanding of the impact that COVID-19 has had on Stoney Nakoda Nations, these are issues that Alberta Transportation and its contractors have not consulted properly, nor meaningfully on this project.

The disregard of Indigenous historical issues, cultural issues, wildlife issues, health and safety issues, the disregard of these issues, that is the hallmark of a colonial system. For all these reasons, the NRCB should not approve this project.

Those are the -- those are my comments for today on the -- for this portion of the -- of the program.

THE CHAIR: Thank you, Mr. Snow.

Q. MS. LOUDEN: Thank you, Mr. Snow.

And I believe Elder Jackson Wesley will be providing his comments next.

A. MR. W. SNOW: Yes. So Elder Jackson is an elder

with the Bearspaw community and is -- and also member of the larger Stoney Nakoda Nation.

Elder Jackson has taken part in many ceremonies on reserve and is a very much respected Elder within our communities, and we're pleased and happy to have him here today to speak to a few issues regarding the project area.

Elder Jackson, go ahead, any time.

A. ELDER WESLEY: Yeah, good morning again. My name is Jackson Wesley, Stoney First Nation.

Let me tell you about my grandfather. My great grandfather's name is Peter Wesley. He was a chief back in early 1800s, and my grandfather Moses Wesley was born in late 1800s, and my dad born in 1905.

So I've been told about this land, which -- about, like, graveyards and names and that's why people using me as a ceremonies and opening prayers and -- because our Creator put us here to take care of the land as First Nations.

If we do a ceremony -- we don't just like -- like, a party, you know, overnight, and tomorrow, we forget, we are not like that. Creator put us here to take care of our Mother Earth, and especially our medicine and our water.

I've been told about this trail, back in the

old -- old days, they used to travel through that -- on the Highway Number 8, travel a lot, and when the white people here, they use that trail as Calgary Stampede when the Stoney travel comes to Calgary Stampede, they use that trail.

Back in the early '40s, I believe, I heard this Stoney man, he was born in that trail along that -- I think right beside that Highway Number 8, close to that Petro -- I'm not really too sure -- but his name is Irvine Seemia (phonetic) back in the early '40's; and this woman was travelling around there, was pregnant, but still, she wants to travel. So even travel and -- along that trail, she was in labour, so that's where they have a -- a labour, and they said it's a baby boy, and his name is Irvine Seemia -- that guy is passed away back in the 1990s. That's the kind of story I've been told in the old days.

We look after our medicine and our -- and the water and our -- along there, there's been animals around there. That's been -- if we did that on the Highway 8, we'd be scared that where these animals going to go, what's going to happen to our medicine -- they won't grow back, you know. Once it's gone, it's gone.

This dam, I don't think that's a good idea, no.

There always the other way, if we look the other side the different ways. We always a different way, we can find the other situations like another dam that can take care of anything, like.

And since the COVID hit us, everything it's slow down. And now we lost some of our elders and -- but we keep our space strengths strong, especially our stories.

Along that trail, there's a lot of stories, I'm pretty sure, and there's a grave -- Stoney graves, I've been told about that. At least ten graves is there, Stoney graves, that's what I've been told. If we search and look at around there, we're pretty sure it's there, and that's what I've been told.

Then during the mid-summer, early spring, our Stoney people will travel to that areas there, gathering, pick berries, medicines, and sometimes they can grow their own medicines at -- at their house, that's where they're thinking about that to take it really carefully, but where the growing medicine, we can't cut. We have to leave that.

That's all I can say, because people use that travel -- trail on that Highway 40, and they really do have respect on that trail because animals, and especially the moose are -- there's other such travels

for the animals too.

Sometimes if you travel on that highway, you can see the dead and deers, animals. If you see something dead on the highway, that kind of animal has got trails through across that land, and there's a lot of different animals' trails around this area. So we don't want to destroy that too because we respect the animals too. I heard they been disturbed, and when they're disturbed, they're going to the other people's houses.

And especially the bears, they can't do hunting anymore because there's lot of houses everywhere. There's no food anywhere, so they have to go to the garbage can. That's -- that's really hurts.

Thank you. And that's all I can see today. Thank you for having me. Thank you.

A. MR. W. SNOW: (OTHER LANGUAGE SPOKEN). Thank you, Elder Jackson.

THE CHAIR: Thank you, Elder Jackson. Just one minute, please. I think the court reporter's...

THE COURT REPORTER: I just didn't know who was speaking that last time.

THE CHAIR: Elder Jackson Wesley. And then I think Mr. Snow just -- he thanked as well, that's who was speaking last, sorry.

A. MR. W. SNOW: Thank you. (OTHER LANGUAGE SPOKEN).

Next, I think our speaker, our next speaker is going to be Elder Henry Holloway.

Henry is a former chief, former councillor with the Chiniki First Nation. Elders have taken part in many groups and committees over the years for the Morley community, various communities in the Bow Valley, and in Calgary. Henry's family has been taking part in the Banff Indian Days and Calgary Stampede for many, many years.

Henry is a very important, respected elder in our community, and also took part in the fieldwork for -- that took place back in 2016.

So he'll be speaking to -- to some of his experiences during that time.

Elder Henry, are you on?

A. ELDER HOLLOWAY: I'm on someplace.

A. MR. W. SNOW: (OTHER LANGUAGE SPOKEN)

A. ELDER HOLLOWAY: (OTHER LANGUAGE SPOKEN).

I'm Henry Holloway, and lived on this reserve for 79 years, and I think I have a pretty good knowledge of our past oral history, passed down to me by my great grandfather.

And grandfather that I travelled with way back in

1960, when I was 17 years old, I had the privilege of travelling with Chief Walking Buffalo. He was sponsored on the Goodwill Tour around the world.

We went through Vancouver, Hawaii, Fiji Islands, New Zealand, Australia, South Africa, Central Africa, Cairo.

And we went to Rome, the old ancient city of Rome; and we visit that place where the Vatican stands at the St. Peters Square. It was quite an experience. Walking Buffalo was 90 years old when I travelled with him. He was sponsored on the Goodwill Tour around the world.

So I have a little bit of knowledge on how the earth looks around the world, in different continents, in different countries.

But getting back to this Springbank project, to me, I think it's just a waste of time, waste of money by the government. Building a dam in the -- that hopefully we'll have another runoff flood, and there we are, we have the dam already set up for that.

And I've lived in here for 79 years, and that's the first time in 2013, the flood -- the vast flood of that size or -- that's the only time I've seen it in 70 years.

Now, we are expecting, you know, by scientist and

the people that do the weather and stuff like that, that it may be another flood in the near future, but that's a gamble we take.

And I think the Creator -- the elders, we always pray to the Creator, we get our guidelines, and we get our directions in working with the Creator.

When we were there at the site, I wasn't satisfied. When we were there, we were following the instructors or facilitators for the field trip. We followed them, and this is where you go and this is where you -- you look at whatever this -- that would be destroyed once the dam is built. Those are things that they showed us around. They didn't give us that freedom of going wherever we wanted to look.

There are places there in that Springbank area, especially along the river, that certain kinds of herbs can grow there, and we find the -- those herbs are recognized by our elders and are used for medicine.

And the way I observed the area was that it wasn't sufficient enough to support this program.

Then they took us to a place where a monumental site that was -- we had nothing to do with that. And I don't know why, the provincial government, every time Stoney Nakoda people as a territory to -- to investigate or to look at, they all seem to be that

this is Blackfoot territory.

I want to put that away. This is not Blackfoot territory. This is Stoney Nakoda territory. We've been in this area since time immemorial. We can go back 15,000 years and prove it, that we were here.

Back in 1956, '55s, there was an archeological test done at Deadman's Flat, just this side of Canmore. During that findings of the archeological thing, they found some arrowheads, they found some tomahawk heads, and there -- and those rocks only come from Wisconsin, Minnesota, South Dakota. See, our people were always up there. But the people, the Sioux Nation always shared whatever we need to trade to survive in those days. So -- so saying that, the Stoney Nakoda people had probably the biggest history in that area.

My grandfather, my great grandfather, in 1945, 1947, '48s, they did some haying in there for a gentleman name Clem Gardner. My grandfather had a crew there, my dad and them worked for, hayed for Clem Gardner right along that Elbow River by the bridge there on Highway 22.

So I can name a few that always been in that area: The Stevens family; and the Ear (phonetic) family and the Bearspaw family. They were always in that area. And they did their hunting, trapping and fishing on

that river.

And it's nothing new to us. We could be still using it, but due to the fact that the land is occupied by public people, we are not allowed to go there unless we get a special permission to go there.

There was one area in particular that, when we were -- when we were taking the -- they told us it was private land, the landowner didn't want us to go on that land, and that -- that land, to me, was the very heart of that dam, which the dam's going to go.

And we need to further look at those things in our way, not directed by some educated guy that thinks he knows everything about the rocks and stones, and everything that goes on there. Archeological people. And just because they went to school and have studied the archeological ways of doing research, our people, our elders, know exactly what we're talking about. And we need to define more in that area.

To me, right now, is, I think it's the provincial government is just pushing for time to get it through as fast as they can without -- without understanding the impact on that land that the dam's going to do.

The animals that migrate back and forth, deer go back and forth through that area, moose comes through there, that area, and those -- those are things that we

need to discuss.

Even the little -- even the little animals that run around on the grass, sometimes we never seen them, but they're there. They're the -- they keep the earthly balance. They clean the earth. The little creatures that run around on the bottom of the grass, on the bottom of the river, or the bottom of the creek, and you go there, you see all these little insects in there, all kinds of -- they're the ones that keep the earth clean, and we have to respect that, and we have to honour that.

So, with that, I think, to me, we need to go further into that land area and find more, and even get permission to go on that private land, because that private land stands right in the heart of the dam, and we have to see it.

Otherwise, why are we having this conversation or this meeting? We are here to correct things. We are here hopefully to work together, to understand each other, where we're coming from.

And I'm very honoured to share some of my experience in that area, to be here with you, and hopefully in the near future, if I can still have the ability to help you guys out anywhere, I will -- I'm willing to go.

I also sit on the Calgary elders Advisory Group and Education Board, Treaty 7, so that gives you a bit.

I would like to thank each and every one of you, and thank you, Mr. Chairman, for having the patience to listen to me. Thank you.

THE CHAIR: Our pleasure. Thank you very much, Elder Henry. Thank you.

A. MR. W. SNOW: (OTHER LANGUAGE SPOKEN). Thank you, Elder Henry.

And now, I'd like to have Elder John Snow, Jr. will be our next presenter. John is a landman and holds degrees, and maybe he can talk about some of his educational background. But John has been -- has done works with the -- with -- is a Wesley band member and has done works with Stoney tribunal administration over the years.

So John, take it away.

A. ELDER J. SNOW: Thank you, Chairman. Thank you to the Board.

As Bill said, most of the Snow family has graduated from Springbank high school. So we've gone to school with most of the pioneer and ranching families. We have a deep history into that area, as Elder Henry Holloway has shared with you.

Also I agree and support the testimony of

Jackson Wesley, Henry Holloway, and the words spoken by the consultation manager, Bill Snow.

I have a master's degree in political science. I studied under Roger Gibbins, and my degree specializes in public policy, law, and administration.

I just wanted to share with you some remarks today. I also want to reiterate what Bill said. There are no artifacts protections for Stoney burial sites or artifacts. We have had to repatriate human remains that were Stoney origins, and we've had a hard time trying to rebury those remains.

There is no protection for Indigenous grave sites. There is no legislation to protect our Indigenous graves. And I think the response of some of the researchers has been discriminatory, it's been racist, and it's been false. And I hope that we can start a new road for reconciliation.

I thank the elder, Jackson Wesley, for the prayer. The prayer is what centres us and leads us through these very trying abuses that we live through.

I am John Snow, Jr., descendent of the Treaty 7 signer, Chief Goodstoney. I am a member of the Stoney tribe. My Stoney names comes from the sacred mountains.

Our creation story begins with these sacred lands.

We have many sacred sites, places of worship, areas of harvesting, reflection, meditation, and fasting sites. There is a way to understand one another if we show respect.

Our people have always known the Creator, and we are led by prayer, ceremony, and we are part of creation. We are part of many Treaties prior to the arrival of the settlers. We are now part of one another and the land. We are all part of relations to the land, plants, animals, waters, and the mountains.

We have many concerns with developments in the Elbow River area. We have many traditional and cultural areas we have not been consulted on, and we have not been in relationship with those who change and desecrate our ancestral lands.

Under Treaty 7, we have interests in all lands and developments.

The Stoney Aboriginal title case is being pursued in the courts of Alberta, British Columbia, and Saskatchewan.

We have wide and varied interests in all our ancestral lands. We have many prayer sites, burial sites, and harvesting sites that were taken away from us through prejudicial legislation over the past century.

We are pursuing our claims, and we seek to protect our interests on all traditional and cultural spaces and lands.

Through the *Indian Act* and other legislation, we were prohibited from many human rights in Canada, including worshipping on our sacred places.

For many of our people, we've been denied access to hunt, fish, gather, harvest in these and other traditional and cultural spaces for our Indigenous spiritual practices.

Few independent and environmental studies by our people have been completed for any developments on these lands and sacred areas. We have opposed other projects in the past, like the Bighorn dam. Many of our Treaty and land claim issues are still outstanding.

Our stewardship and relationship to these sacred lands has existed for centuries. Part of our history has been chronicled in my late father's book, "These Mountains Are Our Sacred Places." That should be a required reading for the Natural Resources Conservation Board.

Under discriminatory and prejudicial legislation, our people were forcibly removed from our own traditional and cultural places, prayer sites, and ceremonial areas.

There are differences in land tenure for Indigenous and western systems. One of these differences is regarding land ownership from the book "*These Mountains Are Our Sacred Places*" by the late Chief Dr. Reverend John Snow, my late father.

I quote from his book: (as read)

"This was something that was difficult, if not impossible, for Indians to understand because we had no concept of individual land ownership in the European sense. In those days, we did not own the land by receiving title or patent from a tribal authority. My people always believed that the land was created for its Indigenous inhabitants, animal, bird, and man. Our philosophy of life is to live in harmony with nature, and in accordance with the creation of the great spirit. Anyone wanting to live by those principles is more than welcome, and if he wants -- if he wants to, he may participate in our traditional ways, religion, and culture. He does not have to make a Treaty with us to do this. Certainly, only a greedy

person would make a Treaty with us and then break it to destroy our land and our way of life."

End of quote, page 33, Snow.

The Stoney Nakoda have names for the places that will be impacted by this dam. We have outstanding inherent rights that have yet to be dealt with properly by the Alberta Crown and the federal Crown. These inherent rights are protected by international Treaty, the Canadian constitution, and have been upheld by Canadian case law.

Consultation must be inclusive to the Indigenous First Nations who have historical connections to areas targeted for development.

The Indigenous First Nation interests are being harmed without proper or adequate consultation. The harm contravenes the Treaty, the Truth and Reconciliation Commission, and the report on the United Nations Declaration on the rights of Indigenous people.

The Crown in right of Canada states that harms will be mitigated or compensated because there is an onus on the Crown to act honourably and to have no sharp dealings with the rights holders in a traditional or area with outstanding claims. This respect and approach were not upheld by the initial workers, spoke without

honour, without knowledge, and without understanding to our knowledge keepers, our elders, and the outstanding legal claims made by the Stoney people in this area.

As part of the Crown to whom we have signed Treaty, Alberta has an obligation to uphold the honour of the Crown in this area of our Treaty 7.

It is 2021. We will not allow racist or discriminatory actions to go unchallenged. There are tribunals, such as the Human Rights Tribunal, that may need to be involved if Alberta cannot civilly deal with Indigenous people who hold claims in this area.

We are acting in good faith by appearing at this hearing, but we are also educated and have knowledge that is outstanding with our claims and inherent rights, and those must be advanced so that our future Stoney Nakoda will keep their ancestral inherent rights and historic ties to this land.

I myself experienced the flooding of Stoney graves at the Bighorn dam in 1968 and 1969.

The dam is located near Kootenay Plains by the Saskatchewan crossing where our dead are buried and now under water.

I know we were not allowed to move our Stoney graves at that site, and the graves were flooded. I also remember triggers of this trauma with the

discussion of the Springbank dam. I quote from my father's book, 52 years ago this month, the Stoney Nakoda experienced that the building of the Bighorn dam. The following is an excerpt of the book, "*These Mountains Are Sacred Places*" by Chief John Snow. I quote: (as read)

> "I went to the Bighorn Kootenay Plains area to look over the situation for myself. What I saw was unbelievable. Land that was -- that had belonged to the Stonies, land that the Stoney Indians still claimed, was being bulldozed without consideration or consultation with my people. As a consequence of what I saw, I held a meeting with Wesley band members living in the area. As a result of this meeting, the tribal council took a position of unanimous opposition to the construction of the Bighorn Dam unless and until the Stoney's claims in area were settled. Snow page 176."

To bring this opposition to the government's attention, I addressed the following letter to Premier Strom: (as read)

"Dear Premier Strom: On behalf of the Stoney Indian council at Morley, I am writing to you concerning the Bighorn dam project. It has been thought up, planned, and is now actually being built without any time consulting the Indian people on the Bighorn Indian reserve. It appears the government has once again ignored the Indian people on this very important matter that directly affects their way of life. The people of Bighorn reserve are part of the Wesley band of Stoney Indians at Morley. Stoney band council at Morley is very concerned about what is happening, and we are requesting that you and the cabinet members concerned with the project meet with our band representatives to discuss the various problems that have arisen and will continue to rise. The Indian graves have already been destroyed by bulldozers clearing the land. All clearing must be stopped immediately so that these graves can be relocated

before the markings are destroyed and the locations lost forever. Many of these graves cannot be located with the snow covering the markers. There is an urgency due to the problems that are being even now created. Therefore, we request a meeting by the end of March 1969. We do not want to talk to representatives who do not have authority to make decisions. We have talked with one of your representatives in our council meeting on March 11th, and all he could tell us was that he had no authority and would have to talk to other people about this.

We want to talk to our elected legislatures who are responsible for making policy. We'd prefer if you would come to Morley to discuss these problems, but we recognize you are very busy, and we would be willing to send a delegation to meet you in your office.

We are opposed to the construction of the dam because of the problems it will create. Some of the problems are as

follows: Enumerated Number 1, Indian graves; Number 2, Indian homes to be flooded; Number 3, Indian land to be flooded; Number 4, hunting area; Number 5; grazing land for horses; Number 6, traplines; Number 7, Sundance and recreation area; Number 8, historical and cultural significance to the Indian people of the flooded area; Number 9, disruption of Indian way of life through development of area; Number 10, fear of living below the dam. Please arrange this meeting at once. Let us know when you will meet with us. Your help and cooperation in this important matter will be greatly appreciated. Thank you kindly, Chief John Snow, Chief of the Wesley band."

Captured on his book, page 177, 178.

Dad further writes: (as read) "Unfortunately for my people, the legislators turned a deaf ear. The dam was built, and much of the Stoney's traditional hunting grounds, land to witch we believe we had a valid claim

under Treaty 7, now lies under 27 miles long of artificial lake. The destruction of the land was a terrible thing to watch. Haze filled the air as growing things were burned off to clear the ground, homes were swept aside by heavy machinery, graves turned over or swallowed up by the new lake. The tribal council did manage to get some graves moved to a new site. Only two cabins were rescued. They were moved and reconstructed on the Bighorn reserve. Even far-reaching its results -- even more far-reaching in its results was the almost complete disappearance of game from the area. The people living on the Kootenay Plains have always been among the most independent of the Stonies. The legacy of Peter Wesley's long rocky trail still lives, but with hunting destroyed and little employment for skill -- unskilled labour in the area, 95 percent of the Bighorn residents live on welfare today. The physical damage and psychological damage

that the building of the Bighorn dam caused my people can never be calculated."

End of quote.

I know some traditional areas, and have hunted with my father and other elders in the Springbank area. This is a Stoney traditional trail, as described in the report, Chiniki place names. These areas are based on the old Stoney buffalo trails.

I myself have represented Stoney trappers with traplines in the area.

I would also point out that there is a trail named after my late grandfather Chief Tom Snow.

Tom Snow Trail extends through our traditional and ancestral lands.

We have been part of this land since time immemorial, and we believe the Stoney people must be part of any development in the area.

The Springbank dam development should have completed traditional, social, cultural assessments, and traditional studies of the Bow Valley respecting Stoney sacred places, artifacts, burial sites, prayer sites, and harvesting sites.

Studies should be led by Stoney people, and the information for cultural and traditional teachings must

be protected by intellectual property agreements.

There are many sites that have been desecrated. We have many other sites that we will not share unless there are protective agreements.

We have a different experience on our ancestral lands being removed from these Indigenous spaces and put on reserve. We have a knowledge of the land that has not been respected. There is a need to respect the people and the land. We believe that the past has not been one of respect, and we need to begin our relationships by reconciling past abuses. Much more work can be done on reconciliation with Indigenous people.

All developers should be required to have proper historical, traditional, and cultural awareness training sessions.

All studies of environmental assessment must have our historical, cultural, and traditional knowledge assessments for a full understanding of our sacred lands.

The Stonies have won many awards -- the latest is the grizzly study -- and have noted the importance of telling our story and sharing of knowledge from our wise and sage elders.

We have participated in studies and need to be

respected for our knowledge of the land and our continuing rights to sacred places, burial sites, harvesting sites, ancestral lands and prayer sites.

We feel there is a long road for reconciliation that needs to begin today.

Thank you, Mr. Chairman.

THE CHAIR: Thank you, Elder John Snow. Thank you.

A. MR. W. SNOW: (OTHER LANGUAGE SPOKEN.)

Now, our next speaker -- our next speaker name is Larry Daniels, Jr. Larry Daniels is a member of the consultation team, and he -- he is based out of the Stoney community and Eden Valley, and is a Bearspaw band member.

Larry was able to take part in the fieldwork that happened back in 2016, and will relay some of his experiences during that time and about the project.

(OTHER LANGUAGE SPOKEN), Larry.

A. MR. DANIELS: Thank you. Good morning. (OTHER LANGUAGE SPOKEN).

My name is Larry Daniels, Jr. I'm from Eden Valley, and I'm a member of the Bearspaw First Nations of the Stoney Nakoda Nation out of Eden Valley and member of the consultation team.

Today, I will be speaking about the traditional

stories of the Stoney people that concern project area of the SR1 Springbank dam project. I will be also be speaking about the fieldwork that the Stoney Nakoda consultation team had conducted while doing fieldwork for the Springbank SR1 project in 2016.

To my knowledge, there is no knowledge or an agreement in place to protect Stoney cultural information about the sites in the project area, SR1 Springbank project.

I'm about to talk about some traditional stories of the project area. Some of these stories are captured in the book, "The Stonies of Alberta" by Sebastian Chumak.

These traditional stories are a teaching tool that we use to pass down our culture to the younger generation. The stories are lessons and knowledge of places, people, landscapes and wildlife. These stories are still told in our communities, and these places are still remembered by the Stoney Nakoda people.

And I'm going to tell a little bit of story about one. They call it (OTHER LANGUAGE SPOKEN).

My first language is Stoney, so kind of bear with me. I kind of stutter a lot. So I'm just going to tell the story the way I was told, and -- and the story, I guess, it always starts "Long ago."

It was in the sweetgrass moon. The Stonies are moving to a buffalo camp near the Springbank creek. The people feel the best with song. To Her Braids (phonetic), a young wife has left behind a favourite bone scraper at the old camp. She turns her horse around.

An enemy raiding party of "Big Bellies" comes upon the lone woman's trail. They followed her tracks, then began to circle.

Soon the Big Belly scouts see a women riding towards them. The Big Bellies quickly conceal themselves in the tall Sagebrush flats alongside her trail.

As the Stoney woman draws close, the Big Bellies encircle her. Her horse rears and throws her. "Have no fear," says White Claw, the son of the Big Belly chief. "You shall live. I take you for my wife." They ride off with her.

Meanwhile, Prairie Man, husband of To Her Braids is looking for his wife. The people tell him that she has gone back to the old camp for something. Prairie Man mounts up and rides back to the old camp. He follows her trail, but he can find no trace of her.

He follows the trail for three days. As the third night, he sends -- he sees the fires from a big camp

far into the darkness. He ties up his horse and makes his way in on foot. Keeping low, he approaches the enemy camp along the creek. He sings and calls down the prong horn spirit to strengthen his blood.

With first light, he hides in the shrubs along the rocky creek. When the sun opens his eyes on the fourth day, Prairie Man sees a woman coming down for water. She is brightly dressed and singing to herself. It is To Her Braids, and she looks happy.

Prairie Man, he looks to her and whispers, "My wife, how can we escape from here?" To Her Braids hesitates, then speaks. "Let me return with the water, my husband. I will come when the camp is asleep. Stay here."

To Her Braids returned to White Claw's lots. She tells her Big Belly husband about Prairie Man. The Big Bellies storm the creek and capture the Stoney. They club him and drag him to the camp. Then he is laid out on the ground and stretched with the rawhide thongs to stakes. They pour hot ambers from the fires down his throat and leave him to die in the burning sun.

When the star close their dance, the Big Belly camp is broken. As the people ride out, an old Big Belly woman, drumming all night, watches the Stoney die.

Just as her people ride over the ridge, she returns to the Stoney and cuts the killing rawhide chain: "My son, the scars in your throat are many, and deep. It is better you live."

She leaves her sharp knife beside him and scurries off. Prairie Man raises his head: "Grandmother, you have put new grass between my spirit and death. From this day, always raise your lodge a little north from the main camp. We shall meet again in war, but people will not sleep. You shall not die when I return."

As the summer moon fade, the Stonies led by the one with scars in his throat prepared to attack the Big Belly encampment. Prairie Man warns his warriors not to kill anyone in the north lodge, for he has -- but the main camp, we shall destroy.

The Stonies attack. The Big Bellies are taken by surprise. When the dust clears, White Claw's scalp is in Stonies' hands. Many scalps hang from Stoney men. The one with scars in his throat asked his own people if To Her Braids shall live or die. "Death by fire," the people shouted.

A great fire is preparing for To Her Braids, and this -- and in the end, she was tossed into the fire.

And the fieldwork that we conducted, there were many issues that came up during the course of the

fieldwork.

The fieldwork was not conducted in a way that we have normally conducted fieldwork for other -- other projects. The government representatives were disrespectful to the Stoney elders and the consultation officers. There was a feeling that this work needed to be done quickly.

It was apparent that the government personnel conducting the fieldwork with the Stoney people were informed about the Stoney language or culture.

The government representative who attended the fieldwork were eager to understand our place names, or understand [verbatim] of these areas during the course of the fieldwork. This made our group uncomfortable.

I understand that other First Nations travelled to the sites in the project area.

Alberta Transportation directed the fieldwork in each of the sites. The group was made to travel together, so one person could not visit an area individually. This is not how Stoney Nakoda Nation does fieldwork. Excuse me.

We were not able to confirm a possible grave site -- new site -- I guess site Q from the Stoney cultural assessment report. We're pretty sure there was a couple of grave sites there. But like we said,

we were rushed and couldn't do a proper sweep of the area.

The Stoney consultation field workers were not able to travel to the sites outside of the project area. The area that the Stoney consultation group was taken to outside of the project area was the Our Lady of Peace site. We were not told, we did not request to go to the site, and we were not interested in seeing this site, but Alberta Transportation took us to this site, and until this day, I have no idea why they take us there.

I think the -- my feeling was they kind of insulted us, in a way, and some of the elders were really uncomfortable with it.

Excuse me, I've got something in my throat here.

But, yeah, thank you for listening to me. Thank you, Chairman and Panel. Thank you.

A. MR. W. SNOW: (OTHER LANGUAGE SPOKEN)

THE CHAIR: Thank you, Mr. Daniels.

A. MR. W. SNOW: (OTHER LANGUAGE SPOKEN).

Thank you, Larry.

Our next speaker is going to be Chris -- Chris Goodstoney. Chris is a -- also a member of the Stoney consultation team, and I believe Chris will be speaking about -- Chris was also on the fieldwork team

during this project back in 2016, and I believe Chris will be speaking to -- speaking about his experiences during that time, during the fieldwork and -- and some of his thoughts.

Chris, are you there?

A. MR. GOODSTONEY: Sure. Can you hear me?

A. MR. W. SNOW: Yeah, we can hear you. Maybe if you can turn up your volume a little bit.

THE CHAIR: Yes, it's very difficult to hear still.

A. MR. GOODSTONEY: What about now?

THE CHAIR: It's pretty quiet. The court reporter is shaking her head that she will not be able to get it. Could be a Zoom setting.

A. MR. GOODSTONEY: And now?

THE CHAIR: It's better. Did you elevate your --

A. MR. GOODSTONEY: Yes. I'll just hold up my mic here.

THE CHAIR: Okay, thank you. Sort of awkward, but we appreciate it. We'd like to get on the transcript what you're saying. So, thank you.

A. MR. W. SNOW: Okay, Chris, go ahead.

A. MR. GOODSTONEY: Okay. So I'll start by giving a statement, and then I would advise, Mr. Chair, that I

will be referring to the Alberta Transportation as "AT" most of the time in my statement.

THE CHAIR: Sorry, I have to interrupt. The court reporter is -- she's -- Ms. DiPaolo is shaking her head that she's not going to be able to transcribe.

You're on Zoom, right?

A. MR. GOODSTONEY: Yes, I am.

THE COURT: Ah, there we go. There we go.

A. MR. GOODSTONEY: All right. We'll -- I will throw this away, then.

THE CHAIR: Okay, perfect. Can you hear us?

A. MR. GOODSTONEY: Yes. Yes, sir.

THE CHAIR: Thank you.

A. MR. GOODSTONEY: Okay. We'll start.

Thank you. (OTHER LANGUAGE SPOKEN), Mr. Chair, and Board members.

(OTHER LANGUAGE SPOKEN) My name is Chris Goodstoney, Wesley Consultation Officer, with the Stoney consultation and member of the Stoney Nakoda First Nation and descendant of Chief Goodstoney, signatory of Treaty 7.

I was born and raised in (OTHER LANGUAGE SPOKEN) Morley, Alberta, here in the traditional ancestral territories of Stoney Nakoda First Nation.

Since time immemorial, our great nation have lived

and thrived on these lands. Our people relied heavily on the plants, animals, water, and landscapes to move as we always did for thousands of years.

Even as our buffalo were nearly exterminated, our people never faced hardship because we knew what our territory provided.

Evidence of our history in the Bow Valley is prevalent and very important to our elders.

Every tribe in the Nakoda Nation from Lake Minnewanka to Lake Manitoba believe the key to our cultural survival is to utilize the land as a backbone to teaching our youth our traditions. This is still practiced to this day. However, in recent times, our history and our heritage and our lands has not been given the proper acknowledgement and respect it deserves.

I'm here today to share with you some of the details pertaining to our cultural assessment that myself, elders, and my colleagues conducted back in 2016 within the Springbank SR1 project area north of the Elbow River.

During the assessment, we identified numerous points of interest that we recognize as Nakoda origin. These included sites such as homestead sites, harvesting sites, ceremonial sites, hunting sites.

Many more features could have been identified if we had been given the opportunity to independently explore the landscape during the spring or summer months and conduct the site visit following our standard process. However, the site visits were not conducted in the way we normally conduct fieldwork.

Not only was the process and schedule dictated by the proponent, our elders were constantly observed, closely followed, and questioned by the proponent which created an atmosphere where they were unable to share their knowledge and conduct the site visit in confidence.

Further, the weather was not ideal for the most part and quite cold, which was hard on our elders, and we felt that we were led or directed along routes that were predetermined by AT. This goes against how Stoney Nakoda conducts site visits.

In addition to not being given sufficient to time conduct our assessment, the routes we were directed to walk were predetermined by AT. In some cases, we were led to an area that the proponent representative deemed points of interest.

You must understand that this situation was unusual. We had never experienced or accepted a non-First Nations' determination of what is and what is

not of historical importance. Our stewardship and relationship to this land goes back for thousands of years, and we are familiar with the ecosystems, habitats, landscapes. We are well aware of what is important.

Because we were guided to predetermined locations on predetermined schedule, we feel the site visits were biased to meet Alberta Transportation's objectives.

During the site visit, we experienced many difficulties in conducting our assessment to the full extent. For example, on numerous occasions, our elders expressed the need to assess areas adjacent to the project boundaries, particularly on the northwest end of the project boundary.

The elders understood and explained to AT representatives that the project of this size impacts are inevitable, but they also explained that unforeseen impacts will take place considering the fact that, for this project, the impacts have been -- the impacts have been determined so far are theoretical.

The elders expressed concern the impacts within the project module affect the areas immediately adjacent to the project area; therefore, those impacts should be taken into account. In other words, our elders described the need not only to look within the

project area but to consider certain locations just outside of the boundary.

I would like to advise the Board that this method of assessment by Stoney Nakoda is not uncommon. When we conduct cultural assessments, we take into consideration all aspects of land impacts, as well as potential infringement Section 35 rights. However, during the SR1 fieldwork, we were advised by AT representatives that there will be no impacts on the adjacent areas, that there is no need to go beyond the project boundary.

It was clear to our team that, in the interest of time, schedule, and convenience, our requests were denied and we were unable to assess those areas of interest.

I would like to address the issue of confidentiality.

During the site visits, I understood that there was no agreement with AT for SNN -- for Stoney Nakoda to disclose or share cultural knowledge or to share information on cultural features identified within the project area.

During the site visits, the elders, including myself and my colleague Larry Daniels, Jr. felt the AT representatives interfered with our cultural assessment

and would sometimes interrupt our elders' conversations by questioning them and by not giving them privacy to conduct their work.

I don't know if this was a deliberate action or if he was just oblivious to the elders' frustrations; however, in our experience, conducting many assessments over the years, while having a proponent representative question or express interest in our work, is not uncommon.

Sharing intellectual property is not part of our assessment process.

Stoney Nakoda knows how to conduct our cultural assessments. In absence of a confidentiality agreement, we expect proponents and their representatives to respect our procedure and privacy. With the Springbank assessment, that was not the case.

As our elders grew frustrated from the lack of control over the assessment process, the lack of privacy, and the lack of land access, the AT representative coordinated an unwelcome side trip and brought our team to the Our Lady of Peace monument located on the west side of the project area outside of the project boundary.

The writing on the plaque, we felt, had false and misleading information, as is the case with many of our

archeological sites in our territory. Nevertheless, AT representatives wanted our group to see this monument. This unplanned stop was viewed by our elders as an act of disrespect by the Alberta Transportation representatives, especially considering the fact that our requests to explore areas immediately adjacent to the northwest boundary were denied.

Our team did not appreciate the Alberta Transportation representative's biased attitude, which our team viewed as a lack of respect for not only our heritage on this land, but for our elders as well. Therefore, due to all the factors I have noted, our elders finally lost interest in participating in completing the fieldwork. In fact, one of our elders openly expressed his displeasure in the Alberta Transportation representative, which is something that I have never witnessed in all the site visits I have conducted. However, with some conferring and mitigating on my part, I convinced our elders to continue to participate in the fieldwork.

In summary. Our team believed the fieldwork remains incomplete and note the following: The behaviour of the Alberta Transportation representative was unacceptable, and the work conducted was considered not meaningful.

2. The assessment was biased by interference by Alberta Transportation.

Stoney Nakoda requested additional days in the following spring and summer months to fully complete our assessment with an unbiased Alberta Transportation representative, of course.

4. We encountered a variety of sacred sites and identified a number of artifacts, that the elders recognized the pipe ceremony is warranted and requested ceremonies be conducted. To this date, the recommendations have yet to be addressed. Therefore, Stoney Nakoda First Nation, particularly the Wesley First Nation, does not support the Springbank dam project.

Thank you, Mr. Chair and Board members, for allowing me to give my statement, and I hope you and all your family stay safe. (OTHER LANGUAGE SPOKEN)

THE CHAIR: Thank you, Mr. Goodstoney, and I appreciate you taking the time. Thank you.

A. MR. W. SNOW: (OTHER LANGUAGE SPOKEN) Thank you, Chris.

Sara, I'm not sure if we -- do we move into the next presentation by Megan at this point?

Q. MS. LOUDEN: I think -- Mr. Chair, Ms. Megan Berry will be the last witness to give her

statement, and then the panel will be available for cross.

So I wonder if we can allow Ms. Berry to give her statement, and then perhaps a break?

THE CHAIR: That would be great. Sure.

Q. MS. LOUDEN: Sure.

So, yes, Bill and Megan, now is the time you can present your statement.

A. MS. BERRY: Thank you, Sara.

Mr. Chair, members of the Board, as I stated earlier, I am Meg Berry, and I am privileged to be here today to speak on behalf of the Stoney Nakoda Nations regarding the significance assessment and the mitigation requirements laid out in the 2018 EIS for historic resources that will be impacted by the project.

This morning, we have heard from the Stoney Nakoda elders and knowledge holders, as well as members of their consultation team, about the significance of the proposed project area to the Stoney Nakoda people.

This has included oral histories, place names, and traditional use site areas that are located within the project area or surrounding it including: Buffalo hunting camps located along the Springbank stream; the use of the Elbow River for fishing, hunting and

habitation; and trails and travel corridors that transect the project area.

While some of these oral histories might seem intangible to many people, tangible archeological evidence from this region can be interpreted to support many of these narratives and can provide physical evidence.

Archeology is the study of the human past through material remains. It is important, as an understanding of our past, and the study of cultural and natural heritage, provides people with a deep connection to place, it provides identity, and it embodies the continuity of human spirit and story, and allows for us, with this understanding of our past, to help identify how we want to make our way forward.

It has been shown that engagement within heritage and archeology increases health and well-being within communities, while the unlawful destruction of cultural heritage is viewed as a crime against humanity in the international courts.

Currently, our understanding of the past within Alberta extends over 13,000 years before present. The project area that we are speaking to today, SR1, is within an environmental transition zone in the Bow Valley drainage. The Bow Valley contains several

of Alberta's old or deep-time archeological signatures. Sites surrounding the proposed project area have been dated to over 10,000 years.

This includes the Vermilion Lake site and Minnewanka Lake site located west of Banff; to the southeast of the site area is the Sibbald Creek site; and to the east near Calgary are sites with the thrilling names of "EGPN 414," 413, and 480, and these -- and there are many more in this landscape.

But what I find is so interesting about these sites, and others within this area, is that they show evidence indicating that people continuously use and return to these lake locations for more than 10,000 years, showing evidence of occupation that generally extends from the pre-contact period, pardon me, through the contact period or the historic period.

So the reason for this rich and continuous deep-time archeological signature is due to multiple factors: The Bow Valley is a natural corridor that extends from the prairies through the front ranges of the Rocky Mountains and into the interior plateau.

A diary entry from 1863 by John Palliser, an early British Explorer in the area, speaks to the use of this landscape as a travel corridor, and he notes, and I quote: (as read)

"A few miles brought us to the Stoney Indian camp, which is situated in one of the prettiest spots I have seen in this country, at the mouth of the Highwood River."

They had been travelling south along the base of the mountains to meet the Kootenays when they crossed into the plains.

The Highwood River is located to the south of the project area. Environmentally and climatically, this area has functioned as an ecological hotspot of resource biodiversity and abundance for millennia, providing First Nations people with ample water, food, habitation, ceremonial and sacred areas.

The project area itself is rich in resources, hosting a wide array of culturally significant and keystone animal and plant habitats and is near to many significant drainages and important waterways such as the Elbow River. The topographic relief of this area provides protect from climatic elements and changes that we all know are associated with Alberta weather.

The landscape within and surrounding the project area is evidently layered in heritage. It is rich in pre-contact archeological site areas including: Campsites, bison kill sites, stone features, artifact

scatters, and isolated artifacts, amongst others.

They are generally found clustered along drainages and within areas that have not been impacted by ground disturbance associated with farming activities. They can be found on the surface or they can be found deeply buried and stratified.

For example, deep testing conducted under other archeological permits, including Permit Numbers 02-069 and 03-271, near to the project area, revealed archeological sites at depths between 75 to 110 centimetres below surface, showing that this landscape has the potential to contain deeply buried, pre-contact archeological site areas, as well as surficial archeological sites.

In addition to the pre-contact archeological sites within and surrounding the project area, historic sites such as homesteads, farms, missions, and dairies have also been reported and are commonly found within the landscape. This is due to the relationship of this place with early ranching, trading, and mission activities, and this relationship extends over 150 years.

Significant historic sites within the landscape include the Our Lady of Peace Mission, which we've heard about this morning, which is located 100 metres outside

of the proposed project area. The mission was established in 1872 and was the first permanent Catholic mission in Alberta.

Subsequently, a trading post was established near to the mission by Sam Livingston, and following that was the establishment of ranching and farming homesteads, which are the seeds that have developed Alberta into a vibrant ranching and farming province that we know today.

One thing that is incredibly significant, and that this landscape also speaks to, is the period directly before and after the signing of the Treaties, a transitional period with First Nations communities and Euro-Canadians were interacting and coexisting for the first time, managing and mitigating this incredibly different and difficult time period with their own strategies and needs.

This period is not well understood and is unrepresented in the archeological literature. There are stories of the Stoney Nakoda camping along the Elbow River during this time period and interacting with ranchers and other landowners in this area that have not been told or investigated fully. These narratives speak to our collective heritage of contact and can help better illuminate this time period.

So from this overview and from the information shared by the Stoney Nakoda elders and knowledge holders and texts, you can see that the landscape is a complex, a cultural heritage that is interconnected and woven together through time and space.

As such, an assessment of impacts to heritage resources or historic resources within the proposed project area needs to take into account many factors that we believe were not completed at the time of the writing of the 2018 EIS.

A Historic Resource Impact Assessment, or HRIA, was undertaken by the proponent in 2016 and was thorough for the lands it possessed, but it is noted within the final report that it was not completed.

At the time of the completion of the EIS in 2018, an HRIA was still required to be undertaken for deep testing in six sections of land, and as I noted previously, this landscape has the potential to contain deeply buried sites. There were also four gap areas where the PDA was revised to include landscapes containing archeological potential that required an HRIA assessment. Archeological surface and subsurface testing were still required in areas where land access was not granted by landowners at the time of the initial HRIA.

And, additionally, Alberta Culture, now Alberta Culture, Multiculturalism, and the Status of Women, or ACMSW, had yet to issue their requirements for the proposed project to proceed under the *Historic Resource Act*, which could require excavation of reported archeological site areas within the project footprint for avoidance.

Consultation when the EIS was written was also not undertaken on archeological site areas found within the project area, and the Stoney Nakoda had yet to be informed by Alberta Transportation on the findings of the HRIA, or the requirements issued by ACMSW, for mitigation or avoidance of reported archeological sites under the Act, something that was requested by the Stoney Nakoda during consultation on the proposed project.

As I noted earlier, within this landscape, there are Stoney Nakoda traditional use site areas, as well as the aforementioned archeological site areas. Both are culturally significant and important to the Stoney Nakoda Nations and, as such, both areas need to be assessed by the Stoney Nakoda prior to the -- prior to the development of this project.

This would have allowed for the proponent to holistically reflect the significance of the historic

resources within the project area in the EIS in 2018 and develop a mitigation plan that is inclusive of Stoney Nakoda's informed views on the subject.

While Alberta Transportation has consistently noted that they have provided Stoney Nakoda with the opportunities for TU site visits, it does not appear that there has been an offer for Alberta Transportation to disseminate the findings of the HRIA or discuss the requirements for the proposed project issued by ACMSW under the Act under 2020 -- pardon me -- until July of 2020 in the middle of a pandemic.

For the Stoney Nakoda to properly complete an informed assessment to identify all cultural values within the proposed project area, archeological sites also need to be assessed. For this to happen, the Stoney Nakoda need to be appropriately informed of what is there and how it will be impacted by the proposed project. This has yet to happen, and, with respect, this is the basis of informed and meaningful consultation.

As a result of all these factors, we are uncertain how the proponent was able to assess significance of historic resources within the entire PDA area and mitigate those impacts in the EIS as we feel there was significant gaps of knowledge during that time.

Despite these gaps of knowledge, within the EIS dated to 2018, the proponent states that there are no residual effects to historic resources within the project area, and the project effect on historic resources are assessed as not being significant.

When queried about this by the Stoney Nakoda in their response to the EIS, Alberta Transportation has pointed out in Appendix J of their reply submission, and I quote: (as read)

> "A significant adversus residual environmental effect on historical resources is defined in the EIA as one that results in an unauthorized project-related disturbance to, or destruction of, all or part of a historic resource considered by ACT (now ACMSW) to be of historic or heritage value. All or part of a historical resource --

Pardon me -- I skipped a line there: (as read)

> "...and that is not mitigated or compensated as required by the regulators."

Alberta Transportation goes on to note that they will follow the requirements of the regulators and sites will

be mitigated or avoided, and as such, the conclusion of significance does not change.

And I will also let you review that. It's Appendix J of the Alberta Transportation reply submission, as I kind of stumbled over those words.

Mr. Chair and members of the Board, the practice of assessing heritage in this way, while in some instances, is common practice, does not allow for a changing understanding of cultural heritage significance to occur within any of the additional HRIAs required to be undertaken prior to the development of the proposed project, or through the mitigation process of the archeological site areas that will be impacted by the development, or during consultation.

It should be noted that this practice has shown to be detrimental to both Indigenous communities and industry this past year.

Furthermore, mitigation measures that are identified by the proponent in the EIS, as required under the *Historic Resource Act*, are not inclusive of Stoney Nakoda perspectives and protocols for land management, and the preservation of heritage sites.

These requirements elevate scientific knowledge over traditional perspectives, and are essentially an exclusionary investigative approach. It is important to

remember that mitigation is also an impact, and destructive to heritage sites, which are a non-renewable resource.

What has been significantly overlooked in the EIS is the impact that these mitigation measures will have on the Stoney Nakoda people as archeological sites or historic resource sites, as we also call them, are of high significance to Stoney Nakoda.

The need for a broader understanding of Indigenous perspectives in relation to conservation and preservation is always required. In order to accurately assess the values contained within historic and heritage places and spaces, and these elements have long been recognized and are presented within ICOMOS's Nara document on authenticity.

And while the proponent has noted multiple times that they will follow the requirements issued by ACMSW, which is essentially all that they need to do to comply with the *Historic Resource Act*, we note that these requirements are the basic requirements that the proponent is mandated to undertake to development -- prior to development.

These requirements can be built on to accommodate cultural protocols and assessment techniques and can holistically and respectfully mitigate impacts to

cultural heritage that honour both Indigenous and scientific perspectives, and that speak to obligations required of all signatories of the UNDRIP.

Because the project area is both archeologically and culturally significant, an informed assessment by the Stoney Nakoda in conjunction with finalizing the HRIA and mitigation requirements and dialogue with the nations will fully allow for the proponent to understand the impacts to historical resource site areas this project will have, and to accurately assess the development -- and develop, pardon me, inclusive mitigation measures that could help reduce residual effects to historic resources within the project area.

Thank you.

THE CHAIR: Thank you, Dr. Berry.

MS. LOUDEN: Thank you, Ms. Berry. Yes, thank you to the entire Stoney Nakoda panel, the elders and the consultation officers.

I believe we'll ask you to stand by, Mr. Chair. I think now would be an appropriate time for a break, and then the Panel will be available for cross-examination.

THE CHAIR: Thank you. And a break works perfectly right now, so thank you for that. And thank you to your panel as well. Let's return at 10:45, please.

MR. KRUHLAK: Mr. Chairman, I wonder if we might have a bit more time. I've got to make a few calls.
COURT REPORTER Who was that?
MR. KRUHLAK: Sorry, it's Ron Kruhlak, Madam Reporter.
THE CHAIR: Any objections? How much time would you request?
MR. KRUHLAK: Well, I think -- I'm just going to propose 20 minutes instead of the regular 15, sir.
THE CHAIR: Yeah, 10:50.
MR. KRUHLAK: Thank you.
THE CHAIR: Thank you, everybody. See you in a bit.
(ADJOURNMENT)
THE CHAIR: Just a couple of prelim things here. I'm just trying to find -- I think -- oh, sorry, my sound's shut off. That's what's going on.
Sorry, Mr. Kruhlak, you perhaps responded. I didn't hear you because my sound --
MR. KRUHLAK: Yes, I'm back, Mr. Chairman.
THE CHAIR: There you go. Okay. And I'm assuming that Mr. Secord -- Mr. Williams I think has already mentioned he will not be crossing. And Mr. Wagner, I don't assume that you'd have any cross here or -- do I have that right?

MR. SECORD: I don't have any cross for the SNN. Thank you, sir.

THE CHAIR: Okay, so I think we can get started with Ms. Sendin (phonetic), City of Calgary, or Senek, sorry.

Ms. Senek, did you have any questions?

MS. SENEK: Thank you. No, Mr. Chair, the City doesn't have any questions. Thank you.

THE CHAIR: Okay, thank you. And Mr. Cusano?

MR. CUSANO: No questions. Thank you, sir.

THE CHAIR: Mr. Kruhlak.

MR. KRUHLAK: Thank you, Mr. Chairman.

MR. KRUHLAK CROSS-EXAMINES THE PANEL:

Q. On behalf of Alberta Transportation, I'd first like to thank the Stoney Nakoda Nations' elders for their comments and for their participation in their evidence this morning. And I would like to specifically thank Elder Holloway for his offer to perhaps be involved in some further assessment work that has been identified that the Stoney Nakoda Nations would like to undertake.

I want to just ask a couple of questions of you, Mr. Snow, in your review and comments. Have you had a chance to review some of the additional commitments that Alberta Transportation has made in identifying some of the recommendations or responding to the

recommendations in the interim assessment report that you provided.

A. **MR. W. SNOW: Good day. I have heard -- I've been listening in on the proceedings of this hearing. I've heard the comments by Alberta Transportation. I don't know that I've heard the totality of all of those comments as, from time to time, my work with consultation is ongoing, and I have to split my time between this and other activities.**

I have heard some of the comments; I don't know if I've heard all of them.

Q. And in particular, I guess, Alberta Transportation has indicated that it would be pleased to work with the consultation office to have the interim land use assessment completed to assist the Stonies in preparing a final report. That was advised.

There was also some discussion, Mr. Snow, about the guiding principles for land use, which would enable First Nation communities to participate in being able to look at the land use for the area to continue to exercise their rights.

And in that regard, I was wondering if you're aware whether you could express whether or not the Stoney Nakoda Nations would seek to participate in the First Nation land use advisory committee that would

oversee activities and how the land use is to be undertaken?

A. MR. W. SNOW: Thank you, Mr. Kruhlak.

I don't -- I'm not sure at this point. I think that is a question for the Stoney Nakoda leadership of the Bearspaw, Chiniki, and Wesley First Nations.

As you may recall, May 6, 2019, was the date of the letter of objection for this particular project and a few others regarding dams.

Q. I wanted to ask a question or two about the concerns expressed about the site visits for consultation. I can say that we -- Alberta Transportation was not aware of those concerns until they received the correspondence from the Stoney Nakoda Nations on February 26th of this year.

And maybe, Mr. Goodstoney, you could help me out here, as you were on site and discussed what you observed. I couldn't find any reference to those problems in a letter or meeting minutes from 2016 until we heard of it in February 26 of 2021.

Mr. Goodstoney, do you recall if there was any letters or communications about the problems experienced in the field site visits?

A. MR. GOODSTONEY: Well, this is -- I would have to reply by saying that, you know, I would have to confirm

my office to give you an answer. You know, I don't want to mislead anyone.

Q. Fair enough. You don't recall personally writing a letter or making a phone call to people at Alberta Transportation, outside of the people that you dealt with at the site visit itself?

A. MR. GOODSTONEY: Can you repeat the question? Sorry.

Q. Sure, it might have been a little garbled. You don't personally recall writing a letter complaining about the site visit or identifying some of the problems with it to Alberta Transportation after the event?

A. MR. GOODSTONEY: Well, the person that I would communicate with would be Bill, and he -- he -- he would be the first to receive whatever information after the site visit.

Q. And Mr. Snow, I guess just asking you, we haven't been able to find an actual form of communication about the problems that were identified on the site visit after -- after it occurred in the fall of 2016. Do you remember issuing any sort of letter?

A. MR. W. SNOW: I do not recall a letter.

One thing that I would point out to the Chair and to the Board is that we have come across this type of situation previously in other -- we've had issues with

proponents on other consultation projects. But typically, it's the -- a proponent may engage in some kind of activity, and then we have an incident. And then for that kind of situation, we, as a First Nation, would turn to the regulator for assistance.

But in this case, the incident came from the regulator, from the government. So it's a very -- there's no set rule around how this kind of situation is handled under the current Aboriginal consultation policy. There's no set way. Like, there's many problems with the policies since it came into effect in 2005, and it hasn't changed a whole lot since then.

So there is -- there's a lot of missing processes at play in our current system.

Q. Thank you, Mr. Snow. I was -- I guess I'm asking because Alberta Transportation would have liked to address this issue earlier if possible, and -- and certainly we would have liked to address it before having to wait, you know, four to five years. But, as we've indicated in the recommendations, that once you have an opportunity to review those, it can hopefully be addressed.

Mr. Goodstoney, if I could ask another question of you, and I think you identified that the site work -- that this was a pretty unique situation; is that sort

of fair?

A. MR. GOODSTONEY: Yes.

Q. And is it also fair to say that typically when you undertake site visits, which I understand you do a fair amount of, you're on Crown land?

A. MR. GOODSTONEY: I believe so.

Q. And this would be a more unique situation where the access would be having to be dealt with by access agreements with the private landowners which may restrict where you can go and when you can go. Were you aware of that?

A. MR. GOODSTONEY: I was informed that it -- under landowner's direction on where to go. I'm not sure of the agreements.

Q. Fair enough. And I just thought I'd ask because I understand the detour or trip to Our Lady of Peace memorial which -- or marker was not appreciated.

Do you recall any sort of explanation that part of that is that that area is actually identified very clearly on a map for gaining a perspective in the area, and it's also of high elevation at a point where you can see the proposed diversion canal and project development area?

A. MR. GOODSTONEY: No, as I recall, there wasn't clear explanation why we were there. We parked

directly in front of the monument, and we -- if I can remember correctly, I think it was gates where we had to enter into the monument. So it was direct -- it was directly into the monument. And the stay there wasn't very long.

Q. And you indicated that what you would expect to see to be able to complete a final traditional land use assessment would -- you'd need to be going out there, and that's something that's best suited to be done in the summer months?

A. MR. GOODSTONEY: Yes, it would have been -- that's what was preferred, and the weather wasn't -- wasn't ideal, you know. But in wintertime, fall, almost everything's the same colour, but springtime, summertime, it's pretty much ideal and preferred.

Q. Thank you, Mr. Goodstoney.

Dr. Berry, just had a couple of brief questions for you with respect to some of your comments. Have you testified before, before any Board or tribunal in Alberta?

A. MS. BERRY: No.

Q. And I understand from your résumé, which was tendered as Exhibit 343, you've been assisting the Stoney Nakoda Nation since July of 2020?

A. MS. BERRY: Yes.

Q. And was it brought to your attention that there was an invite extended to the Stoney Nakoda Nations in July of 2020 to attend to observe archeological work that would be undertaken on the project site?

A. MS. BERRY: Yes, I was aware of that.

Q. And did you attend?

A. MS. BERRY: No, as it was during a pandemic, and I believe that they were under consultation pause during that time period.

Q. So you weren't able to attend. Have you ever attended the site, any area of the project development area?

A. MS. BERRY: No.

Q. So it's fair to say that your reviews have largely been, at this time, desktop?

A. MS. BERRY: Yes, I am familiar with the area as you drive through it to get to Cochrane, but that's my familiar -- familiarity with the site area, yes, and a desktop review.

Q. And have you obtained a copy of the historic resources impact assessment that was prepared?

A. MS. BERRY: Yeah, from 2016, I have. I obtained it off of OPaC, and I understand that there was another permit pulled in 2020, but that report is not available as of yet.

Q. And you're aware that Alberta Transportation has to

adhere to the *Historic Resources Act* with respect to distributing reports?

A. MS. BERRY: Yes, absolutely. I completely understand that, and I do note that there is an archeological -- archeological survey information bulletin that is available on the archeological survey website that is dated to March 1st, 2020, which speaks to the dissemination of information. So as archeologists, we are under a confidentiality agreement when we obtain that information. And so we do not disseminate that information to any third party, but we are able to use it to undertake our assessments.

Q. And have you made a request to Alberta Culture for that report?

A. MS. BERRY: No, I have not. I -- I reviewed it for an assessment. I did not disseminate any information to any third party.

Q. Thank you, Dr. Berry. If you could --

MR. KRUHLAK: Mr. Chairman, I'm just going to check my notes here. I'll be a few minutes, if that's all right.

THE CHAIR: Absolutely. Yeah, that's fine.

MR. KRUHLAK: Thank you, Mr. Chairman, and I also want to thank all of the witnesses for the Stoney Nakoda Nations for the information and the

presentations that we received this morning.

THE CHAIR: Good. Thank you, Mr. Kruhlak.

So Ms. Louden, Mr. Snow, we may have a few questions from Board staff and Panel members.

Ms. Vance, do you have any questions?

MS. VANCE: Thank you, Mr. Chair. I don't have any questions.

THE CHAIR: Mr. Kennedy? Oh, you're on mute, I think. No, still -- still nothing. Your headset hasn't been -- no.

MR. KENNEDY: How's that?

THE CHAIR: Ah, there we go.

MR. KENNEDY: The solution at hand, I just keep working at it. After all that, I do not have any questions. Thank you.

THE CHAIR: All right. Thanks, Mr. Kennedy.

Mr. Ceroici?

MR. CEROICI: I don't have any questions. Thank you.

THE CHAIR: Ms. Roberts?

MS. ROBERTS: No questions, thanks.

THE CHAIR: Mr. Heaney?

MR. HEANEY: No questions.

THE CHAIR: And, Mr. Snow, I just had one quick question.

THE CHAIR QUESTIONS THE PANEL:

Q. And we've from -- this morning from your panel that there was some uncomfortable situations, as you described them, or as others have described them, just in terms of some of the interactions. My question isn't really going to go deeper into that, but more -- is there -- or do you -- with other proponents, and then even with Alberta Transportation, because you mentioned this has happened with other proponents as well, but when you're conducting site visits, was there sort of a pre-meeting or pre-site visit meeting that sort of explains the process that the Stoney Nakoda elders, in particular, would like to -- how they'd like to conduct their site visits, confidentiality, giving them space, that sort of thing -- are those sort of rules of engagement or practices outlined with proponents?

A. MR. W. SNOW: I believe perhaps Chris -- Mr. Goodstoney can confirm, but I believe there were morning meetings every morning that were held. I did not take part in the fieldwork by myself, but from my understanding is that there were morning meetings that were held prior to the group going out onto the landscape.

Chris, can you -- do you have anything to add to

that?

A. MR. GOODSTONEY: Yes, yes. With this particular project, we did have morning meetings. We consider them -- some proponents call them "tailgate meetings." Sometimes we go over safety and all that stuff, and the maps that were provided we reviewed. And wherever the land access has been confirmed, we would go to these sites, you know.

And basically from a map -- from a map's perspective in being physically out in the field is very much different to determine exactly where we want to go, and so we were told by the -- we're informed by the proponent what the day schedule would be and that's how we went about. But yes, Mr. Chair, we did have morning meetings.

THE CHAIR: Fair enough, thank you. Thank you. That's all the questions I have, and I would also like to thank the panel for the presentations and the time that you took to relay that information this morning.

Ms. Louden, do you have any redirect?

MS. LOUDEN: No, Mr. Chair. We do not have any redirect. I will just point out, as well, though, that Elder Jackson Wesley, at the beginning, mentioned perhaps wanting to do a closing prayer.

Mr. Snow, Mr. Bill Snow, I'm not sure if you would like to do that now to close the sitting of this panel.

A. MR. W. SNOW: I think -- is -- actually is -- is Elder Henry Holloway available? Let me check my -- with my colleagues.

A. ELDER HOLLOWAY: Hello.

A. MR. W. SNOW: (OTHER LANGUAGE SPOKEN) Henry, we've come to the end of our presentation, and would you be willing to do a closing prayer for us?

A. ELDER HOLLOWAY: Yes.

(OTHER LANGUAGE SPOKEN)

A. MR. W. SNOW: Thank you, Elder Henry. Thank you, Chairman. Thank you to the Board. Thank you for listening to our presentation today.

THE CHAIR: My pleasure. Thank you very much again. Thank you for that closing, Elder Henry.

Thanks, Ms. Louden.

MS. LOUDEN: Thank you.

THE CHAIR: Thank you.

Mr. Secord, are you ready for direct evidence under Number 2, Topic 2?

MR. SECORD: I am, sir. Just getting my mouse to work.

THE CHAIR: Okay, no problem. Okay, take it away.

MR. SECORD: Thank you.

K. HUNTER, J. ERISMAN (For SCLG), previously sworn/affirmed

MR. SECORD EXAMINES THE PANEL:

Q. Ms. Hunter, are you visible?

A. MS. HUNTER: Yes, yes, I'm here.

Q. MR. SECORD: Great. Ms. Hunter --

A. MS. HUNTER: Sorry, Richard, we're just a little ahead of schedule. So I'm just going to assume -- just confirm that Ms. Erisman is available in case someone has a question about historical resources within the Springbank community. But go ahead.

Q. I'll just wait for you to send that text.

A. MS. HUNTER: Okay, thank you.

Q. Ms. Hunter, do you consider yourself bound by the oath/affirmation that you previously took prior to the earlier testimony that you gave in Topic Block 1?

A. MS. HUNTER: Yes, I do.

Q. And you have also previously adopted your pre-filed evidence. Your evidence on Topic Block 2 is set out in Exhibit 354; correct?

A. MS. HUNTER: Yes, correct.

Q. And document manager, if we could pull up Exhibit 254 and turn to PDF page 114?

A. MS. HUNTER: 115.

THE CHAIR: And Ms. Hunter?

A. MS. HUNTER: Yes?

THE CHAIR: Just recalling from your past testimony, just speak a little slowly or more slowly than maybe you're perhaps used to, just for the court reporter. Thank you.

A. MS. HUNTER: Thank you for the reminder. I will do my best.

Q. MR. SECORD: And with respect to -- to this page, do you have a correction that you would like to make to your -- to Exhibit 254?

A. MS. HUNTER: Yes, I do. I apologize, I'm directionally challenged. This is the north-west corner of the project.

Q. Thank you. And would you please, and if we could have you -- have the document manager go to PDF page 106, and Ms. Hunter, if you would please provide an overview of the SCLG's concerns regarding land use Topic Block 2?

A. MS. HUNTER: Sure, and we don't need to go through this whole presentation. I'm going to hit on just a few pages actually, starting at page 110, 110 of Exhibit 254. My understanding is the Panel has read my submissions, so I just will use this to clarify and add to some context.

So thank you, Panel, for your time once again

today. I'm here to speak about land use.

In advance, I'm going to just mention that this map, just to clarify, I think there was some confusion the other day, and there was confusion on my part also. This map was created by SCLG using an overlay of the project footprint from the proponents's submissions onto Google Earth.

The intent of this map was for us as a community to see where homes and the project footprint was intersecting with community lands.

So my knowledge, this is accurate to plus or minus a very small degree of error around the footprint. And I'm not going to be zooming in on any detail today, so I don't think, you know, we need to debate if this line needs to be shifted by a little bit or not, but more than anything, just to show how this yellow line intersects with our community.

I'm just going to start with a couple brief comments.

The proponent is creating new Crown land out of private land in most cases appearing to be parted from unwilling sellers, many generational landowners. In our view, Crown land should be land for all to co-use.

Stoney Nakoda earlier today mentioned the historical trail used by both First Nations and

settlers. This trail is intertwined with the history of Springbank. Stoney Nakoda also mentioned land originally owned by Clem Gardner. This land is now the homestead of Tracey Feist who spoke to the SCLG on Monday.

Jan Erisman, a member of the Springbank Historical Society who also spoke on Monday I believe will be available to answer questions about the historical aspects of SR1 in Springbank and some of the concerns we have in more detail if the Panel so chooses.

I have been asked to -- for this Panel to put forward for consideration as a condition of approval that historical inventory, of the historical ranching and homesteading sites impacted by this project should be performed with all costs of this inventory-associated restoration and costs of moving, if applicable, will be provided at the expense of the proponent.

It was amazing to listen to Ms. Berry who spoke about the cultural history of this land, both of First Nations and the early settlers which we do not believe has been seriously considered by the proponent.

Land use is mentioned in the Deltares report, Exhibit 13, and I think there are a couple of things that are relevant hair, Deltares said: (as read)

"SR1 is pastureland, and its use doesn't change, except during high river discharges."

Obviously I think we know better now; there were two major errors to this statement. That comment about "just pastureland" is actually quite an oversight about the critical mix of ecosystems along this entire massive footprint that is literally teaming with biodiversity as it moves from forest through native grasslands and wetlands.

Additionally, according to the new land use plan, Exhibit 216, by the proponent, there seems to be wholesale changes in land use from its current use. So the Deltares statement of land use doesn't change is quite glaringly wrong at this point.

The only explanation for this utterly incorrect judgment by Deltares is the complete and absolute lack of understanding of the project, the lands, and the sediment deposited by floodwaters.

Additionally, Deltares did not mention any First Nations concerns about SR1 in their decision, but stated at MC1: (as read)

"There would be significant impacts to First Nations traditional uses."

From the SIA report regarding the SR1 project,

Exhibit 163, page 32, I quote: (as read)

"There were no recorded historical values or notable architectural values present in the McLean Creek option area."

Meanwhile, page 98, regarding SR1, I quote: (as read)

"Located within our partially within the PDA, a total of 14 historic structure sites and 22 archeological sites were assessed by the proponent."

Suffice it to say, we are living with the unexpected consequences of these judgments today.

I would like to add that the Bragg Creek berms needed because of the SR1 project decision have created a canal-like aesthetic impacting how users interact with the river along Bragg Creek, and that land has already been impacted and changed in its use as a result of the SR1 decision. Perhaps if consultations preceded this decision with both landowners and First Nations, some of these errors in judgment could have been corrected early on.

In our view, the land use plan for the project development area is founded on a belief that that reservoir can be recovered between floods to some sort of natural state. The reservoir is the largest land use

area, so this is important to consider.

The state of the reservoir is dependent on, to name a few: Flood size. Larger floods will deposit more sediment impacting land use in more material ways. Flood frequency. If the reservoir goes for a decade between uses or a year or two, this will create significant and drastic changes between land uses. Whether or not there was pre-existing sediment before the next flood. Drying time. Types of post-flood remediation activities, including sediment management, which would include moving and grading of sediment, application of tackifier and/or reseeding programs, watering and/or weather systems, and the success of regrowth programs and regrowth stage, how long does it take for this reservoir to recover to a point where traditional use, such as medicinal plant-gathering can be performed? Does this take one year post-flood or five or twenty?

In non-flood years, the permit-based grazing plan needs to be vetted by cattle owners to assess interest and practicality.

Fire suppression as we heard from landowners is a very concerning risk here, and fire suppression activities may necessarily impact land use, though grasses will either have to be cut or grazed throughout

the reservoir and south of the diversion channel.

It will be -- we expect that this will be a popular new area for recreational users given its proximity to Calgary and location on the way to Bragg Creek along Cowboy Trail. We fully expect cars to be parked along the highway. We expect people to be in that reservoir once it becomes Crown land. Our view is that public use should be expected and accommodated accordingly.

In a flood year, before a flood, numerous access questions arise. How will wildlife-clearing activities impact land use? Will wildlife be deterred from entering the footprint or cleared earlier in the spring if forecasts show large snowpack or other early indicators of flood? How will land be safely evacuated before a flood? Will any land use be permitted in the flood season, May and June, at all? Post-flood, when and how will land access be granted within the reservoir? After the reservoir is dry? How long is that? I don't think we have that information. After sufficient regrowth is established and all remediation activities have taken place in a portion or all of the reservoir? Will flooded areas be fenced off or how will land use be restricted for flooded areas?

This will be a dynamic and complex environment to manage for which the proponent seems to have overlooked

much of the costs. Over time, it is likely that the land use will change as sediment accumulates and is out of necessity pushed around by bulldozers to ensure suitable drainage out of the low level outlet. The ecosystem will become simplified as discussed by SCLG expert Cliff Wallis in Topic Block 5. Thus, I question whether First Nation use, at least of the reservoir over time, is idealistic, rather than realistic, or perhaps, whether opportunities for traditional uses are reduced over time as sediment accumulates. I'm quite sure these contradictions wouldn't have occurred at McLean Creek where land use is much clearer as the reservoir is in the river valley.

As far as we can see, SR1 creates land use problems and challenges that need to be corrected time and time again.

Yesterday, Mr. Secord asked a question about what the reservoir would look like in 50 years. Mr. Wood responded, and I'm just going to paraphrase, "We shouldn't worry too much about sediment because most floods are small." And he went on to pull up an image that shows the footprint of a 10-year flood.

Mr. Wood also stated the reservoir would have only been used ten times in the last 100 years. This is among the most interesting statements of the day to say

the least. Mr. Wood, if floods are small, he implies we shouldn't worry about sediment accumulation. Surely a small flood such as a 1 in 10 can pass safely down the river, and perhaps we don't need this project.

The proponent is here arguing for the project to proceed because Calgary needs this flood mitigation urgently. What is the reality? If you were building this for the design flood, please consider the design flood's consequences on the land. The proponent wants to talk about risk of a big flood, but they don't want to talk about the environmental consequences of a big flood.

Panel, I ask you to hold the proponent accountable for these contradictory statements. The worst-case scenarios for sedimentation and its effects on land use must be considered for all of us, First Nations, and public use, and adjacent and surrounding community.

If we are to expect various 1 in 10-year floods as Mr. Wood suggested yesterday, I suggest we go back to the drawing board and get this right by finding a project that can address drought. Alternately through this process, run the simulation on recorded floods over last 100 years and project what the sediment accumulation would look like today. You can't have it both ways.

I would also state this project has no end date. What possible justification could be used to deny forecasts of sediment accumulation over the next hundred years? Although we won't be here to see it, the long-term environmental state of SR1 will impact the users of the land and the surrounding communities for generations.

If we could go to page 111, please. Thank you. Although the proponent states the plan is to end up with 3,600 direct acres required by the project, I would argue, and I think Stoney Nakoda mentioned this, as well, the full 6,800 and perhaps beyond is impacted by fragmentation. Fragmentation is a concern for these contiguous native grasslands around the reservoir, most of which are in their uncultivated natural states.

A brief history is outlined in Exhibit 100, we don't need to go there.

In 2015, the plan was to acquire 1,760 acres for $40 million. In 2017, the full footprint was planned to be acquired for 140 million with an expectation of land use sales of $60 million. This projection in 2017 included lease revenue of $715,000 a year for a total present value benefit of approximately $15 million. In 2019, the full value appears to be the whole 140 million with no resale.

With the caveat in Exhibit 325, page 23, I quote: (as read)

"Finally, to the extent that AT is able to offset land acquisition costs by reselling excess lands, it will do so."

In 2019, lease revenue seems to be removed.

I would add as an aside that I think relevant, material amounts of private land in Bragg Creek were acquired for the berming project along the river. Land costs were never considered for these berms when SR1 was chosen. The direct cost of Bragg Creek berms was purely for the construction alone.

This is a big component to the cost escalation, land is, of the Bragg Creek berms from 8.9 million to $42 million. So this project has impacted lands far beyond the SR1 footprint.

Based on responses from the proponent yesterday, it doesn't seem that they know whether or not they are acquiring or will need to acquire the full 6,800 and/or will need to sell back excess or whether they'll be able to directly to acquire this unusual 3,600-acre footprint that has been created by elevations. This will only be known as the project is approved and land acquisitions finalized was what I heard yesterday.

However, I do believe this is an overlooked

element. If smaller parcels are created by SR1, excess land acquisitions and resale, this will further fragment that 6,800. We agree with Stoney Nakoda that this impacts the broader area, and there will be further impacts to biodiversity.

As one of the landowners stated on Monday, native grasslands areas are threatened. If larger parcels or purchased and then resold into smaller parcels which will then have homes, driveways, yards, barns, fences, animals, this will result in further loss of these grasslands and further fragmentation. What I am saying is that there are implications beyond the project development area's 3,600 acres which depends on future land acquisition, and this has not been considered by the proponent. This is yet another example of how much uncertainty remains and how narrow the frame of reference continues to be.

In 2020, the proponent stated new land access would be provided for ten residences. I am totally unclear on how it took the proponent six or seven years to figure that out. I can see looking at Brian Copithorne, he needs a new access. Where will this access come from? It takes more private land. There must be easements from private land to get to Brian's home.

Page 119, please. Oh, and just briefly on that

page, I just wanted to note that those are two homes that have been circled on page 111, I apologize. That's a mother and a daughter that will be separated by the diversion channel, just for reference.

So page 119, thank you. What is utterly missing from this land use plan as we discussed yesterday is the intersection of the PDA and the adjacent lands. Again, we realize this is somewhat dependent on land acquisitions and the preferences of individual landowners. I ask the Panel and the proponent to consider the following questions: What tools can be employed to create an attractive, sustainable, visible boundary across the project area?

The current boundary, the line provided by the proponent around the project, does not appear to contemplate any buffer between SR1 and the private land that will surround it. How does this work across jagged, crooked, winding outlines? I do not know how you can fence that. I do not know how people live with that and what that looks like.

Public use should have a setback from private use. Landowners should not need to worry about trespassers or hunters entering private property. Landowners should be protected to the proponent's -- the best of the proponent's abilities from harm created by living next

to these public lands and their uncertain future uses.

If the project should be approved, a condition of budget for implementation of a suitable aesthetic and sustainable buffer, ideally bioengineered zone between public use and private land should be provided, along with a provision for maintenance. On this page in particular, this -- the purple part is the diversion channel and then the off-stream dam.

And so what I want to highlight is this little -- how do I explain it? The emergency spillway is coming up from the left-hand of the screen up to the top, and it juts out there where the diversion channel is. This is not intended to be an exact replica of Alberta Transportation's spillway; it's more to say how is the water going to access the river when it exits the spillway.

As far as I can tell, the project development area has changed. In 2016, the project development area went straight down to the river and abutted the river's edge.

This one in 2018 and 2020 seems to show that the project land stops short of the river, which would necessitate when the emergency spillway is activated, water running down there and across private land. And I just -- I'm not sure how that works, and I don't know that's a reasonable assumption. Perhaps something to be

explored further.

And with that, I'm done referring to my slides.

I'm going to speak briefly about engagement for land use planning.

I've been giving a lot of thought to this concept of land use and engagement. We are caught in a cycle on this project beginning in 2014 where the proponent makes decisions, and we are the last to know. By the time we found out -- find out, it is too late to participate constructively.

Mr. Wagner asked whether landowners were consulted before the project was selected. My review of the history shows the answer is no. Unfortunately, we are forced to participate on the back-end through comments to regulators, and ultimately, we end up where we are in the position we are today.

I will admit this is an unhealthy dynamic. This has been the way since 2014 and has been the source of much angst and frustration within our community.

Even some time was spent on this issue yesterday of consultation and land use, I would like to contrast SR1 with the engagement on the Bow River dams for which the community of Springbank is impacted.

In between 2018 and '20 following a screening of over a dozen projects or so, AEP performed conceptual

assessments of three Bow River dam options that was over a two-and-a-half-year period. This included extensive public engagement with affected stakeholders, including water co-ops, Glenbow Ranch Provincial Park, community members, railroads, and more. At these engagement sessions, much new information, context, and concerns were raised early in the process. Ultimately, this should result in a better outcome for all.

The next phase, detailed feasibility analysis which begins this year, will be conducted on all three projects until 2023. Feasibility analysis includes a detailed geotechnical, hydrological, and environmental study and further community consultations which is where I would say perhaps where we are with SR1 is having completed those just now.

On the Bow River, only then after all of that fulsome analysis will one be selected. This is a pragmatic and conservative approach. This is a far cry from what happened with SR1 which appears to be a decision taken fully within the government in a matter of months and without these critical hydrological, environmental, or geotechnical assessments.

Perhaps if extensive engagement had been conducted like on the Bow River, the proponent would have known about Calalta's water rights, the challenges of

Kamp Kiwanis, or the challenges of debris, the complexities of the pipelines, and early indications landowners were not willing sellers. There's no way to remedy these engagement shortfalls now, and in the end, the costs of the project and the frustration levels are both high.

I am pleased that AT consulted extensive negotiations with First Nations. We value First Nations rights. First Nations and landowners have both been stewards of this land over time; however, I would think it's fair to say there's been an imbalance.

I would ask where are the workshops with our community that actually surround this footprint in its entirety?

AT responded yesterday, Mr. Hebert reached out me for consultation with Springbank. I want to speak for a moment about that and engagement with our community in particular.

Regarding Exhibit 327 where emails sent to me my Mr. Hebert are listed, I do not consider emails to me consultation; I consider them updates. Emails to me do not discharge AT's obligation for public engagement. In fact, I first heard about the information sessions hosted by AT last fall in Springbank from our MLA, not Mr. Hebert. Mr. Hebert advised me of the Springbank

session on September 24th, four days before the event of September -- sorry, advised me of the Springbank session on September 20th, four days before the event which occurred on September 24th.

Immediately I posted these sessions on our Facebook page as events in order to raise awareness within our community; however, I am not responsible for AT's public consultation in Springbank. It is not my role to take on the proponent's engagement of Springbank residents. I am more than happy to share our engagement opportunities as I have done if they are organized by the proponent.

Regarding the open houses that have occurred over the years, having an information session where boards are available for people to peruse and then they are invited to drop questions in a shoebox does not discharge AT's obligation of public engagement. Meanwhile, it is the community that first raised the issue of debris through this very process, long before the proponent identified the issue.

The only public Q and A sessions were held in 2020 in the fall in what I would assume to be an attempt to prepare for this Panel in order to say engagement was conducted. The events, while well attended thanks to the Springbank and Bragg Creek Community Associations

sharing of information, putting up signs, and sending emails to promote the event, many questions went unanswered as there was not enough time for all the questions which had built up over years.

Unfortunately, years of poor engagement cannot be undone and will leave a bad taste in this community for years into the future if this project is approved. The frustrations expressed yesterday by Mr. Wagner are echoed by our community. I would suggest public trust has been eroded.

Regarding the specific set of emails sent to me mentioned in Exhibit 327, I have a few points to make in clarification.

Firstly, I assumed other members of the public were receiving these what I would call email updates. I am a volunteer, mom of four kids, running a community association with more on our to-do list than SR1.

Regarding an email dated June 13th, 2009, "Update on Regulatory Process": (as read)

> "Karin Hunter of the SCA attended, as did representatives of Rocky View County. SR1 project representatives provided an update regarding the SR1 project."

Until I arrived at the venue, I didn't know no one else

from the community was invited, as far as I'm aware. There were no landowners, and to my knowledge, based on inquiries to affected landowners, they weren't invited.

On page 7 of that same exhibit, Mr. Hebert stated: (as read)

"The UCP was the second government to reaffirm the project in 2019."

I take issue with the term "reaffirm," which is categorically false. I believe Mr. Hebert referenced this again yesterday in his testimony. I think what Mr. Hebert refers to is an independent report by Martin Ignasiak from 2019, which was promised by Premier Kenney in the election.

The scope of the review by Mr. Ignasiak was not released publicly, so we did not know what the scope was, whether it was in fact an impartial review of the project in its entirety or something else.

In a 2019 email to me, page 13, Mr. Hebert indicated this report was going to be released and let me know of an upcoming press event later that week. At any rate, the release of the report was cancelled without explanation. Then the report was withheld nearly an entire year until 2020 after the Tsuut'ina and Rocky View County withdrew their opposition under secret agreements with AT.

When the delay on the report became apparent, we tried to access the document through a freedom of information request, but it was denied. Why was the information withheld?

When it was finally released in 2020, the scope of the Ignasiak report became apparent. Exhibit 275, page 129, the report was as follows, quote -- the purpose: (as read)

> "Conduct an independent review of SR1's current status in the regulatory process."

To be clear, they did not hire an independent dam expert to determine if this was the best project; they hired an independent regulatory lawyer to determine how best to expedite the project. This was not a report on the merits of the project, nor its effectiveness as a flood mitigation tool.

So the project was not reaffirmed at all; rather, the intent of the report was to provide the proponent with a specific list of instructions on how best to move the project forward by: (as read)

> "Providing an opinion on the regulatory steps remaining, as well as potential timelines for completing the regulatory process."

The Ignasiak report outlines the EIA's submission, process was mismanaged in 2017 by Ignasiak: (as read)

> "In my view, the requirement to resubmit the EIA resulted in a delay of the regulatory process of approximately six months. Stantec advised AT not to file the EIS on October of 2017 on the basis there was insufficient time to incorporate necessary information in the EIS, and it would likely be rejected by SIA."

Continuing: (as read)

> "I understand external legal counsel also expressed concerns that the EIS was not ready to be filed. I'm not aware who made the decision to file the EIS, despite these warnings, or why."

Also, in the Ignasiak report as it pertains to the FAR process, I quote: (as read)

> "The number of information requests in SIR1 is unprecedented. I have worked on large-scale mining projects which include processing facilities and engaged far more environmental disciplines than SR1 that were subject

to less than half as many information requests in the first round."

Following the first round of IRs in June 2018 --

THE CHAIR: Ms. Hunter.

A. MS. HUNTER: Yes?

THE CHAIR: You've started to speed up again.

A. MS. HUNTER: Oh, I'm sorry, I'm sorry.

THE CHAIR: The court reporter's been going all morning so her fingers are going to be a little tired.

A. MR. HUNTER: I'm sorry, and I'm just about done.

Following the first round of IRs in June 2018, it took Alberta Transportation a full year to respond. I repeat, a full year.

In June 2019, Minister McIver had a press conference to tout the thousands of pages of responses. The fact that it needed thousands of pages of responses speaks volumes about the quality of the project work to that point in time. In our view, a project approved in 2015 did not have sufficient detail to understand the impact until mid-2019 thanks to detailed questioning by the NRCB.

The draft land use plan came in October of 2020 via an email from Mr. Hebert for which I sent a reply

to Mr. Hebert with my personal views and commented to SIA on behalf of the community association.

In closing, in Exhibit 325, the proponent stated: (as read)

> "...that the land use plan for the project area has not been finalized and will be the subject of further and ongoing consultation consistent with the draft land use principles for the project. The members of the SCLG will have an opportunity to participate in that consultation and provide input into the land use plan."

Yesterday Mr. Hebert stated to Mr. Secord that there is no budgeted -- budget for public amenities associated with SR1.

Might I say the MC1 report included replacement of affected park infrastructure, including campsites and wastewater stations. This is yet another imbalance in the decision. Lack of public amenities seems like quite a large oversight on a project of this magnitude.

We maintain SR1 is a lost opportunity to contribute to the economy and sustainability of Alberta through water management and complimentary land uses. Exhibit 198, Appendix B, lists examples of how other

water projects provide a range of ancillary benefits, conventional dams, Gleniffer Lake, Ghost Lake, Little Bow, to name a few, include the following positive benefits: Camping, beaches, canoeing, kayaking, paddleboarding, picnic tables, and day use areas, fishing, to name a few.

Panel, if you approve this project, we ask that a condition of a generous budget for public amenities and/or community benefit be included. The precedent set so far by community engagement is concerning. Unless engagement is required by this Board with funding for public works required by this Board, nothing redeeming about this project with a directly affected community will be provided. As with our detour roads, those things would be excluded for budgetary purposes.

The proponent has shown disregard for our community, and so the regard must be formally created. I have always said, if this project proceeds, get it right.

I realize community amenity requests may be in conflict with what First Nations is requesting. We have been at the bottom of the priority list to say the least. I have no idea at this point how that will be resolved. There's much uncertainty on the land itself, along with conflicting agendas. How will these

conflicting agendas be addressed? How will these competing uses evolve over time?

The proponent appears to punt these decisions down the road for AEP to figure out. This leaves all of us in a state of flux. While we support First Nations traditional uses, the Springbank community surrounds this project in its entirety. If you cannot find it within your decision to provide community benefit related to land use of SR1, our community would appreciate the Panel provide an alternate public benefit for our affected community.

The irony here is that new public benefit requires new costs which are not listed anywhere as Mr. Hebert stated yesterday. To make it better, to make it more palatable, you must spend more money, and SR1's benefit-cost ratio falls farther below that of the alternative at MC1.

So as you can see, this is a vicious circle, and we're chasing our tails.

Mr. Secord proposed a list of conditions for community benefit yesterday to Mr. Hebert for consideration. Regarding this line of questioning, to be honest, I feel physically ill. These questions imply that if we get community benefit, we're okay with this project. We are not okay with this project.

The terrible lasting negative outcomes, and in particular, concerns about our water and air quality, the safety and health of our community over the long run, they far outweigh any desirable community amenity.

That is why we are here at the end of this process. In our view, the worst possible outcome is this project moving ahead. We would happily forfeit any and all public benefits discussed yesterday and today for this project to be rejected. Yet out of necessity, due to the uncertain outcomes of these proceedings and with a heavy heart, I must advance these proposals for your consideration. Sorry.

I understand that often NRCB approves projects with conditions, and if that is the case here, I have no doubt the proponent will continue their relentless and misguided pursuit of this project at any cost to address a time crunch for flood mitigation they themselves created when they chose the wrong project without appropriate due diligence.

Nonetheless, my point today is that there remains much work to be done on land use and with substantial cost. I provide this testimony as one more example that this project should not be approved by this Panel.

Thank you.

THE CHAIR: Thank you, Ms. Hunter.

Mr. Secord?

MR. SECORD: Yes, Ms. Hunter is available to answer any questions. Thank you.

THE CHAIR: Does that complete your direct then?

MR. SECORD: It does.

THE CHAIR: I'm assuming that Ms. Louden, Mr. Williams has already indicated he does not have questions of Mr. Wagner. I'm assuming none of you have questions?

MR. WAGNER: That is correct, Mr. Chairperson.

MS. LOUDEN: This is Sara Louden, and no, we do not have any questions.

THE CHAIR: Okay, thank you. Ms. Senek, City of Calgary?

MS. SENEK: No questions from the City of Calgary, thank you.

THE CHAIR: Mr. Cusano?

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

THE CHAIR: Mr. Kruhlak?

MR. FITCH: Good morning, Mr. Chair, it's Gavin Fitch speaking.

THE CHAIR: Good morning.

MR. FITCH: That's quite all right. I just have a few questions for Ms. Hunter.

MR. FITCH CROSS-EXAMINES THE PANEL:

Q. So to begin, Ms. Hunter, you referred to the -- what we call the "chronology of consultation" which was attached to the reply submissions of Alberta Transportation. And I just want to ask you a few questions about that document.

So if we can, Zoom host, bring up Exhibit 327, please, PDF page 13. So Ms. Hunter, looking at the appendix -- I guess it's the fourth page of Appendix C to the reply submissions of Alberta Transportation, and I take it from the evidence you gave this morning that you've had an opportunity to review this document?

A. MS. HUNTER: Yes.

Q. Okay.

A. MS. HUNTER: I would say overall, I mean with the thousands of pages that seem to be going back and forth, I perused it, picked out points that were relevant to my speech today.

Q. Right. You just told us that you don't consider emails to constitute consultation, and that was in reference to this list of dates where email correspondence between you and Mr. Hebert are described; correct?

A. MS. HUNTER: Hm-hm.

Q. You're going to have to say yes.

A. MS. HUNTER: Yes, yes, that's correct.

Q. Thank you. Do you consider someone offering to meet "consultation"?

A. **MS. HUNTER: Yeah, I mean here's what I'm going to say about my role.**

We are volunteers, and we're doing the best we can. And in fact, when it comes to a project that impacts our whole community, I honestly don't feel I'm in a position to negotiate some sort of deal.

You know, I feel like decisions, I believe, that there should have been clear consultation and engagement with the Springbank community hosted by Alberta Transportation, workshops, discussions, you know, meetings as appropriate. Alberta Transportation should have put up signs all over the community and hosted stuff. There's been nothing ever stopping them from doing that, and whenever those things happen, which was an example last year, I shared them out.

So you know, I think there's just a general -- and from my standpoint, as well, a lack of clarity about roles. It's not my job to -- to market the project to the community. It's not my job to take on AT's consultation.

And, you know, the Springbank Community Association, we sent in our questions to the proponent and received some answers, and then fully a hundred

percent of our time has been trying to keep up with the regulatory requirements.

Q. Thank you for that.

Zoom host, if we can just scroll down the page just a little bit, that's good, yeah, that's good, thanks. So I just wanted you to confirm if you will, Ms. Hunter, that on June 19th, 2019, Mr. Hebert emailed you, and he offered to meet with you; correct?

A. MS. HUNTER: I'm going to assume this is correct. He seems to keep better track of his emails, although he's a paid employee, and I'm just a volunteer.

Q. Do you recall taking him up on that offer and meeting with him?

A. MS. HUNTER: No, I mean like I say, we're just treading water here, right? We're just trying to keep our heads above water on SR1. There's so much information.

And, you know, I'm doing my best as a community volunteer to keep our community up to date. My priority is not in -- and I don't even know, honestly, I don't even know how I could meet on behalf of an entire community and speak to what we want out of SR1 in an engagement process like you've engaged in with the Tsuut'ina or with other stakeholders like Rocky

View County. I just I don't think that's our role, that's my role.

I view my role throughout this entire process -- it seems like maybe this is one-sided, do you know what I'm saying? I feel like Mr. Hebert has identified me as some sort of important person, and I don't have that same view of my role in dealing with the government. Do you know what I'm saying?

I just think there's been -- there's been a case of misguided expectations potentially on both sides. And honestly, our philosophy, and now I'm going to just speak as my Springbank Community Association role. Our priority has always been hit those regulatory deadlines. It has not been engage with Alberta Transportation because fundamentally, we don't agree this is the right project.

And so for us to spend time one on one with Matthew Hebert and even the project team to understand, what's the point?

Q. I understand perfectly.

A. And frankly -- and frankly, you know, those engagements I feel like those opportunities, although they -- I mean he did ask me the one time to meet. And to be honest, I think you just have to take into account, I'm not getting paid to do this. I have a million other

things in my life, and those regulatory deadlines have above all taken priority to everything.

So, you know, I would just say I know Matthew's been -- his intent is good. He's been very much an improvement over the prior government, in terms of his willingness to reach out, at least keep me updated, and I appreciate that. And that's how I sort of looked at it.

But fundamentally having a view that this is wrong for our community, it creates this situation, and what's -- how do we even manage that and how do you find time for that?

So I just am saying to you I guess it's complex. Like I think people look at us and think we're, you know, we're organized and we're like a corporation. We're volunteers; we're just trying to do the best we can. Do you know what I mean?

Q. I understand, I understand.

So Zoom host, if we can just go down the next page, you can see page 5 at the top there, and that's good.

So would you confirm for me, Ms. Hunter, that again, on July 25, 2019, Mr. Hebert offered to meet with the Springbank Community Association?

MR. SECORD: You're on mute, Ms. Hunter.

Ms. Hunter, you're on mute.

Q. MR. FITCH: Yeah, we can't hear you.

THE CHAIR: Ms. Hunter.

A. MS. HUNTER: Sorry, I was trying to get my screen larger. Yes, but, you know, I think this speaks to the same issue --

Q. Okay.

A. MS. HUNTER: -- Mr. Fitch.

Q. So same answer to the last question, then?

A. MS. HUNTER: Yeah.

Q. That's fine. And if we can carry on down at the bottom of that page, please, Zoom host, a little farther, there. So under the heading "December 4, 2019," you I think will confirm for me that on that date, Mr. Hebert provided to you the draft guiding principles of directions for land use document?

A. MS. HUNTER: Yes.

Q. Correct?

A. MS. HUNTER: That's correct.

Q. If we can scroll down a little farther?

A. MS. HUNTER: Yeah, and I appreciated that. It's nice to stay up to date.

Q. Right. And then you also see the note that Mr. Hebert advised that available to meet with you to discuss the draft guiding principles and to respond to any other

questions you had about the project; right?

A. **MS. HUNTER: Okay, I don't -- to be crystal clear, I'm just trying to stay on top of this all, right? Like I don't know how much time in the day you guys think I have to meet and go over all this.**

Mr. Hebert offered to meet us, not the same as proposing a time for meeting and saying, "Hey Karin, I'll be in Calgary." Do you know what I'm saying?

Like I just -- our focus has been so much on meeting these regulatory deadlines which are quite overwhelming.

And again, and, you know, I think the community as a whole needs to be engaged. And perhaps somewhere along the way, like I said, that seems to have fallen to me, and I don't know how that happened. Like I don't know the outcomes of -- or how we got here, and I just think it's a misguided expectation that I -- you know, what do you want me to do about this, right? Sorry, just give me...

Q. I think I understand your position, Ms. Hunter, that's okay.

MR. FITCH: Mr. Chair, I'm just going to consult with Mr. Hebert for one moment before I go any further, just one second.

THE CHAIR: Okay, thank you. Excuse me, I

think somebody needs a mute on their -- unless there's some intent that you're asking the next questions but -- okay.

MR. FITCH: Mr. Chair, it's Gavin Fitch again. Mr. Chair, those are all our questions for Ms. Hunter. Ms. Hunter, thank you.

A. MS. HUNTER: You're welcome.

THE CHAIR: Thank you, Mr. Fitch.

Ms. Hunter, I'll just check with staff and Panel to see if we have any questions on behalf of the NRCB.

Mr. Kennedy?

MR. KENNEDY: I have no questions, thank you, Mr. Chair.

THE CHAIR: Ms. Vance?

MS. VANCE: I also do not have questions, thank you.

THE CHAIR: Ms. Roberts?

MS. ROBERTS: I just have one question; it's just a little bit of detail.

MS. ROBERTS QUESTIONS THE PANEL:

Q. You had mentioned about historical resources, and yesterday, Mr. Secord had talked about a condition about gathering them. I was just wondering if you also had any thoughts or if your team had any thoughts as to where and how those might be housed, where they might

be located and so on?

A. **MS. HUNTER: Thank you for your question. Is Jan -- can you speak to that? We do -- our historical society is -- recommended a few historical projects. Go ahead, Jan.**

MR. SECORD: And for the record, this is Ms. Erisman.

A. **MS. ERISMAN: Yeah, and I'm part of the Springbank Historical Society, and there also is a Bragg Creek Historical Society.**

I think -- I'm sorry that we don't have any plans because we were told in all the documentation that there wasn't any history. And with research, we had found that there's a lot of history before Alberta existed that happened in this area.

But until the SIA report came out and said that there were 14 historical structures and 22 archeological sites that we were told by -- in the reports I'd read, there was just nothing.

So -- so no, we hadn't even thought of where we would put it. And in the situation, should this project go ahead, I think that would have to be part of the planning process. And that would be great if we could protect cowboy history and the Indigenous history.

Q. Okay, thank you.
A. MS. ERISMAN: Yes.
MS. ROBERTS: That's all, Mr. Chairman.
THE CHAIR: Thank you, Ms. Roberts.
Mr. Ceroici?
MR. CEROICI: I don't have any questions, thank you.
THE CHAIR: And Mr. Heaney?
MR. HEANEY: I have no questions.
THE CHAIR: And I have no questions, Ms. Hunter. So thank you very much, and thanks for the time and effort that you've put into this Panel and previous Panel, as well.
Mr. Secord, did you have any redirect?
MR. SECORD: I have no redirect, sir, thank you.
THE CHAIR: Okay. It is time for a break for lunch. Mr. Wagner, you had direct ready, and you'll be ready after lunch; is that correct?
MR. WAGNER: Mr. Chair, I will.
THE CHAIR: Okay, so we'll have Mr. Wagner any lunch, and we'll resume the hearing at 1:15. Thanks everybody, see you in about an hour.
(PROCEEDINGS ADJOURNED AT 12:09 P.M.)

PROCEEDINGS ADJOURNED TO 1:15 P.M.

Volume 4
March 25, 2021
P.M. Session

(PROCEEDINGS RESUMED AT 1:15 P.M.)

THE CHAIR: Okay. So we've got a couple of items left for Topic Area 2, so that's Mr. Wagner's direct, and then if there's any rebuttal evidence by Alberta Transportation.

So Mr. Wagner, are you online?

MR. WAGNER: Mr. Chair, I am. Can you hear me?

THE CHAIR: Yes, we can, very clearly. Thank you. And, Ms. Vespa, Mr. Wagner needs to be sworn in.

MR. WAGNER: I believe -- I have my Bible. Can you see?

THE CHAIR: Is your video on by the way, Mr. Wagner?

MR. WAGNER: I thought it was. Just let me check.

THE CHAIR: Mr. Wiebe, I'm not sure -- I see your name on one of the tiles, but I don't see video. So if you have video there, it is not right now.

MR. WAGNER: We're in the country, so I'm

wondering if that's an Internet speed issue because it does say that my video is on.

MR. WIEBE: Do you want to just turn it off and turn it back on again?

MR. WAGNER: Most certainly. Is that better? I see my happy face. Well, semi-happy.

S. WAGNER (Spokesperson), sworn

THE CHAIR: Mr. Wagner, you can leave your video. It is freezing, but your voice is coming through fine, so that's fine. As you say, it may be your Internet connection speed.

Now, you had kind of carried over from Topic Area 1 into 2, and you had requested only five minutes of each.

Did you have just a rough feel for how long you would like to take today for direct?

MR. WAGNER: I doubt very much if I'll be more than five minutes, Mr. Chair.

THE CHAIR: And that's fine. Just to get an idea. Thanks a lot. Please proceed.

A. If I could get the document manager to bring up -- and, again, I struggle with this, but Exhibit 327.

This is the right one this time, Mr. Chair. I'll give further instructions as I go through.

My wife and I are out in Springbank and we've been here since roughly 1992. My wife grew up in Springbank and graduated from Springbank High.

And as a struggling young couple, we purchased a mobile home or modular home and moved it to the heritage lands, which we're now on, in 1992. After a few successful businesses, we built our current house, and that's the one that we live in, and that was done in 2000.

I can't overemphasize what is being asked of us. We are being asked to give up four generations of community, our retirement home, our dream location, all for the public good.

Yes, we can replace our house -- it's a thing, and things can be replaced, but it is nearly impossible for us to replace our location, and definitely impossible to replace the heritage.

We have never had flooding, ever. In fact, we watched as the seasonal creek in front of our house swelled to over 100 metres, and that's actually the background that you see behind me is the 2013 flood. There is no water in our yard.

When we asked a number of local people where to build our house, and that's -- we obviously got good advice, don't have any problems.

In the preceding days of the NRCB submission, I find disclosures that SR1 has a maximum capacity higher than the design. I continue to be confused by the maps. Some have our house in the footprint, some don't. I really wished I had a bigger brain.

I have to say we have some huge decisions ahead of us if the NRCB is to approve this project, decisions I wish on no one. It would be nice to have the facts available to be able to make those decisions.

If I could bring up page 100 of the document. And can you -- what's been discussed as the fingers, can you expand this map to as large as you can with the fingers showing. Keep expanding. Thank you.

I'd like to draw your attention to the SR1. It's a house location. On there it's a little triangle. We have two houses on our property. That actually happens to be the location of our rental.

We're the next finger over. So, basically, there's hundreds of maps, and our current house is not even on...

Thank you very much for your time. I wish to be open for cross-examination.

THE CHAIR: Thank you, Mr. Wagner.

Ms. Louden?

MS. LOUDEN: We do not have any questions for

Mr. Wagner. Thank you.

THE CHAIR: Mr. Secord?

MR. SECORD: No questions, sir.

THE CHAIR: Ms. Senek?

MS. SENEK: No questions. Thank you.

THE CHAIR: Mr. Cusano?

MR. CUSANO: No questions. Thank you, sir.

THE CHAIR: Mr. Fitch or Mr. Kruhlak?

MR. FITCH: Good afternoon, Mr. Chairman.

It's Mr. Fitch. I wonder if the Board might give me the indulgence of one or two minutes while I confer with Mr. Hebert and we can decide whether or not we have any questions for Mr. Wagner.

THE CHAIR: Yes.

MR. FITCH: Thank you.

Mr. Chairman?

THE CHAIR: Yes.

MR. FITCH: Okay. I have one question -- I hope just one question for Mr. Wagner.

MR. FITCH CROSS-EXAMINES THE WITNESS:

Q. Mr. Wagner, good afternoon.

A. Good afternoon.

Q. You've indicated that there are lots of maps and I certainly wouldn't disagree with you about that. And you say that some show your residences being inside the

project area and some show your residences being outside. Did I basically get that right?

A. Correct.

Q. Would you agree with me that all the maps that you actually received from AT show that your residences are outside?

A. Yes.

Q. Okay. Thank you. Those are all my questions.

THE CHAIR: Thank you, Mr. Fitch.

And I don't imagine you have any redirect, Mr. Wagner?

MR. WAGNER: I don't.

THE CHAIR: Okay. Thank you very much, Mr. Wagner.

MR. WAGNER: Thank you, Panel.

THE CHAIR: And Panel -- sorry, I skipped over. I thought I had a note that there were no questions. But Mr. Kennedy and Ms. Vance?

MR. KENNEDY: I have no questions. Thank you, Mr. Chairman.

MS. VANCE: No questions.

THE CHAIR: Okay. Panel members?

MR CEROICI: I have no questions. Thank you.

THE CHAIR: Thanks, Mr. Ceroici.

Ms. Roberts.

MS. ROBERTS: I have no questions either. Thanks.

THE CHAIR; And Mr. Heaney?

MR. HEANEY: Just one question for Mr. Wagner.

MR. HEANEY QUESTIONS THE WITNESS:

Q. Mr. Wagner, I think yesterday you were talking about your residence and how -- you know, its elevation above the high watermark. Would you comment about your second property or the second residence -- house you have on the property and its proximity, elevation-wise, to what you understand to be the high watermark?

A. I don't have the exact facts, but I believe it's within very close range of elevation to the other -- they're both the same elevation or roughly the same elevation.

Q. And in terms of, for the second piece -- or the second residence on the property, like the lateral distance to what you think is -- would be the high watermark?

A. What do you mean by the lateral distance?

Q. Yesterday, I think you said you were about -- as you understood it, you were within about 35 metres of where the water would top out in a lateral sense, like from your front porch walking out.

A. Yes, and that was actually -- you know, and I apologize to Mr. Fitch. That came up -- I found a map that actually described our existing house and how far the

watermark was to the 200-year flood line.

And the questions that I was asking yesterday, by the way, with regards to our house was not the 200-year flood line; it was related to going above the 200-year flood line as they have referred to in previous conversations over the last number of days.

Having said that, we have no information with regards to the flood line as it pertains to the other piece of property, which is a rental. And there's a person there that is a lovely, lovely person that rents the property from us.

Q. Okay. Thank you.

THE CHAIR: Okay. Thank you, Mr. Wagner, and after that question, I mean, you've asked and answered it, I don't imagine you have any redirect.

MR. WAGNER: I do not, Mr. Chair.

THE CHAIR: Thank you very much, Mr. Wagner.

MR. WAGNER: Thank you.

THE CHAIR: And thank you, Dr. Heaney.

Mr. Fitch, does Alberta Transportation have any rebuttal evidence on this topic?

MR. FITCH: No, Mr. Chairman, we do not.

THE CHAIR: Okay. Thank you.

So time to move on to Topic Area 3, then, Project Design, Safety and Risk.

Mr. Fitch, is your panel ready for direct from Alberta Transportation?

MR. FITCH: I believe they are, Mr. Chairman.

So to provide a bit of a roadmap, the members of the Topic Session Number 3 witness panel for Alberta Transportation are Mr. Hebert, Mr. Wood, Mr. Speller, Mr. Brescia, Mr. Svenson, Mr. Menninger, and Ms. Carignan, all of whom have previously testified and been sworn, and I'm just going to ask each of those individuals, in turn, to confirm that they consider themselves still under oath. And I'll start with you, Mr. Hebert.

A. MR. HEBERT: Mr. Fitch, I am still under oath.

MR. FITCH: Thank you. Mr. Wood?

A. MR. WOOD: Yes, I am still under oath.

MR. FITCH: Mr. Speller?

A. MR. SPELLER: Yes, I am still under oath.

MR. FITCH: Mr. Brescia?

A. MR. BRESCIA: Yes, I'm still under oath.

MR. FITCH: Mr. Svenson?

A. MR. SVENSON: Yes, I'm still under oath.

MR. FITCH: Mr. Menninger?

A. MR. MENNINGER: Yes, I am still under oath.

MR. FITCH: Ms. Carignan?

A. MS. CARIGNAN: Yes, I'm still under oath.

MR. FITCH: Thank you. And now, Mr. Chair, we have three additional witnesses on this witness panel who are joining us for the first time. They are Mr. Dan Back, Mr. Dave Luzi, and Mr. Dan Yoshisaka.

And I'm going to begin with you, Mr. Back. Are you with us?

A. MR. BACK: Yes, I am.

MR. FITCH: Thank you.

Q. Mr. Back, your CV has been filed as part of Exhibit --

COURT REPORTER: Excuse me, excuse me. Would you like the witnesses sworn before you begin?

MR. FITCH: Oh, yes. Yes, please.

M. HEBERT, M. SVENSON, W. SPELLER, D. BRESCIA, M. WOOD, Y. CARIGNAN, D. BACK, D. LUZI, D. YOSHISAKA (For Alberta Transportation), previously sworn/sworn/affirmed

MR. FITCH EXAMINES THE PANEL:

Q. So back to you, Mr. Back -- no pun intended -- your CV has been filed as part of Exhibit 336 at PDF page 7. Can you confirm, sir, that it is accurate, to the best of your knowledge.

A. MR. BACK: Yes, sir, that is accurate.

Q. And I understand you work at Stantec as a principal and senior geotechnical engineer?

A. MR. BACK: That is correct.

Q. Can you just briefly provide the Board with a summary of your education and experience?

A. MR. BACK: Yes, of course. I completed a bachelor of science in civil engineering from the University of Kentucky in 1979 and a master of engineering with concentration in geotechnical engineering at Cornell University in 1986.

I've worked as a civil and geotechnical engineer for the past 42 years and have experience in analysis and design of a large -- a variety of large civil engineering projects.

I have more than 30 years of significant involvement with dams, hydraulic and waterfront structure projects, specifically including more than 50 dams.

Q. Thank you, sir. And what was your role in this application?

A. MR. BACK: Well, I've worked with the dam and diversions engineering design team providing geotechnical and design analysis for each of the SR1 project elements. I prepared relevant geotechnical portions of the design analysis reports and, as needed, I've responded to technical questions on geotechnical issues with the EIA-related submissions.

Q. Thank you, Mr. Back.

Mr. Luzi, turning to you now. Your CV has been filed as part of Exhibit 336 at PDF page 25. Can you confirm, sir, that it is accurate.

A. MR. LUZI: Yes, it is.

Q. And I understand you work at Stantec as well and that you are a principal and the national technical lead for hydrology, and that you are a senior hydrologist and geomorphologist; is that correct?

A. MR. LUZI: That is correct.

Q. And what is your education and experience, briefly, sir?

A. MR. LUZI: I did a bachelor's in physical geography at the University of Calgary and then have a masters and PHD at University of British Columbia. And I've been doing fluvial geomorphology and hydrology for the last 20 years in both professional practice as well as academia.

Q. Thank you. What was your role in this application?

A. MR. LUZI: I was the discipline lead for hydrology.

Q. Thank you. Mr. Yoshisaka, your CV has been filed as part of Exhibit 336, at PDF page 12. Can you please confirm that it is accurate.

A. MR. YOSHISAKA: Yes, I can. That's correct.

Q. And I understand you work at Stantec as a senior

principal and geoenvironmental engineer; is that right?

A. MR. YOSHISAKA: That's correct.

Q. Okay. Can you give us a brief summary of your education and experience, please.

A. MR. YOSHISAKA: Sure. I hold a bachelor of science in civil engineering as well as a master of science in environmental engineering.

I have over 20 years of professional experience in completing hydrogeologic assessments and studies across Canada and beyond. I have experience in environmental impact assessments for a wide variety of projects, and I've held roles both as a regulator, reviewing EIAs and associated applications under EPEA and the *Water Act* and as a consultant for both proponents and concerned third parties.

I've been qualified as an expert witness for both quasi-judicial, tribunals, and sole proceedings representing both the Crown in Right of Alberta and various proponents for more than 17 years.

Q. Thank you, sir. And what was your role in the SR1 application?

A. MR. YOSHISAKA: I have been the hydrogeology lead for the SR1 project since its inception in 2015. I have led a team of professionals who contributed to the hydrogeology components of the EIA, and subsequent SER

responses. This team consisted of professional engineers and geologists with more than 100 years of combined experience in groundwater-related studies across Canada.

Q. MR. FITCH: Thank you, Mr. Yoshisaka.

So now, Mr. Hebert, I'm going to turn to you. I understand you have some opening remarks, and then Mr. Menninger will supplement those remarks. Please proceed.

A. MR. HEBERT: Thank you, Mr. Fitch. Good afternoon, Mr. Chairman, members of the panel, NRCB counsel and staff, members of participating parties that are on the Zoom call and members of the public joining us today on YouTube.

Mr. Chairman, Alberta Transportation, this morning, listened carefully to the Stoney Nakoda elders and representatives.

Transportation takes their comments seriously and will be following up directly with Stoney representatives regarding matters they've raised in these proceedings.

I would also like to reaffirm for the Board the commitments we made regarding directly impacted landowners, adjacent landowners, and members of the Springbank community that we made in previous days.

As it pertains to Topic 3.

Mr. Chairman, I want to begin by assuring the Board that the safety of SR1 is a number one priority for Alberta Transportation. This principle has dictated the design and formulation of the project from the start.

Not only did the flood of 2013 cause enormous economic losses, we must never forget that five deaths have been attributed to the 2013 flood, as well as a variety of public health concerns.

SR1 will provide a considerable reduction in flood risk, and an improvement in public safety to downstream communities.

SR1 is designed in accordance with the provincial standards and federal guidelines for dams. These standards are part of the regulatory requirements for the design of dams in Alberta, and they specify the design requirements and factors of safety that need to be met for facilities of a given consequence classification.

As an extreme consequence structure, the SR1 dam is designed to the highest standards set forth in the criteria.

While the extreme consequence classification of SR1 is notable, it is not unique. Currently, there are

87 extreme consequence dams in Alberta. These include facilities operated by Alberta Environment and Parks, like the Dickson Dam, the Oldman Dam and the Travers Dam.

There are also several dams with extreme consequence ratings located upstream of Calgary on the Bow River including the Bearspaw Dam, the Ghost Dam, the Lake Minnewanka Dam, and the Canyon Dam at Kananaskis Lakes.

Finally, the Glenmore Dam on the Elbow River in Calgary has an extreme consequence classification.

Q. Contrary to what has been implied by some of the project's opponents, there is nothing unusual or unique about having such a facility located in proximity to a large population centre like the City of Calgary.

That said, Transportation acknowledges and accepts that this means that SR1 must be designed to the highest standards, must be operated safely, and must have a robust emergency plan in place in the highly unlikely event that a problem does occur at the project.

Transportation is confident SR1 meets or exceeds all these requirements.

I'm now going to ask Mr. John Menninger of Stantec, who is the designer of record for the project,

to elaborate on how the design of SR1 is safe in both its designed and plan operation.

Mr. Menninger.

A. **MR. MENNINGER: Thank you, Matt.**

Mr. Chairman, as Mr. Hebert stated, safety of the SR1 facility is of the utmost priority to Alberta Transportation and the design teams.

The design has undergone, and will continue to undergo, a rigorous quality control process. The design has been reviewed by an experienced independent third-party review Board and will be reviewed by the Alberta dam safety regulator.

Failure modes of the individual components and the complete system have been considered in the design, and features and mechanisms have been implemented to mitigate potential risks.

During design of a dam, we consider potential failures such as dam overtopping or erosion of the embankment and then design to prevent these failures. For example, the emergency spillway is sized to pass the full probable maximum flood event safely. That's without consideration of the ability to close the diversion inlet gates. This provides a secondary level of protection against the dam from overtopping in the event that the diversion inlet gates do not close.

Further examples include the addition of resilient and redundant systems for mechanical and operating components of the project such as backup power to ensure that gates can be operated even during situations where a storm has affected the electrical grid; remote, local, and manual control options for the gate systems to be operated from the control building or the structure, and manually should the computer systems fail.

In addition, multiple layers of debris management -- multiple layers of debris management begin with the debris deflection barrier that excludes large debris from being diverted into the reservoir.

Further, the diversion structure has been designed to pass debris without hindering operations.

And, finally, the trash racks located on the low-level outlet provide an additional layer of protection at the dam.

During construction, quality assurance and quality control programs will be in place to monitor compliance with the design.

Instrumentation will monitor the performance of the dam earthworks and foundation. Monitoring of instrumentation will continue after construction and through the life of the facility.

In operations, maintenance and surveillance program will direct routine operations for the structure and direct regular maintenance requirements.

Under the regulatory requirements in force in Alberta, the owners of dams need to undertake dam safety reviews at regular intervals to maintain their licence to operate.

As an extreme consequence structure, the dam safety review for SR1 will occur, at minimum, once every five years.

The dam safety reviews include a review of the hydrologic estimates made for the inflow design flood.

The province of Alberta has a robust emergency management program for all dams within the province.

As the operator of SR1, Alberta Environment and Parks will prepare an emergency preparedness plan, an emergency response plan, and a flood action plan that meet the regulatory requirements for extreme consequence facilities as stipulated in the Alberta dam and canal safety directive and the government of Alberta's operational plan for dam safety.

The preparation of these plans will involve consultation and coordination with downstream stakeholders in the same manner that is required at all their facilities.

The emergency management plan, emergency response plan, and flood management plan will be prepared by AEP following regulatory approval of SR1 when construction procurement is complete and the project is closer to commissioning. This is because the plans require information on equipment models, construction records, and other details of the facility that are not finalized at this time.

As you know, Mr. Chairman, the SR1 Concerned Landowners Group retained Austin Engineering to review the design and planned operation of SR1, to identify risks and recommend improvements in the dam safety aspects of the project.

Stantec carefully reviewed the Austin Engineering report and provided a detailed response in a technical memorandum, which was included as part of Alberta Transportation's reply submission.

Our technical memorandum is in Exhibit 327 at Appendix E.

To summarize our response briefly, we disagree with the suggestion that the design of SR1 fails to meet any Canadian Dam Association safety guidelines.

With respect to the recommendations made by Austin Engineering which included that no changes to the design of the project are necessary, however, we

acknowledge the efforts that Austin Engineering obviously put into their review, and for that reason, on March 19th, 2021, Alberta Transportation provided their report, together with Stantec's response, to the AEP dam safety review team that is reviewing the SR1 design for their information and consideration.

Thank you.

MR. FITCH: Thank you, Mr. Menninger. Mr. Chairman, that completes the opening statement of Alberta Transportation on Topic Session 3. The witnesses are now available for cross-examination.

THE CHAIR: Thank you. Now, I'm assuming that Calgary River Community Action Group, City of Calgary don't have any cross at this point; is that correct?

MR. CUSANO: It's Lou Cusano, sir. Yes, that's correct.

THE CHAIR: Ms. Senek?

MS. MUNKITTRICK: Mr. Chair, this is Sara Munkittrick speaking. I believe Ms. Senek has just stepped away. I do not believe we have any questions either.

THE CHAIR: Okay, thank you. Ms. Louden with Stoney Nakoda?

MS. LOUDEN: No, Mr. Chair, we do not have any questions.

THE CHAIR: Thank you.

Mr. Secord.

MR. SECORD CROSS-EXAMINES THE PANEL:

Q. For those of you who are new on the panel, my name is Richard Secord, and I am counsel for the SCLG Group.

Most of my questions I expect to start off with will be perhaps for Mr. Menninger. But Mr. Hebert, I think you're the quarterback, so feel free to direct the questions as you see fit.

THE CHAIR: Mr. Secord, just before we continue, Ms. Vespa, are you okay with Mr. Secord's voice, the volume? You're good, you can hear him? Okay.

Mr. Secord, I recall or my table, it shows it was assumed the amount of time you have designated to Topic Number 3, which was all approved. So I mean that will take us for sure through today and then into tomorrow. But proceed, and then we'll just break for the afternoon at some point just to give people time to stretch, have a washroom break. But I'll try to pick a time that seems to work with the testimony and questions.

MR. SECORD: Thank you, sir.

THE CHAIR: Thank you.

Q. MR. SECORD: What is a diversion inlet rating

curve?

A. MR. MENNINGER: Sure. I can take that. So this is John Menninger.

So a rating curve is a relationship between elevation of water and the flow and a discharge through a structure. So when you referenced the diversion inlet rating curve, simply speaking, that means the water upstream of the diversion inlet correlates to a specific flow rate that's going through the diversion inlet structure. So at elevation 1215.8, 600 cubic metres per second would go into the diversion channel.

Q. Document manager, perhaps we could pull up Exhibit 159, PDF page 100, Figure 19. And perhaps you could get Figure 19 in the centre there sort of enlarged so we can read the small -- the fine print, thank you.

Now, Mr. Menninger, I believe you were involved -- you've been involved since 2017; correct?

A. MR. MENNINGER: Since 2014.

Q. Right. And you would, I'm sure, be familiar with the diversion inlet rating curve that had -- that was filed in March of 2017 in the preliminary or the draft EIA; correct?

A. MR. MENNINGER: Yes.

Q. Between the 2017 draft and final preliminary designs, an access bridge has been added over the diversion

inlet with a bottom elevation of 1215.5 metres; correct?

A. MR. MENNINGER: It was in the 2017 design as well, Mr. Secord.

Q. Okay. And the addition of the access bridge to the design, did that not result in a decrease in the discharge shown in the rating curve at the water surface elevation of 1216 metres?

A. MR. MENNINGER: It did -- I do not believe the rating curve actually has changed between the two timelines.

Q. Has the impact of the bridge been accounted for in the analysis?

A. MR. MENNINGER: Yes.

Q. And what was the anticipated reduction in intake flows as a result of adding the access bridge to the design?

A. MR. MENNINGER: So, as I stated previously, the bridge has been an integral part of the design from the beginning.

It purposely is set at the given elevation. The curvature of the upstream support structure for the bridge is intended. It has a rounded edge to the front side of it.

But in general, the purpose of the bridge is twofold: Number one, it does provide access across the

structure for vehicles, trucks, cranes, other elements of maintenance vehicles. It provides access across.

But the second piece that it does is that the upstream support for that bridge member is what's known as a "breast wall." What that does is that breast wall helps to limit flows at higher elevations from entering into a structure. It can change something going from a weir flow to orifice flow, which actually would restrict some flow.

So it's intentionally set at an elevation where it doesn't affect our ability to divert for the design flood but at higher elevations would reduce the risk of additional flows entering the structure when elevations increase.

Q. What do you mean by a "weir flow"?

A. MR. MENNINGER: Sure, so a weir, so if you think of it as a -- water flows over top of it, a lot of times they call them sharp-crested or broad-crested weirs. It's a flat or sharp angle that the water flows over. The length -- the shape of that weir and its length dictates how much flow would go over it for a given elevation.

An orifice, on the other hand, is a hole that water has to flow through. So it has to go through -- so instead of just having that surface

friction on the bottom, has it all around the sides, and it restricts the flow and causes flow to slow down, in simplest terms.

Q. And in this case, what type of flow do we have?

A. MR. MENNINGER: Primarily -- primarily it functions as weir flow for the majority of it, but as I said, if you were ever to get water surface elevations that would exceed the design -- so for our intents and purposes, that 1215.8 is intended to be the 600.

I will note, as you mentioned, the bottom of the wall is 1215.5. What you will see, though, is that this curve is not set immediately at the wall. It is upstream before you have the influence of drawdown into the structure and through it.

And so when we tested this in numerical models and in physical models, what we observed is at the breast wall and at 600 cubic metres per second, the water surface elevation doesn't touch the wall, so --

Q. Sorry, and in relation to Figure 19 which we have up on the screen --

A. MR. MENNINGER: Yes.

Q. -- can you explain to the Panel how the curve works and exactly what you're referring to when you gave that answer a moment ago in relation to the curve?

A. MR. MENNINGER: Sure. So this curve, as I

mentioned, on the left-hand side is water surface elevation. That's the water surface elevation upstream of the diversion inlet, so that's what controls flow into the channel. That is measured at a distance far enough away from the structure that it doesn't have that drawdown effect.

So, in this case, it's about 20 metres or so upstream of the structure is what that elevation is in reference to. And then on the X axis, on the bottom, is the discharge through that structure.

And so, in this case, if you come across and you would follow -- if you picked an elevation, we can pick 1213, I would select the 1213 number, and then I would go across that grid until I intersected the blue line. At that point, that would tell me what number I would have to read off of the bottom axis.

So in this case, at 1213, you would have 120 cubic metres per second going into the diversion channel.

Q. And the bridge, the access bridge, has an elevation, it has a water surface elevation of 1216 metres?

A. MR. MENNINGER: I believe the bottom of the bridge is at 1215.5, Mr. Secord.

Q. So if we go to the bottom of the bridge at 1215.5, that would mean that the discharge rate would be something in the order of 500 --

A. MR. MENNINGER: Yeah, 550 or so.

Q. 550 cubic metres per second?

A. MR. MENNINGER: Yeah, but as I said, this is not measured at the bridge. It's measured -- the reference point is slightly upstream of the bridge, and there's a drawdown effect that occurs between the two structures, if that helps.

Q. And the bridge is actually going over the inlet gates to the reservoir; correct?

A. MR. MENNINGER: That's correct. Well, I'm sorry, let me rephrase that. The bridge goes in front the gates, not overtop of the gates, in front of.

Q. Does the bridge, then, operate as a barrier to flow above 1215.5, a surface elevation of 1215.5, does it operate as a barrier to water flow --

A. MR. MENNINGER: Yes, intentionally so. But as I said, that's for when the water is at 1215.5 at the bridge. That's not what this curve is referencing.

This curve is referencing a point upstream of the bridge that's away from the influence of the drawdown down and through the structure.

So the hydraulics here is important to note that. And so it is not restricting flow at our design flood elevation of 1215.8. As I said, we observe that drawdown effect in both our hydraulic models, both the

numerical computer models and the physical model that was produced for this project and demonstrated that we could pass the correct amount of flow through the structure at the designed elevations.

Q. And you said that the water surface elevation or the WSE, that is mentioned measured at a .20 metres upstream of the bridge?

A. MR. MENNINGER: It's I think roughly, subject to check, but yes, it's upstream of the bridge, not right at the face of the wall. That's correct.

Q. And how is it measured? In other words, how is the measurement taken and communicated to the eventual operator of the facility?

A. MR. MENNINGER: Sure. So we'll have -- we're going to have multiple locations for water surface measurement for the project. I am telling you that this hydraulic rating curve is based off of that point 10 to 20 -- upstream of the structure.

When we produce the required instrumentation and controls for the gate systems, we will -- we have locations proposed for instrumentation. We'll have several that are located and mounted to the debris barrier in and around that location. That can be above the water level using ultrasonic measurements to shoot down towards the water surface elevations to capture

those locations, and we'll utilize our tools, hydraulic-modelling tools, to relate that elevation to the rating curve and then allow for the operators to make decisions with regards to operations.

Q. And you mentioned 10 to 20. Is it 10 metres before the access bridge or 20 metres? Maybe I should just ask you, is there somewhere in the application materials which would give us -- which would pinpoint the exact distance? And, rather than taking time, would you be able to undertake to advise me what the exact distance is?

A. MR. MENNINGER: I can advise you, Mr. Secord, that it doesn't matter. The elevation difference, 10 and 20 metres upstream of the structure, it will be the same. The water surface profile in that location has a slope that would be imperceptible, and so we could call it 20 metres and I think that would be fine.

Q. Does that slope change -- in the 20 metres from the point where it's measured to the point where it hits the access bridge, does that slope change?

A. MR. MENNINGER: Yes. Like I said, it's a drawdown effect that was observed.

Q. And what would be that drawdown effect? Is there a graph that would show the drawdown effect in that 10 to 20 metres?

A. MR. MENNINGER: Yes. I could point you to Exhibit -- make sure that I get it correct for you. Exhibit 174, which is Appendix C of the Preliminary Design Report, the hydraulics section, and it is page 70 of the PDF is a good illustration of the effect.

Q. All right. And in relation to the diversion inlet rating curve that we see here, were the -- the water surface elevation at the measuring point 10 to 20 metres upstream, say it was at 1217 metres, that would provide a discharge rate at that point of something in the order of 800 and let's say 80 cubic metres per second.

Would that amount of water be accommodated in that drawdown to be able to go entirely into the reservoir or would you see some of that water going into the spillway at an elevation of 1217 metres?

A. MR. MENNINGER: Sure. So I will say -- so number one, the structure is not intended -- the design operations parameters for this project are not to allow the flows to exceed 600 cubic metres per second. As such, we would close the gates to prevent flow from exceeding that number of 600. So, number one, we would not intend to do that.

The reason this diversion inlet rating curve extends to that level was so that we could analyze the

potential effects of a malfunction of the gates and a failure for them to close. In this scenario, that would represent a -- that 1217 is slightly greater than what the probable maximum flood would produce at the structure. So in that case, that amount of flow could flow into the channel.

What we did analyze within the Preliminary Design Report was, in that scenario, we confirmed that the discharge channel could contain those flows, that none of the embankments or sidewalls of the channel would be overtopped during that extreme scenario. And again, as I said, not a planned scenario; that would be a malfunction of the system, and we do not intend to push more than 600 down through it. But if it were to enter the channel, it would flow to the reservoir up until the point that the reservoir was completely full up to the emergency spillway, and then flows would discharge through the emergency spillway. And we've demonstrated that within our application.

Q. So do I understand, then, that the water surface elevation of 1217 metres that is shown in Figure 19, that essentially represents the flood of record, the June 2013 flood?

A. MR. MENNINGER: No, no. What I'm telling you, this is the flow only through the diversion inlet

structure. This is not all the flows that are in the river.

Under the scenario of the flood of record, the June 2013, where we estimate that the discharge in the Elbow River was 1240 cubic metres per second. Our design approach would be to pass 640 cubic metres through the service spillway, which is in the river, and then 600 into the channel.

So that would occur -- so our goal, then, would be to use the gates of the service spillway to produce a water surface elevation of 1215.8 which represents 600 cubic metres per second going through the diversion inlet.

Q. And what happens to the water, then, that is above the 1215.8?

A. MR. MENNINGER: There is no water. We're not raising the water above 1215.8; we're setting it.

The elegant solution about SR1 and the proposed operation scheme is as water flows down through the Elbow River, we're measuring it. When it gets to an elevation that we know represents 160 cubic metres per second at the service spillway, we open up -- or slightly prior -- we open up those gates on the diversion inlet. They are fully open. We then use the gates in the river to raise the water surface elevation

slowly to control the flows into the channel. This curve basically tells us at any given elevation in the river, that's how much flow is going into the channel. And so when we want to hit a constant diversion rate of 600 cubic metres per second, what we have to do is just operate those gates in the river to keep the water level at 1215.8. So if it starts to get above 1215.8, we lower the gates. If it gets below 1215.8, we raise the gates. In simple terms, we use the gates in the river to control the water level.

Q. But the bridge bottom is at an elevation of 1215.5, so how much freeboard is achieved at the design flow?

A. MR. MENNINGER: Well, as I said, the bridge has no effect on the flow during the design flow; the water is underneath it. And, as the figure I referenced and gave you reference to, shows, and, as the physical modelling demonstrates, that was produced so the water doesn't hit the structure and it doesn't affect it.

In terms of freeboard, when we reference freeboard, what we're worried about is where that water will go and impact -- it doesn't impact the bridge. The bridge has been designed for impact loadings from large trees and vehicles. The bridge is not affected by the structures; it's designed to withstand impacts from flows much higher.

What we're worried about would be water going overtop of the height of all walls. And so those walls have freeboard of a metre and a half to 2 metres. They're up to 1219, something -- or up to 1219. And so those are the pieces that we are focused on in terms of freeboard.

Q. And where is the individual or individuals who would be operating the gates? Where will they be located?

A. MR. MENNINGER: Sure. So they have a couple of options. Number one, we have a control building that's located in a parking lot that's adjacent to the service spillway and the diversion structure.

Document manager, it might be helpful -- I guess it's up to the questioner here. I can describe it. There's a parking lot adjacent to the two gates.

Q. Do you have a reference?

A. MR. MENNINGER: Sure. One of the drawings from the preliminary design report would work well. Let me find the number for you.

So that would be Exhibit 159, PDF 283.

All right. So what you see on this drawing is on the bottom of the drawing is the service spillway and the Elbow River. The water is flowing left to right. At the top of the page is the diversion channel.

Q. Just before you go, it's a little overwhelming here,

all of this information. I do see the parking lot.

A. MR. MENNINGER: Yes.

Q. There's a parking lot that appears to be north of what they call the service spillway?

A. MR. MENNINGER: That's correct.

Q. Can you maybe just -- so we've got the debris deflection barrier there on the bottom left?

A. MR. MENNINGER: That's correct.

Q. And just help me out. The gates would be shown just, I guess above the debris deflection barrier?

A. MR. MENNINGER: Yes. So you have the debris --

Q. And let's just tie in the access bridge.

A. MR. MENNINGER: Okay. So that hatched area, that kind of grayish area that goes over the top of the white there is the access bridge, and the gates are just downstream.

Q. So right where we see the words 10 plus 100, just below diversion inlet?

A. MR. MENNINGER: Yeah. It's more of where that plus sign is, if you will. That's basically where the gates are. You can sort of make them out there.

Q. But the bridge -- is that the bridge that you're referring to?

A. MR. MENNINGER: No. The bridge is down -- the bridge is below that. It's that hatched area where you

can see the two kind of gate symbols on either side of it.

Q. Right. I've got you. So basically just to the -- it would be to the west of the parking lot?

A. MR. MENNINGER: Yes. It connects the two sides. That's right. It connects the parking lots on either side. So you can see the control building is shown there in the parking lot.

Q. If we could back to Figure 19, Document host. We were just at that page. So you've got your people in the parking lot operating the height of the gates.

Can you tell me, if they mismanaged the operation of those gates, would -- could the water surface profile actually hit the access bridge?

A. MR. MENNINGER: Yes, intentionally so. The access bridge is supposed to restrict flows if they get higher.

Q. And then what happens with that water once it hits the -- maybe we'll go back -- can we go back to the other diagram?

A. MR. MENNINGER: Absolutely. So when you restrict flow into the channel --

Q. Just one second. PDF page 283?

A. MR. MENNINGER: So it's a balance game here, right, so when you restrict flow into the channel, the

flow that doesn't get into the channel stays in the river and so it goes downstream.

So in this case, every bit of flow that we restrict just continues through the service spillway gates and downstream, would be the simplest explanation.

Q. And in relation to the service spillway area, I take it all of that water then runs -- eventually does it overland to the Elbow?

A. MR. MENNINGER: The service spillway is within the Elbow River. The Elbow River flows through it.

Q. When would the design spillway -- when would that ever be engaged?

A. MR. MENNINGER: I'm not sure what you're referring to as "the design spillway."

Q. So is the service spillway the entire spillway?

A. MR. MENNINGER: Sure. So the portion of the structure that's within the Elbow River floodplain is a combination. We refer to it as the service spillway which is the set of gates that are in the river that I just mentioned that go up and down and control the water level within the river itself.

Adjacent to the service spillway is a structure that's called the auxiliary spillway. That structure is at a much higher elevation. So the service spillway

is at 1210. The auxiliary spillway does not activate until 1216.5. I know that there's a lot of numbers here, but 6 and a half metres above the service spillway and above what our design operating levels are.

So if water continues to get higher than we intend to operate the structure, it would flow over the auxiliary spillway to provide a secondary flow path for water within the river and to keep the water surface elevations upstream controlled.

Adjacent to pass that is the floodplain berm, which is positioned at a high enough point so it will not overtop, and so the service spillway and the auxiliary spillway control the flows within the river. Everything that goes over those two goes downstream and stays within the Elbow River channel and floodplain area.

Q. So, in this case, if water hit the access bridge, it would simply we falling back into the service spillway; correct?

A. MR. MENNINGER: It's not quite falling back. Like I said, it's restricting the flow, similar to if you had -- you had a hose that had a certain size, and you squeezed it down a little bit, you would restrict some of the flow that goes through it. Yeah. So it's

whatever -- if you have 100, and you have 30 that goes in the channel, 70 continues in the river.

Now, if you had 120 and you still wanted to restrict it to 30 in the channel, then you would have 90 in the river. It's just a simple split of the flows.

Q. If the water hits the access bridge, how have the impacts of friction been included in the diversion inlet rating curve?

A. MR. MENNINGER: Sure. As I said, we performed the appropriate calculations to look at the effects of whether it's weir flow or orifice flow, and we performed hydraulic modeling that incorporates those physical processes to confirm those effects.

Q. And what is the elevation of debris deflection barrier?

A. MR. MENNINGER: Don't have it immediately off top of my -- give me one second.

A. MR. SPELLER: Actually, Mr. Chairman, it's Wayne Speller. I was going to suggest maybe we caucus for a minute. Because we have so many virtual witnesses, we're going to jump out into a breakout room very quickly. We won't dawdle.

Q. And I have one -- while you're in your breakout room, I have one matter you might just take up at the same time.

If we go back to the rating curve, Figure 19.

Now, you mentioned that the auxiliary spillway's elevation was 1216.5, Mr. Menninger; correct? It looks like, Mr. Chair, looks like they've already taken their break.

A. MR. SPELLER: Some have. We'll return in a minute, Mr. Chairman.

MR. SECORD: I lost them, sir.

THE CHAIR: So what do you need for time?

MR. SECORD: I don't need any time.

THE CHAIR: Not you, Mr. Secord.

A. MR. HEBERT: Mr. Chairman, I suspect we'll be quite quick. It's Matt Hebert, sorry.

THE CHAIR: All right. Thank you.

A. MR. HEBERT: Mr. Chairman, it's Matt Hebert from the Transportation Panel. I suspect our witnesses are now going to be reemerging from the breakout room.

THE CHAIR: Thank you.

A. MR. MENNINGER: So Mr. Secord, I'm back. Your question again was with regards to an elevation. What was the structure?

Q. So I believe you indicated that the service spillway -- or sorry, yes -- was it the auxiliary spillway elevation was 1216.5; correct?

A. MR. MENNINGER: The top of the pilot channel for

the fuse plug, that's correct.

Q. And so looking at the diversion inlet rating curve, at 1217, with a water surface elevation of 1217 metres, I take it, then, that would push water into the service spillway -- sorry, the auxiliary spillway?

A. MR. MENNINGER: Sure. At 1217, there would be water flowing through the auxiliary spillway, that's correct.

Q. And when I looked at the original -- when I looked at the original auxiliary spillway, it seemed to me the original design took the spillway right up to the edge of the Elbow River, but the current design has the auxiliary spillway not going to the edge of the Elbow River.

So it looks to me like if you're pushing water into the auxiliary spillway, that water will have to flow towards the Bow, the Elbow River, and flood my clients' lands. And I'm just wondering, why doesn't the auxiliary spillway go -- in the PDA go right down to the edge of the Elbow?

A. MR. MENNINGER: Oh, Mr. Secord, I believe we have a confusion on the spillways.

So we have -- there's a lot of structures on this project.

Q. Let's go back to PDF page 283.

A. MR. MENNINGER: Yes. So you can't view the auxiliary spillway on this, so let me give you a different number so we can talk to it together. Bear with me one moment.

Okay. So document manager, if you could go to page 262. All right.

So this is a larger view, you can see the Elbow River running from left to right. The floodplain berm runs from the bottom of the page at the 0 plus 600 and runs from left to right to about a little bit more than 1 plus 600.

Then the auxiliary spillway runs until it intersects with the service spillway. So the auxiliary spillway still is within the Elbow River floodplain and still is adjacent to the service spillway.

So the way that the project functions is the floodplain berm constrains the flow within the Elbow River and directs it towards the service spillway. The service spillway is used to control the flows, the elevation of the water within the river, which then pushes some flow into the channel.

At a very large flood, the gates from the service spillway would lower completely to the bottom of the river channel.

At that point, the majority of the flow would

continue through the service spillway structure, but if waters continue to rise, then they would overtop that auxiliary spillway and provide a secondary outlet. And what that does is that allows us to reduce the amount of flow that goes into the channel in combination with that -- the breast wall/bridge that we've been talking about a lot, to all function to keep the water levels in the river to a certain level to prevent overflow, to prevent too much water from going into the channel.

If you go further down the channel, the emergency spillway is located along the channel and really part -- an extension of the reservoir and dam. That structure is the belt added to the suspenders.

The intended operations of this project is to stop flows from entering the channel once the reservoir is full, so the gates close. We have a lot of provisions in place to make sure that that happens.

The debris deflection barrier will keep debris from clogging or blocking the gates from closing. We have primary and backup power; we have the ability to lower those gates under their own weight without any power and using manual brakes on the gates.

But in all of those scenarios, if we have -- water still enters the channel and the dam is up to the emergency spillway elevation, at that point, water

would go over that emergency spillway, and then it would be redirected back to the Elbow River again.

But as I said, that would be in an extraordinary large flood event and would constitute a malfunction or failure of the project to operate as proposed and intended.

Q. All right. So which figure -- what's the number of this figure? Scroll down just a little bit or up I guess, always get it wrong for the document manager in the direction. I guess it's just called "Diversion Structure Overview."

A. MR. MENNINGER: Yeah, the drawing number would be C201.

Q. Okay. So -- and it says "preliminary design, not for construction," and when was this -- this was drawn on the 25th of September last year?

A. MR. MENNINGER: Yeah.

Q. Okay. So if we could go down, document host? Do I have it right? No, I guess up then, sorry. Great. Thank you.

So we have the Elbow River basically running through the top portion of this figure; correct?

A. MR. MENNINGER: Yeah, that's correct.

Q. And we have the river hitting the debris deflection barrier, and then we have the bridge, the access bridge

just to the I guess west, I guess in this case, it would be sort of north --

A. MR. MENNINGER: Yeah.

Q. I guess the direction of the map actually shows north going from left to right?

A. MR. MENNINGER: Yes.

Q. So it would be I suppose more or less west, the parking lot then would be to the east of the gates letting the water into the reservoir?

A. MR. MENNINGER: Yeah.

Q. And under normal operations, the service spillway then would take what isn't being diverted into the reservoir, it would take the river flow off to the east down the Elbow River; correct?

A. MR. MENNINGER: That's correct.

Q. And then you have what you call the auxiliary spillway, and you gave me the elevation of 1216.5. Is that still right?

A. MR. MENNINGER: Yes.

Q. And is this what you call the emergency spillway?

A. MR. MENNINGER: No, it's the auxiliary spillway. The emergency spillway is on the channel; it's a completely different structure.

Q. And is that shown on this?

A. MR. MENNINGER: Not on this drawing, no. I could

give you a reference to a different drawing to show you where that's at.

Q. So, before, you mentioned there were a lot of spillways?

A. MR. MENNINGER: Mm-hmm.

Q. So what is the auxiliary, the function of the auxiliary spillway doing?

A. MR. MENNINGER: As I said, it is a -- it adds capacity in the river to pass additional flow downstream. So when water gets above 1216.5, more flow will go down that way, and that in turn makes sure that our water surface elevations upstream of that structure are low, and so it reduces -- it reduces the amount of flow that goes then into the channel.

Q. So if we look at -- I think we know the Figure 19 off by heart now, but at an elevation of 1217 at the gates, that would mean that water would be being pushed into the auxiliary spillway. Would that be correct, or it would be overtopping the auxiliary spillway?

A. MR. MENNINGER: That's right, yeah.

Q. And where does that water go once it overtops the spillway?

A. MR. MENNINGER: It flows -- it flows through the historical Elbow River channel to the floodplain and back to the primary channel.

Q. And is that area entirely within the PDA?
A. MR. MENNINGER: No, it's not.
Q. And would any of my clients be subjected to flooding as a result of the auxiliary spillway being engaged?
A. MR. WOOD: Mr. Chairman, I can confirm that none of the SCLG clients would be affected by that.
Q. What about the landowners who are there?
THE COURT REPORTER: I don't know who was speaking.
A. MR. WOOD: My apologies, it was Matt Wood.
Q. What about the landowners who are there, Mr. Wood? Would they be subjected to flooding?
A. MR. WOOD: In the case of the auxiliary spillway, you can see it in the contours in how it's graded there. When the water spills over it, it takes the floodplain area and is directed back into the river.
Q. So what's the answer to my question?
A. MR. MENNINGER: I will say, and I guess, Matt -- this is John Menninger, that in that scenario, that -- so, again, if the auxiliary spillway is activated, we're looking at an event that's in excess of a 500-year flood. Areas that are within the floodplain downstream, regardless of property line, would have -- would be inundated with water but within the river system.

So we have looked at the areas generally of impact, but they would flow through the river as mapped as typically shown.

Q. Document host, if we could go back to Figure 19, please.

When you said that engaging the auxiliary spillway would be something in the order of a 500 -- 1 in 500-year flood, Mr. Menninger, when I look at the diversion in that rating curve, at an elevation of 1712, the flow is only 900 cubic metres per second, and I thought the flood of record was coming down at 1260 cubic metres per second.

So how do you get to a 1 in 500-year flood when the water elevation is only at 1216.5 metres?

A. **MR. MENNINGER: Sure. So, again, this is the flow that's going into the channel.**

So during a 5-year event, you would have 1800 coming down the river, and that flow would be split between a series of three structures.

And so a portion of that flow would be going down through the diversion inlet when it would fall within this rating curve, and then -- then a portion that would flow downstream and through the service spillway and auxiliary spillway.

As I mentioned, we would not intentionally operate

the structure to exceed 1215.8, which is shown here. And so you would have 600 going through the diversion inlet and 1200 going through the service spillway.

So on this curve during an operating condition when we intend to divert flow into the channel, you would be at 1215.8 and putting 600 into the channel. The 1200 would go into the service spillway.

Q. Right. Mr. Menninger, what happens if the diversion inlet gates are opened due to operator error, instrumentation failure, et cetera, when the off-stream storage reservoir is at an FSL of 1210.75 metres?

A. MR. MENNINGER: I'm not sure of a scenario of -- I don't know why you would have an unintentional operation. These are enormous structures. Our gate systems would have programming in effect that would in effect block it out from raising them in a scenario where you would already have the reservoir full. Alarms would be going off, and then on top of that, you would have to have a flood operating -- it would be pushing -- trying to push flow into it.

So that said, we have the emergency spillway located on the channel that will discharge flows that are in excess of 1210.75, which is that full service level as you mentioned of the reservoir.

Q. Now, you can turn this up if you want, but

reservoir-routing scenarios are presented on page 27 and 28 of Exhibit 327 and in Section 10.1.3 of Exhibit 159. And they indicate a constant diversion maintained at 480 cubic metres per second based on incremental closing of the gates. Do I have that right?

A. MR. MENNINGER: Could you repeat the page number, please, Mr. Secord?

Q. Pages 27 and 28 of Exhibit 327 and in Section 10.1.3 of Exhibit 159.

MR. FITCH: I think we need to do one document at a time. So which one do you want?

MR. SECORD: I didn't want either of them.

MR. FITCH: Well, you referred the witness to them, and you say, "If you want, you can look at them." I think to be fair to everyone who is watching, we should look at a document. Why don't we start with the first one.

Q. MR. SECORD: Sure.

A. MR. MENNINGER: Okay.

Q. You might want to scroll down, document host.

There we go.

MR. FITCH: Perhaps you can ask the question again now that we're looking at the document.

Q. MR. SECORD: So reservoir-routing scenarios are

presented on pages 27 and 28 of Exhibit 327?

A. MR. MENNINGER: Yeah.

Q. And they indicate a constant diversion maintained at 480 cubic metres per second based on incremental closing of the gates; correct?

A. MR. MENNINGER: Yes.

Q. Why has Stantec not applied the design diversion rate of 600 cubic metres per second for reservoir-routing scenarios in favour of 480 cubic metres per second?

A. MR. MENNINGER: Either scenario would function well, Mr. Secord. So we have in this scenario, this is -- so I'll explain the purpose of this, these two figures.

So this first figure shown, Figure 1, is the probable maximum flood.

Q. Document host, could we just scroll down -- or up?

A. MR. MENNINGER: So as we've discussed previously, but to repeat the probable maximum flood is generated by a -- is what's used to design structures and spillways for the -- an extreme consequence dam.

So in this scenario, we're modelling what would occur during a probable maximum flood if the structure were to operate for a period of time until the diversion closed.

As I said, that is the proposed and intended

operation for the structure.

I will stop to say, I guess, to explain that the design diversion rate is between 4 -- so the necessary diversion for -- to mitigate for the 2013 flood is 480 cubic metres per second. We have the ability to pass 600 through the channel as needed and as appropriate for operations.

That buffer, that 25 percent buffer I think as we have explained previously was to allow for some flexibility in operations to allow for potential impacts from sediment or debris at the time of consideration. And so the operators will have some flexible range to operate the structure.

So in this scenario, if you were operating under a probable maximum flood, it would not be ideal to fill up your reservoir before the peak of the flood hits.

So in this scenario, we're showing that they're diverting at 480 to fill up the reservoir and take off some of the volume.

This scenario represents, on the blue line, represents the flow that's into the diversion structure from -- during that operations.

And so basically what you're seeing is the blue line represents the flow into the -- through the channel and into the reservoir, and then at about

simulation hour 55 or so, the reservoir is full and the gates are closed.

So the reservoir is full, gates are closed. The rest of the flow that's in the river continues downstream.

Q. So basically 55 hours in the event of a PMF, reservoir is full?

A. MR. MENNINGER: That's correct.

Q. Okay. Do you agree that a simplified liquefaction triggering analysis can be used to estimate post-seismic deformated induced loss of freeboard of the dam based on the method of Rouch, et al. 2007?

A. MR. MENNINGER: I will defer to Mr. Back who is on the line here who is our geotechnical expert on the panel.

A. MR. BACK: Hello.

Q. Hello, Mr. Back.

A. MR. BACK: Could you please restate the question for me?

Q. I sure will. So do you agree that a simplified liquefaction triggering analysis can be used to estimate the post-seismic deformated induced loss of freeboard of the dam based on the method of Rouch, et al. 2007?

And maybe before you go there, could you indicate

what is a simplified liquefaction triggering analysis? Maybe we could start there. And if you can, if you can, great; if you can't, that's okay too.

A. MR. BACK: Let me begin by saying that liquefaction analysis is a little bit of a sophisticated partition of geotechnical engineering. While I have some general familiarity with it, that would have, if that had been appropriate, would have been performed with other engineers that work with me that had more familiarity with seismic engineering.

I will say very adamantly that liquefaction is not a consideration with foundation soils, which we have here at the Springbank off-stream storage reservoir.

We have relatively stiff glacially deposited clays in large measure, and those will not be subject to liquefaction certainly not with the seismic events that we would expect here or relative to any seismic.

Q. Can you tell me what is a "post-seismic deformated induced loss of freeboard of the dam"?

A. MR. BACK: I'm not sure that I would use that terminology. As part of the analysis for the SR1 dam, we did seismic analysis in the way that's recommended by the CDA and other dam references.

We looked first at what's called a pseudo-static analysis where we simply apply a horizontal load when

we're doing the stability analysis. That tells us that horizontal load is derived from the likely motions that would occur in a design earthquake. That will give us some indication of the likely stability of the structure in an earthquake.

According to the CDA guidelines, if that does not meet criteria, which is a factor of safety of 1.0, then additional analysis is required. And the analysis that's formed at that point is a deformation analysis.

That deformation analysis is what's -- the method we use, the common method is called a Newmark analysis which was developed by Dr. Newmark. That involves integrating the motions that occur during the design earthquake and establishing how much of that motion exceeds the pseudo-static factor of safety and summing up the motion that would come out of each of those pieces from the time history of the earthquake. And that gives you a -- an amount of settlement, loss of freeboard if that's the term you want to use, that would occur during the design earthquake event.

And that was performed at SR1, and I believe the maximum deformation that we had was 3/10th's of a metre. So that would, depending on-site nature of the critical circles for your failure surface, would result in a loss of freeboard of up to 3/10th's of a metre.

There's a third analysis that's done, and that is a post-earthquake analysis. And that is after the motion stops and everything is static again, we make the assumption that the motion has caused some reduction in the sheer strength of the soils in the embankment and in the foundation. And a post-earthquake analysis is done there. That was also done at SR1, and those meet the criteria as well.

Q. And what was the design earthquake of record in this case?

A. MR. BACK: Again I'm not the seismic expert. We retained some seismologists from Stantec, I think they were in British Columbia, that prepared a risk analysis, a seismic risk analysis for the project, and they identified the motions that were appropriate.

I believe a 10,000-year recurrence interval event was used as the design event. I can't speak directly to where that motion occurred, where the source zones that those are developed from, and it would be a number of kilometres away from the site where that particular large motion would have been assumed to occur.

Q. And do you know what the magnitude of the earthquake was that was the design earthquake in this case?

A. MR. BACK: I believe it's a magnitude 6, but it would be probably more appropriately described by

the powerful velocities that occur during it. I'm not immediately conversant with those.

I could look it up and get back to you with how that event would be characterized. It's in the submitted report; there's the entire seismic risk analysis report is included in the submission.

Q. When and at what stage of the design does AT expect to submit to the -- and I don't know if they'll be submitting it to the NRCB for review.

But when does AT expect to submit the draft OMS manual?

A. MR. BACK: Mr. Menninger may be better --

A. MR. MENNINGER: Yes, I was going to say I'll field that.

So based off the terms of our reference in our understanding of the regulatory review process, the operations, maintenance, and surveillance manual was not a part of the application for the Natural Resources Conservation Board.

We did not submit it. And as I understand, the Board has recognized that there is another regulatory entity that has purview over the dam safety arena. Alberta Environment and Parks dam safety division will review the operation, maintenance, and surveillance manual and -- prior to authorization to operate.

Q. And would that be the same for the draft safety management plan, the storage dam commissioning plan, the off-stream reservoir dewatering plan, draft the EEP, would those all be submitted to AEP at some point?

A. MR. MENNINGER: That's correct.

A. MR. HEBERT: Mr. Chairman, just one brief moment.

Mr. Chairman, Matt Wood will supplement the answer.

A. MR. WOOD: Thank you, Mr. Chairman. If I may, I'm just going to request that Mr. Secord repeat the question. I was playing with my mask.

Q. Sure. I was asking Mr. Menninger about the draft OMS manual, draft EEP, draft safety management plan, draft -- storage dam commissioning plan, off-stream reservoir dewatering plan. And I was asking at what stage of the design does AT expect to submit those documents to a regulator?

A. MR. WOOD: These are typically items that are prepared as part of the final design, submitted at that point.

Q. And in terms of the timeline, is there -- do you have a timeline for that, Mr. Wood?

A. MR. WOOD: I don't specifically. Perhaps Mr. Svenson is aware of any timeline.

A. MR. SVENSON: Hello Mr. Chair. This is Mark Svenson. There's no official timeline that those documents are required by, except that they are required prior to operation or the diversion of water into the structure.

Q. Thank you, Mr. Svenson.

As the low-level outlet has been sized to drain the reservoir over 30 days, what are your contingencies should a dam safety incident occur that requires a rapid dewatering of the SR1 reservoir?

Maybe that would be for Mr. Menninger?

A. MR. MENNINGER: Sure. So I guess to explain to the Panel. The low-level outlet works for the off-stream storage reservoir is the hydraulic structure to release waters from the dam as designed. It is a concrete structure that has gates -- it has a gate tower that controls flows into and out of the -- basically out of the reservoir, and then a large conduit that discharges flows to the Unnamed Creek.

The capacity of the low-level outlet works was determined based off of industry guidelines that were referenced and documented within the Preliminary Design Report. Those guidelines provide recommendations for drain times in considering the potential effects of dam safety -- a potential for a dam safety incident at the

structure.

The design for SR1 will result -- of the low-level outlet works allows for lowering of the complete reservoir within approximately 45 days or so. The vast majority of the pool is lowered -- and if I can reference the specific. One moment.

So, yes, so within 40 days 90 percent of the pool would be eliminated from the reservoir, and that, as I said, meets the guidelines that we established -- you know, that were established through valuation of industry.

So, Mr. Secord, the proposed response is that, if an issue -- and this is again -- this is from the reservoir being completely full -- the recurrence interval associated with the reservoir being at full service level is a 1 in 200-year event or greater. It would take less time to empty it at a lower elevation, at, for instance, a 1 in 100-year has a reservoir roughly half full, and would result in a drawdown time much closer to 20 days or so. So you, in effect -- that's the case.

And the reason we select that, again, is based off of a review. And the industry standards are looking at -- and the reason why they have these rates are based off an acceptable level for certain conditions

and scenarios, and they take that into account. So it looks at the risk of the structure.

I believe, you know -- and we selected the highest rating to use the most conservative value, as well as it looks at the consequences downstream. And so we took the combination of the two factors and selected a criteria for the reservoir to drain over that period of time.

Q. So, Mr. Menninger, I don't think you understood my question.

So I'm thinking here of worst-case scenarios and my question was, as the low-level outlet has been sized to drain the reservoir for over 30 days, what are your contingencies should a dam safety incident occur that requires a rapid dewatering of the SR1 reservoir?

So not a leisurely drain over 30 days, but a dam safety incident that requires a rapid dewatering of the SR1 reservoir.

So the question is what are AT's contingencies should such a dam safety incident occur?

A. **MR. MENNINGER: I would say, Mr. Secord, that they -- a rapid dewatering of an embankment in and of itself could cause a dam safety issue alone.**

So I'm not certain of the scenario of which you're referring. It would obviously depend on the specifics

of the scenario, but the most likely dam safety incidents that we would be attempting to mitigate would be those that we would mitigate with other interventions, not a quote unquote "rapid release of the reservoir." You would control whether it was seepage or stability or other elements, and you would be implementing other interventions.

Q. Go ahead.

A. MR. MENNINGER: No, I'm done.

Q. So what would be an incident that would require a rapid dewatering of the SR1 reservoir? Worst-case scenarios?

A. MR. MENNINGER: I don't have a hypothetical scenario, Mr. Chairman, to offer.

Q. Okay. You mentioned that, in the event there was an issue with the reservoir, you would look at other ways of solving this situation rather than rapidly dewatering the reservoir. What circumstances were you thinking of when you gave that answer?

A. MR. MENNINGER: Sure. Common. And again, our design mitigates the majority of these scenarios, but often with embankment dams, there may be a seep identified on the downstream side of the dam that is indicating the potential for water flowing through the foundation or embankment. In those scenarios, you would mitigate by adding filters and other components

to control the flows coming through the embankment and to arrest any transmission of material or particles from the embankment, would be a scenario of -- would be one.

Q. Are there others?

A. MR. HEBERT: Mr. Chairman, would we be able to caucus?

THE CHAIR: Yes, please. In fact, why don't we do that and come back at 3:15.

MR. SECORD: All right. Thank you, sir.

(ADJOURNMENT)

THE CHAIR: Okay, Mr. Wiebe, I think we can get started. Thank you.

Mr. Secord, so the panel had a few minutes, maybe not as much of a break because they were working perhaps. Is the panel ready to respond or do we need a repeat on the question?

A. MR. HEBERT: Mr. Chairman, the panel is back but perhaps a repeat of the question just to get us back on track.

MR. SECORD: Ms. Vespa, would you be so kind as to read back the question? Thank you.

COURT REPORTER: So we left off with the end of the question being:

"What circumstances were you thinking of

when you gave that answer?"

Then a long answer was provided, and you asked, "Are there others?" Is that enough or do you need the whole previous answer?

MR. SECORD: No, no, I think that's fine. Thank you, Ms. Vespa.

A. MR. MENNINGER: This is John Menninger. So, Mr. Chairman, the most -- I guess the most common issues with embankment dams was the answer that we gave. There's other scenarios potentially that have very low probabilities of occurrence.

But I'm struggling to understand the -- I guess offer an additional example that would help inform the Board at this time.

Q. Maybe I could help you, Mr. Menninger. What about a piping failure?

A. MR. MENNINGER: Sure. So Mr. Secord, that's -- or, Mr. Chairman, the explanation that I provided previously. So a piping failure for a dam is a scenario where seepage, either through the embankment or through the foundation, carries with it materials from the dam or foundation to the downstream side of the dam.

In that scenario, then a void could form and cause potential issues with your structure.

As I explained previously about the response to seepage, the scenario that typically is used to mitigate for that, while lowering the pool, is definitely a strategy for reducing the pressure upstream.

Additional measures that can be implemented to help in that scenario would be to create a filter on the downstream side, as well as add additional pressure on the downstream side often with sandbagging and other elements.

So, typically, you would use a graded filter and then also build up a kind of a pressure on the downstream side. That's generally the mitigation measures approved.

But, again, our structure has a -- for a dam that does not have a permanent pool -- has an incline filter -- should we drain that goes up the embankment as well as a blanket drain on the downstream side that are key mitigation measures to prevent piping and control seepage through the structure. We feel confident that these measures will be effective in preventing a piping scenario.

But in the case, if there ever were to be, those are common mitigation.

Q. How long would it take to place filters in the case of

seepage?

A. MR. MENNINGER: You could do it quickly. You know, in the scenario, Mr. Chairman, under a first filling of the dam or, you know, really, in operation of the structure, there will be a lot of eyes on the dam and the surrounding area. The plants would have multiple operators on site, as well as other staff and support.

Often with dams and structures -- and we'll tackle this with Alberta Environment and Parks -- as the emergency management plans are developed, often material is actually stockpiled on site for response, for certain scenarios, or there are agreements in place with contractors and other elements for quick mobilization.

So this is a typical thing that's incorporated in almost all emergency management plans, emergency response plans for dams, is the identification of potential issues and mitigation measures associated with them.

Q. Now, you mentioned grading. What exactly is involved in placing filters in the case of seepage or piping failure?

A. MR. MENNINGER: Sure. I often realize I need to do better with communicating that term.

So when I said a -- I meant to say a "graded filter." So a graded filter is a series of materials that are progressively different in size that prevent material from going from one to the next to the next.

So you would go from a sand to a gravel to a riprap, would be an example of a graded filter.

And so basically the idea is the sand stops the clay from moving; the gravel stops the sand from moving; and then the rock stops the gravel from moving. It's basically a series of materials that help to control migration of particles.

Q. And how would you get that material to the area where the seepage or piping failure was occurring?

A. MR. MENNINGER: Sure. So, Mr. Chairman, the dam has roads on the -- has a roadway on the downstream side, graded pathway for access on the downstream side of the dam, for access for equipment and other elements. So that would be the pathway.

Q. And you would be hauling this, then, in the event of a flood of record, potentially days of rainfall, you would be moving this material with heavy trucks, moving it with Caterpillars, cranes, that sort of equipment?

A. MR. MENNINGER: So, again, this is all a hypothetical scenario, but in that situation, you would likely use dump trucks and probably front-end loaders,

and a couple of other pieces of equipment and such to transport and place the material.

Q. Now, is SR1 a large dam?

A. MR. MENNINGER: Mmm. It's long. It's about 3 kilometres in length. It's moderately tall. I would not describe it as a significantly tall dam. At its highest is 30 metres, which is a decent size, but by other industry standards, there's much larger structures.

Q. So it's an extreme consequence dam?

A. MR. MENNINGER: It is an extreme consequence dam.

Q. Yeah. Is it a small dam?

A. MR. MENNINGER: These are relative terms. Mr. Chairman, I don't know. It depends on the reference point for the individual describing it.

Q. But in terms of its FSL containing 77 million -- yeah, 77 thousand dam cubed, is that a small dam, a large dam, a medium dam?

A. MR. MENNINGER: I'm afraid that I can't respond to that. I mean it holds a significant amount of water, as you said, 77 million cubic metres. I think that's appropriate for me to answer that that is the design volume.

Q. Can you tell me, did Stantec or AT use the United States Bureau of Reclamation design of small dams to

size the low-level outlet?

A. MR. MENNINGER: The reference is not the US Bureau of Reclamations design of small dams. And so -- and I guess that tells you a little bit of differential too.

The USBRs description of dams, small dams, this would be a small dam in their guidelines -- or at least in their reference points. They operate the Hoover Dam.

Q. Right.

A. MR. MENNINGER: So that gives you a scale differential here.

We did not use small dams to design the drawdown capacity. We did use it for some of the reference points for the hydraulic analysis of the low-level outlet works.

Q. And is there a definition for a large dam, Mr. Menninger? Are you a dam builder?

A. MR. MENNINGER: I -- in my career, I have worked on quite a few dams in different capacities, some that are larger and some that are smaller than SR1.

Q. But are you familiar, is their definition for a large dam or is there a large dam definition that you're aware of in your career working in the area?

A. MR. MENNINGER: I'm not aware of a criteria that would define something as a large dam.

A lot of times dam safety criteria will define a height of a dam or a reservoir pool as an element of a hazard classification. That's not the case in Alberta, but -- yeah. Often times there's different levels of classifications so stay with that.

Q. So what was the accuracy of the flood forecasting during the 2013 floods for Calgary?

A. MR. WOOD: Mr. Chairman, I can't speak -- sorry, it's Matt Wood here with AT. I can't speak specifically for the accuracy of the flood forecasting on the Elbow. But what we can say is that the information was limited to some hydrometric stations and the weather forecasting, and I believe, as Mr. Menninger had mentioned earlier, some of those stations had washed out during the event.

Q. Were they able to accurately predict water levels as required for the operation of the SR1 off-stream storage reservoir?

A. MR. MENNINGER: So, John Menninger speaking.

The SR1 reservoir will utilize water level measuring at the site to be installed for the project for operations.

I -- in speaking -- and Mr. Wood may add on to this, but speaking with Mr. Frigo of the City of Calgary and those at Alberta Environment and Parks,

they did have advanced warning that a large flood was expected within, I believe, from my recollection, several -- you know, a couple of days in advance. They were expecting to be ready for an event.

The ultimate magnitudes in forecasts in a system like the Elbow River are more difficult to understand, but they did know that a flood was coming and started preparations in advance.

That is the type of warning that would be necessary for operations of SR1 to mobilize staff to the site, prepare the site for operations, and be ready to move.

A. MR. WOOD: If I may add to Mr. Menninger's --

Q. Sure, go for it.

A. MR. WOOD: Thank you, Mr. Chairman, thank you Mr. Secord.

THE CHAIR: Mr. Wood speaking.

A. MR. WOOD: Mr. Wood, my apologies. Yes, it's Mr. Wood.

One of the things that AEP has committed to is to add a what they call a forecasting node at SR1. So they have a large forecasting network. It's a computer system that models and uses measured data. And in that network, they've offered to add a node there so that they have a specific forecast point for SR1.

And if I may, there's one other thing just coming back to what John said earlier about the water level. You know, technically with this structure, the structure in itself is its own gauge, and there is, although it's not a desirable way to be operating, while not desirable, the operator could simply look at a gauge on the wall of the head pond and operate the system. It's very simple in that sense.

So it doesn't need sophisticated forecasting. It doesn't need sophisticated hydrometric monitoring to be able to mitigate flooding as per its purpose.

Q. So basically the planned additions to the flood forecasting consist of this additional node that AEP is putting in, plus you said you had a -- some sort of monitor on the head pond?

A. MR. MENNINGER: We'll have multiple redundant monitors on the head pond and downstream, yes.

Q. What do you mean by the "head pond"?

A. MR. MENNINGER: Sure. That's the area upstream of our gates. It's basically the river for 365 days a year for ten -- for ten years running before we operate. And then when our gates -- when our gates in the service spillway rise, it will create a small, quote unquote, "head pond" upstream.

Q. Did I understand from Mr. Wood you might have some type

of automated function where, once the head pond reaches a certain level, the gates then would open automatically without any human intervention, kind of like a car that drives itself?

A. **MR. MENNINGER: I actually believe that Mr. Wood's comment was the opposite, Mr. Chairman.**

The gates will allow for some control in specifically in the service spillway. The diversion inlet gates will not open until somebody unlocks them and then goes and presses the button. That opens up the diversion channel.

There is no reason to automate those gates. They are a, lack of a better term, they're binary; they're open or they're closed.

The service spillway gates are the ones that control the water level in the river as I mentioned previously.

And I believe Mr. Wood's comment is that there will be what's called a staff gauge that's painted on the side of the concrete that will say what elevation the water is at, and that is the only thing we need to know to know how much water is going into the channel is what is the water level on the side of the structure, and that will in turn tell us how much water is going into the channel.

Q. So the service spillway gates, those are the ones that can be operated incrementally?

A. MR. MENNINGER: Yes.

Q. And as you mentioned, the inlet gates have basically two features: On or off, up or down?

A. MR. MENNINGER: Yeah. Well, they can control flows slightly; they're not meant to be an operating gate. But no, if you close them, as you lower them, they will restrict flow into the channel.

Q. So they can be operated incrementally as well?

A. MR. MENNINGER: Sure.

Q. They're not totally binary, then?

A. MR. MENNINGER: No. The simplest purpose for them is that. During normal operations through -- up and through the design event, they are not proposed for operating control of flows.

During a dam safety event or an event that exceeds our design event, they would lower. And so in doing that, and in lowering, they would throttle the flow up until the point that they're closed.

Q. So I'd asked you, at least it appeared to us that the low-level outlet was sized based on the US Bureau of Reclamation small dams manual, and you indicated that under the UBR, this would be a small dam.

A. MR. MENNINGER: So the reference for the drawdown

was the ACER Technical Memorandum Number 3, "Criteria and Guidelines For Evacuating Storage Reservoirs and Sizing Low-Level Outlet Works, US Bureau of Reclamation 1990."

Q. And that was used by Stantec?

A. MR. MENNINGER: That is the reference incorporated within the Preliminary Design Report and included in Exhibit 159, page 200, Section 10.4.2.

Q. And can you provide justification on why the SR1 storage reservoir should be considered a small dam?

A. MR. MENNINGER: I did not characterize it as a small dam.

Q. So it's not a small dam?

A. MR. MENNINGER: Mr. Chairman, I think I answered this question previously. There's -- I don't -- the relevance or the -- it takes a reference point.

I can tell you if the dam is bigger than another dam given the criteria. I can tell you that the dam is up to 30 metres tall and has -- and has -- what the storage capacity is.

Q. We note that the physical modelling was conducted at a scale of 1 and 16. Can you advise why a 1 and 16 scale model was developed as opposed to a 1 in 20 scale hydraulic model?

A. MR. MENNINGER: A 1 in 16 is bigger, meaning that

it gives us an opportunity to better model some of the elements that we were looking to model.

Mr. Chairman, for the Board's benefit, a physical model is a scale representation of a proposed design. In this case, we constructed a replica of the SR1 diversion structure and a portion of the Elbow River in a lab in Ottawa that was exactly 1/16th of the size of the proposed design.

We were limited to 1 in 16 because that was the largest lab we could find. The model was half of a football field in size. It was 30 metres by 50 metres in scale.

So we chose 1 in 16 because that was as big as we could fit within a laboratory in the United States -- or I'm sorry, not in the United States, in North America. We looked at both. We looked at both in the United States and in Canada.

Q. Now, many flow discharge scenarios were considered for the diversion structure. Can you tell me, will this -- will these various flow discharge scenarios lead to difficulty during operations in an emergency?

A. MR. MENNINGER: If the question could be clarified? What scenarios?

Q. Well, can you clarify what you intend to provide to operators to allow for a simple operation? Maybe

that's a better question.

A. MR. MENNINGER: Sure. The general operations approach for the project is fairly straightforward.

The operations of the structure will not commence until flows in the Elbow River exceed 160 cubic metres per second. That is the capacity of the outlet works, the low-level outlet at Glenmore Dam.

So, in essence, when flow through SR1 is 160, and roughly there's not much difference downstream to Glenmore, then flow out of Glenmore will be 160, and Glenmore won't store anything.

So that's why that number is selected.

Once that threshold is exceeded, we'll start to raise -- you know, first we'll open those diversion inlet gates to make sure water can go into the channel, and then we'll begin to raise the water surface elevation within the service spillway.

Simply, we can continue in that operating framework of a constant flow over those gates. So the water level may rise, but the flow over the gates will stay the same -- or the height of flow over the gate will stay roughly the same. And that will make sure that 160 continues downstream, and then the remainder of the flow will be pushed into the channel.

So in essence, the gate operator will have -- they

know what the height of their gate is and they know what the height of the water in the channel is. The computer will tell them what the depth of the flow over that gate is, and they'll know what the flow going downstream is. And basically they'll maintain that depth.

After -- once the water level gets up to 1215.8, at that point, that's the maximum diversion that we want to get to. That's that 600 cubic metres per second going into the channel.

Once you receive that level, you're then moving the gates, if the flows are still increasing, you're now going to the mode of just lowering the gates to make sure the water doesn't exceed 1215.8.

It's basically that straightforward. It's on the rising limit of hydrograph, you're chasing a depth over our service spillway gates, so it's the simple two numbers: What's my water surface elevation upstream and what's my gate elevation. And then on the receiving on the -- as the water continues -- or flows continue to increase, once you get past -- once you get up to that max level, then it's simply chasing that elevation of lowering and raising my gates to maintain my diversion elevation up until the receding limb falls and we're back to the lower flow.

So basically there's just a two-threshold component.

If you exceed all of those things it's just gates on the ground, and water is split between the two structures.

Q. And is there any automated function to that or is it a case, then, of the operators having to react to readings that are coming into -- is there a control room of some sort?

A. MR. MENNINGER: There is a control room and there will be computers with potential automation. We're working with the operators to understand the needs of their staff. I imagine that there will be a combination of both. The control logic for the gates will have options for automation, but I can also imagine that the operators may want to utilize manual controls in certain scenarios.

Q. So in terms of the flood of record, the design flood, have you modelled what would be the likely scenario for an operator in the control room raising the gates?

So say you had June 2013 flood coming at you, have you modelled how these gates would be incrementally operated sort of on an hour-by-hour basis?

A. MR. MENNINGER: Yes.

Q. And what would that look like from start to finish?

When would the gates be down on the floor? Over what period of time would you have them basically raised to their maximum height and then drop down? What does that look like?

A. MR. MENNINGER: So the -- during operations, the gates will always -- during the 2013 flood event for the most part, they are operating. Even at 1240, they're not lowered to the ground because that's not the scenario where they would have them lowered fully; they are still up there still raised -- in a slightly raised position during that -- even at 1240 in the river.

So perhaps some additional clarification. What type of information are you looking for in that scenario?

Q. I'm just wondering over what period of time would the operators expect to be really needing to even control the gates in the event that a 2013 flood came at them? How much of the time would they actually be actively engaged given that the reservoir, it looks like, is going to fill within, what, I think it was -- I can't remember the reservoir fill time, but it's what?

A. MR. MENNINGER: Two days. Two days.

Q. Yeah, two days. I was going to 50 hours --

A. MR. MENNINGER: Sure. When the gates are in

operation, the -- it's a -- you monitor their positions and you make adjustments accordingly throughout. This is not a --

A. MR. WOOD: Mr. Chairman, if I may. I believe what my colleague Mr. Menninger is trying to say is that the AEP will be attentive to the gates throughout the operation. It doesn't matter at what point on the front end or the back end.

And the amount of time is really dependent upon the flood and specifically the amount of time that flows are over 160 in the river.

A. MR. MENNINGER: Yeah.

Q. But it seems to me this would be kind of a two-day operation, and I'm assuming there would be, what, maybe four shifts of people coming in to sort of man the operation over that 50-hour critical period?

A. MR. MENNINGER: As I said, we're still discussing with Alberta Environment and Parks, the eventual operator, on how they would choose to operate, but they would anticipate, it's my understanding, that they would utilize shifts, and that they would not have the same operators on site for two days.

Q. And in the event of a probable maximum flood, then, the gates would be on the floor? There would be nothing for the operators to do once the reservoir was full;

correct?

A. MR. MENNINGER: They would -- you're correct, they would not be operating the diversion structure, but they would certainly be assisting in any way they can, whether it would be in monitoring the structure -- one structure or assisting others.

Q. But in terms of the gates themselves, they would be lowered; correct, or would they still be operating the gates?

A. MR. MENNINGER: You can operate the structure to divert a portion of the probable maximum flood up until the reservoir is full, and then you would close them.

Q. And at that point -- but the ones that are operated incrementally, would they be lowered in a PMF scenario?

A. MR. MENNINGER: Once the reservoir is full or the peak level in the river exceeds a certain threshold.

Q. And what happens if the gates were not lowered in the event that a certain threshold was exceeded?

A. MR. MENNINGER: Could you be more specific --

Q. I'm just trying to pick up on your response, Mr. Menninger.

A. MR. WOOD: Mr. Chairman, I believe what Mr. Secord is looking for is a scenario where SR1 is full, the diversion inlet gates have shut and the service spillway gates are down lower to the river.

And your question is what if the service spillway gates do not lower down to the river? At that case, the gates would still be up, the head pond, as Mr. Menninger described it, would still be present and it may be rising and that's when the auxiliary spillway would activate and allow that water to pass without circumvention of the diversion structure floodplain berm.

A. MR. MENNINGER: And this is John Menninger again. To just reiterate, the probable maximum flood 1 in a 100,000 to 1 in a million-flow scenario, and the service spillway gates have multiple provisions for lowering in addition to, they have -- you have the standard methodology, there are valves that you can bleed off the air and they will lower underneath the weight of the water.

So there is -- and then there's auxiliary spillway, as Matt said, to discharge additional flow.

Q. At this stage, would it be fair to say that you would not have anticipated response times for operators to be dispatched in advance of a flood for the successful operation of the SR1 intake and diversion structures?

A. MR. MENNINGER: Could you please repeat that question?

Q. Do you have anticipated response times for operators to

be dispatched in advance of a flood for the successful operation of the SR1 intake and diversion structures?

A. MR. WOOD: Mr. Chairman, it's Matt Wood here. I can answer that.

Q. Sure.

A. MR. WOOD: If I could request that the document controller please switch to Exhibit 218, page 23. It shows the operational flowchart for SR1. I'll wait for you to bring it up.

I'm going to repeat that. It is Exhibit 218, PDF page 23.

This operational flowchart that we see here was developed by AT with AEP and the City of Calgary who operates Glenmore. It shows how the two structures interact, and how AEP plans to operate the system.

What I wanted to draw the Board's attention to is the area in the bottom left of that page. You don't necessarily need to zoom in, but we could, but in the bottom left of that page, it talks about 24 hours prior to a flood. And there is a box there specifically that shows that, you know, in these certain scenarios, if a forecast suggests that SR1 may need to operate -- again, I'm going back to that node that AEP will be adding to their forecasting network, then there will be 24-hour staffing of SR1. And so AEP will travel out

there to address that.

Q. Thank you. Now, you can take that down if you want, document host.

Can you please provide clarification on changes in anticipated water diverted if the peak of the hydrograph is missed by one hour as a result of response time?

A. MR. MENNINGER: It would depend on the hydrograph.

Q. So in a design flood.

A. MR. MENNINGER: You're speaking --

Q. Sorry, Mr. Menninger?

A. MR. MENNINGER: You're speaking of the 2013 flood.

Q. Yes.

A. MR. MENNINGER: Simply a one-hour change?

Q. Yes.

A. MR. MENNINGER: It would not -- I mean there is built-in redundancy in our system.

As I said, the diversion capacity for SR1, the required diversion rate is 480 cubic metres per second. If we were delayed an hour in raising of the gates, we could divert more, up to 600. And I guess just simple 480 divided by, you know, that 120 extra over 4 hours, so within four hours you'd be caught up, you know, basically.

A. MR. WOOD: Mr. Chairman, if I may draw the

Board's attention to Mr. Menninger's earlier comment about automation.

You know, while it's not always wise to have everything fully automated, these are being considered as redundancies. Something like that could help address this.

Again, you know, AEP may not choose to operate if no one is there watching it, but there is the ability to mitigate things like Mr. Secord is suggesting. But as my colleague, Mr. Menninger mentions, you know in the 2013 flood, an hour would not have made a difference.

Q. Could you provide clarification on changes in the anticipated water diverted if the peak of the hydrograph is missed by two hours as a result of response time?

A. MR. WOOD: Mr. Chairman, we have not done this analysis. We would have to look at the hydrograph and undertake this.

Q. Can you tell me what are your contingencies during first fill that would satisfy the requirements for a first-fill plan?

A. MR. MENNINGER: So the first-fill plan has not been completed to date. However, I can advise the Board that it will include a robust monitoring plan

during the filling, including the array of geotechnical instrumentation that will be installed during construction and will be maintained during post-construction period and through operations. That would include piezometers and settlement plates and other components.

The first fill plan will include provisions for the resources to be located on site for inspection and monitoring during the operations to monitor the performance of the structures, including the dam spillways, et cetera. And then it will, in concert with the emergency response plans, have provisions for response to various scenarios for mitigation.

Q. What are summit plates?

A. MR. MENNINGER: I mumbled. Settlement plates.

Q. What do they do?

A. MR. MENNINGER: They are simply monuments of which you survey to observe whether or not the embankment has settled.

Q. And the function of the piezometers?

A. MR. MENNINGER: Piezometers measure water levels within the -- where they're located hydraulically or hydraulically connected. So a piezometer would tell you what is the groundwater elevation in various strata. They would be placed within the embankment and

within the foundations of the soils.

Q. And would those piezometers be monitored then manually or would they be -- is there a way to -- I'm familiar with piezometers in terms of contamination of sites.

A. MR. MENNINGER: Mm-hmm.

Q. But is there a way for these piezometers to be monitored remotely, or is this a case of somebody having to go from one to the other and put a pail down and find out what's in there?

A. MR. MENNINGER: So, there are -- you know, through, I think that part of that will be in discussions with the operator for the long-term operations of the program during construction.

Our monitoring program is anticipating the use of an automated data acquisition system that would utilize data loggers that are then tied to computer systems, that are then tied to communication networks.

So you can easily wire up a series of instrumentations and logs to -- through, and add a position system, for display and recording all electronically.

Q. So will these settlement plates and piezometers, will they help to address the potential risk to the structure as a result of a first fill?

A. MR. MENNINGER: Settlement plates would have less

benefit. They would be part of just the monitoring of the performance of the embankment before the first fill. So they would give you some indication that there's settlement that wasn't anticipated.

The piezometers, on the other hand, could provide advanced or early warning of potential effects within the foundations of -- within the foundation of the dam for elevated pour pressures or connections. So, yeah.

Q. Are there any other elements of the first fill plan that would address and minimize the potential risk to the structure?

A. MR. MENNINGER: I think one of the key things is visual observation and -- during those elements and having the appropriate communications strategies and plans and the appropriate contingencies in place, including the mitigation measures or intervention measures as I said.

A. MR. WOOD: Mr. Chairman, if I may, one of those mitigation measures is the ability to shut the diversion in the gates.

So as Mr. Menninger mentioned earlier, if a problem is revealed through the piezometers or the settlement plates, the operator, AEP, will have the ability to shut the inflow to the dam to help manage the situation.

A. MR. MENNINGER: Yeah, and my colleague, Mr. Back, I think would remind me that we also will be monitoring the flow through the drain system for the dam.

So we have, as I mentioned, the chimney drain and a blanket drain on the downstream side so -- and we have pipes that come out of that in daylight. So we'll be able to monitor all the flows coming, if there are any, coming through the embankment, both quantity of flow and its characteristics, whether or not it has -- is carrying any other particles or other elements.

Q. So as the intervals between filling operations is potentially likely to be long and operator familiarity with the structure operations during flood flow operations will not become routine hopefully, are you able to provide any clarification on the operator training, site surveillance, and intervals at which these will be undertaken?

A. MR. MENNINGER: I cannot provide specifics on the frequency of the training and operations other than it will be frequent. You know, the structure will be operated for -- and I actually would invite Yvonne Carignan from Alberta Transportation to provide a more thorough response from the government.

A. MS. CARIGNAN: Yes, Mr. Chairman. I am somewhat familiar with Alberta Environment's operating

procedures related to this. It's Yvonne Carignan, sorry.

So based on my experience with their other operations, and I don't expect this site to be any different, they would have annual reviews with downstream stakeholders regarding the operations if they were required, and this would be completed in advance of flood season.

As well, typically at their other facilities, they're what they call "exercising the gates," which means that they practice opening and closing them and reviewing all of their emergency procedures to ensure that they are prepared in the event that they need to operate.

Q. Mr. Menninger, would you have to go from one settlement monument to another to survey them manually? And maybe you can let me know how many settlement monuments would be expected to be placed here, and how long would it take to get the data to the engineer and relay a decision to site?

A. MR. MENNINGER: Sure. So settlement is a slow process in geotechnical engineering in general.

So it's not a time-sensitive scenario. And if we were to do an annual survey of the monuments, it would be done in advance of flood season, and so that there

would be any adverse effects that were observed.

If there were to be settlement of the nature that would be of an urgent matter, it would be visually observed. I will say that.

A. MR. WOOD: Mr. Chairman, if I may remind, during the 2013 event, it took -- it would have taken about 3.8 days for SR1 to fill, so plenty of time to survey those monuments if it was warranted.

Q. Do you have a preliminary inspection checklist, including key items for review during the first fill and subsequent water diversions?

A. MR. MENNINGER: It has not been developed yet but will be as part of the dam safety application and typical procedures for dams.

Q. Now, I think you provided clarification on how the operator will know at what point to divert water into the SR1 reservoir. And basically as I understand it, anything over 160 cubic metres per second, you start to divert; correct?

A. MR. MENNINGER: That is the threshold for diversion. That does not mean that the operator has to divert.

If, based off their information, it's going to go to 170, then drop back down in the next couple of hours, it may not be worth -- the water might not make

it to reservoir; it may just dry up in the channel.

So there are conditions different that would -- that would may differ. But typically for larger events, that is that threshold and would be the proposed operating scheme.

A. MR. WOOD: Again, Matt Wood here, if I may, for the benefit of the Board. The exhibit I referred to earlier, you don't need to bring it up, but that also shows those considerations for operation.

Q. And I think you have indicated certain conditions when diversion would cease, but are there other -- other circumstances that we haven't discussed where -- or other conditions that we haven't discussed where diversion would cease?

A. MR. MENNINGER: The conditions primarily are, number one, if the reservoir is at capacity, diversion will cease. If the water level -- if the flows drop below 160, diversions will cease.

And then the other one is that, as the mitigation measure mentioned earlier, that if there are observed issues with the dam or the channel that would require intervention, then the gates would be lowered and diversions would cease.

Those are the three scenarios.

Q. And I think you've addressed this to some degree in

terms of what are the anticipated windows of time in order to respond to an emergency, and what are the mobilization times for various personnel, equipment, and materials.

Obviously, you would expect to have personnel on site fairly -- you know, fairly soon in the event of a flood event occurring. So that would deal with the personnel.

But what about equipment? What would be the anticipated windows of time to get equipment on site? Or would they -- would equipment be on site 24/7?

A. **MR. MENNINGER: I think some of those plans are still in development, but I think with -- in coordination with Alberta Environment and Parks, those will be established and be part of our flood action plan and incorporated within our submission.**

Q. So my understanding is the intent is not to provide stop logs for the intake diversion, and the window of opportunity for low water is estimated at two months. Can you please provide clarification on how major maintenance such as gate rebuilds, which typically take longer than two months to complete, will be undertaken in the future?

A. **MR. MENNINGER: I'm uncertain of the two-month reference that you're providing. Could you clarify?**

Q. My understanding is it will take two months for the water to be removed from the reservoir; correct? 60 days, or is it 30 days, I guess?

A. MR. MENNINGER: Okay. So the gates are above -- and you're speaking of the diversion inlet gates?

Q. Yes.

A. MR. MENNINGER: They're above the reservoir elevation, and they're above the normal water levels of Elbow River. They sit in the dry.

Q. So if they needed to be overhauled, then there would be no issue, given their elevation?

A. MR. MENNINGER: Correct. I mean if it was long enough and they needed to be to a greater degree, a temporary cofferdam could be constructed. But I don't see that as being a typical; that would be a very rare occasion.

A. MR. WOOD: If I may, Mr. Chairman, you know, it would be I think safe to assume that AEP would not be looking to overhaul gates immediately after a flood. This would be something that would be planned well in advance as part of the maintenance program and would be planned outside of the restricted activity period in the river and at periods of low flow to mitigate the risk of overtopping of any cofferdams.

Q. Can AT clarify your intentions for public safety and security at the facility, including warning systems and intended means and methods to keep the public from accessing the dry reservoir and/or alerting the public that the reservoir is about to be filled.

A. MR. WOOD: Mr. Chairman, would we be able to caucus on this? We can be quick.

THE CHAIR: Yes, please.

A. MR. WOOD: Thank you, Mr. Chairman. We're back now.

THE CHAIR: Thank you.

A. MR. MENNINGER: So, Mr. Chairman, I should start with the safety of the public has been a key consideration of many of the items that we've incorporated within the design of SR1.

And I'll start with, you know, many of our spillway structures you'll notice do not maintain permanent water pools in them. Typical for hydraulic structures at dams would be to have stilling basins that have a low point that would have water in it full time. As this is a large site that's difficult to control access, we've incorporated design measures to eliminate pools like that that could be a potential drowning hazard to the public as an instance.

Many of our structures, all of our structures that

have fall potential have railings and other fall-protection measures that if the public were to, you know, to be on, that they would then -- there are railings and other components to assist.

The service spillway gates, among some initial concepts and in many diversion-type structures, they are an elevated weir that could present -- provide potential for hydraulic rollers and other things downstream. These sit at the flush bed of the river and allow for that component.

So just to start with, safety has been that -- that piece of it has been a concern and has been definitely at the forefront of the design team through the process.

So with regards to the public, we're handling safety in a couple of ways: Number one, restricting access to areas of security for the property, and that could potentially be more adverse to the public if they were to access. The area in and around the diversion structure, including the control building will be fenced with chain-link fence and security materials in that area.

The remainder of the site -- so that's a fairly limited location, I should say. It's that parking lot I think that we looked at before on the drawings.

Generally that area will be fenced to prevent -- that's really the only location where we have high walls and things like that that could be a potential of serious concern for fall.

The other areas of the site will be designated by the project, you know, with fencing for property fencing to -- and with notification that they're entering a project and location, and then there will be significant signage throughout to inform the public, both along the Elbow River and throughout the reservoir, of their presence within the SR1 site and its function as a flood control reservoir.

So there is kind of -- so basically, number one, there's the design; two, there is kind of the hard access requirements from that kind of the high security areas; three, there's the more passive property designation and notification; and then the final piece here is the signage -- or four is signage and communication; and then five would be the additional layer of requirements prior to any operation, including inspection of the facilities in advance and clearing of the potential public.

We do anticipate that the emergency management plan or the flood action plan will also incorporate notification of nearby -- potentially nearby affected

areas as well. So...

Q. Mr. Menninger you mentioned security materials at the parking lot. What were you referring to there?

A. MR. MENNINGER: Primarily just -- it's the chain-link fence and locks.

Q. Okay. So it's not proposed, then, that people will be flocking to the parking lot to see the gates rise on the Elbow River?

A. MR. MENNINGER: They will not be permitted.

Q. And you're not going to have school kids standing on the access bridge gawking at the water as it flows through into the reservoir?

A. MR. MENNINGER: They are not permitted, although they could stand at the top of the slope and have a nice safe distant view of it.

Q. What do you mean by the "top of the slope"?

A. MR. MENNINGER: The channel has a large long slope downstream of the diversion structure. The channel is about 35 metres deep, and it's a big, large vista from up top there.

So that's an area that would be outside limits of the project that if somebody wanted to observe the project from a safe distance and be outside of the project area, it's a potential location where they could observe. They would probably be on private land

at that point, though, so they would have to obviously clear that with the member if they were to access it.

Q. And in terms of the reservoir itself, will there be attempts to keep school kids and others off the top of the reservoir structure as it's being filled?

A. MR. MENNINGER: We would certainly propose that during operations, that the area is a control location and that it should only be accessed by the staff that are in operations or those that are assisting them in operations of the dam.

This is a -- but, again, this structure will be operated likely on the order of a once-every-ten-years event, and for a couple of months, you know, a month-long window at a time. During other time periods and times, access to the public could be.

Q. And the parking lot itself, will it be permanently chain-link fenced and locked off --

A. MR. MENNINGER: At the control building? Yes, yes.

Q. All right. What is a fracking exclusion zone?

A. MR. MENNINGER: A fracking exclusion zone, as I understand it, is an area around a particular location for which fracking is not allowed, is my understanding.

Q. As the response to the proposed fracking exclusion zone only addresses the ground accelerations at the dam site

and does not appear to address issues surrounding settlement, should fracking occur close to the dam, or allow for a settlement beneath the structure, can you tell me, how do you intend to mitigate this risk? And this might be a question for Mr. Back, perhaps. I don't know.

But by all means, Mr. Menninger if you want to field it.

A. **MR. BACK: Could you repeat that again, first?**

Q. Sure. So as the response to the proposed fracking exclusion zone only addresses the ground accelerations at the dam site and does not appear to address issues surrounding settlement, should fracking occur close to the dam, or allow for a settlement beneath the structure, how do you intend to mitigate this risk?

A. **MR. BACK: This is Dan Back. I believe the greatest risk to the facility would be the motion from fracking. I don't think in the formations here that we would have a significant risk of a fracking operation causing significant settlement.**

Now, if there's resource extraction, if there's oil or something being removed, it may be a different situation. But the danger typically associated with fracking is the motion that comes from fracking-induced

seismicity. That was evaluated in our seismic hazard analysis; that's what you alluded to in your earlier comment.

As far as settlement, I'm not aware that there would be any issue. If it was an area settlement, then everything would settle together, the dam, the reservoir, the channel.

As far as differential settlement, the monumentation that's supposed to be on the dam, would allows us in regular intervals to make measurements of that and establish if there's a differential settlement occurring at the site, and mitigation could be undertaken prior to the use of the facility.

Q. And Mr. Back, what is a fracking exclusion zone?

A. MR. BACK: That term was brought up. I would have to assume, like Mr. Menninger, that that would mean an area where fracking would not be permitted.

As far as I know, at this point in time, aside from the government-controlled property, there has not been a fracking ban instituted at this or on site.

Q. I'm sorry, I missed that, Mr. Back.

A. MR. BACK: As far as I know at this time, aside from the government-controlled property, there has not been a fracking ban instituted at the site.

I could go on to say, that, as far as we know at

this time, there hasn't been any fracking that has occurred in the vicinity of the SR1. There is fracking in Alberta. It's a number of kilometres to the north and northwest where that has occurred.

Q. So where is the nearest -- do you know where the nearest resource extraction is to the project area?

A. MR. BACK: I do not. I know that there was some gas extraction not too far away. I think oil extraction is probably a little farther north, but I couldn't give you specifics.

Q. Mr. Menninger, this is probably a question for you or for Mr. Wood.

Could you please provide clarification and justification for the constant diversion inlet rate of 480 cubic metres per second during routing of the probable maximum flood, as this appears to be inconsistent with inlet gates being fully open and assumes that the gates can be partially closed, which impacts the sizing of the emergency spillway.

So maybe, I might just -- maybe I should rephrase this question, you know, more as a -- perhaps as a proposition, and you may dispute various elements of it, so I'll just run it by you again, and that...can you provide clarification and justification for the constant diversion inlet rate of 480 cubic metres per

second during the routing of the PMF as this appears to be inconsistent with inlet gates being fully open and assumes that the gates can be partially closed, which impacts the sizing of the emergency spillway?

A. **MR. MENNINGER: Sure. So the -- in fact, what we're showing is that the gates can't be closed. We're actually increasing --**

So the hydrograph that's shown on, I guess we can reference it for the Board on Exhibit 159 on page 177 of the PDF, is a scenario where, as I mentioned, the probable maximum flood and we have a malfunction.

And so in this scenario, what we're demonstrating is an initial diversion of flow into the reservoir up until a point where we lose control of the inflow.

So it does look a little bit strange that the hydrograph comes -- the hydrograph rises and then flattens at 480 for, I guess, four hours or so and then spikes back up as inflow continues into the reservoir.

What that's actually showing is that the service spillway gates are in control of the flow into the channel up until the point that the water continues to rise faster. It's not showing that the gates are closed and throttling flow and or partially closed and throttling flow; it's that we're actually operating the service spillway gates to push more flow in. It's

almost like we're pushing, we're pushing, we're pushing. Oh, no, we can't stop it scenario, not we're throttling it and then the opposite scenario.

So this is in fact an operation scenario. In a very large flood, and if you wanted to capture the peak of a very large flood, you would not want to fill your reservoir before the peak got there.

So we are using a lower volume because we thought that that was a realistic scenario for operations during that period of time, and after that point -- and I will continue to say that this is an incredibly conservative scenario. This involves the probable maximum flood entering our reservoir without any intervention to prevent flow. We will not be -- we are not assuming the gates are closed one bit. Not that they stopped halfway closed, that they never even lowered and that the full uncontrolled piece goes through.

So just to clarify, I mean this is a scenario where we have an extra spillway and designed to pass the 10-to-the-minus-6 event, and we're assuming that there is zero intervention for a period of three days.

So -- but that's the seriousness that we're taking the extreme hazard structure of this facility.

Q. Now, on Monday, you mentioned about the operator being

able to vary in that rate between 480 and 600 cubic metres per second, and we've discussed, you know, that, I think to some degree. And you mentioned, basically, there's ability, then, to essentially capture the peak of the hydrograph? Did I hear you correctly?

A. MR. MENNINGER: I said that is a strategy that could be employed during operations.

Q. And how do you know when the peak of the hydrograph is going to come?

A. MR. MENNINGER: You don't. You don't, Mr. Secord. And Mr. Chairman, you don't know for sure when the peak of the hydrograph is going to come. You will have some information coming from upstream. We will have an understanding of rainfall in the areas and things of that nature. So there is, you know -- I mean there's potential, there is not.

But in a scenario where we do have gauges up stream, likely multiple flow gauges telling us what's coming, there is some scenarios where you could foresee it. But I can't say that you will always know what the peak is.

But that also tells -- that also supplies you with the simplicity of the operations. We have a target to operate between 480 and 600 cubic metres per second, and that is sufficient to mitigate billions of damage

in Calgary for a flood of up to the 2013 flood.

So that's...

Q. Could you please indicate the means and methods for cleaning up the debris deflector and contingencies for debris accumulation during a significant flood event should this occur? And I don't know, Mr. Menninger, whether you were there during Barbara Teghtmeyer's presentation, but she showed a picture of the inside of her house with this huge log in there which she said, once it got in there and the water came in there, she said it was like a washing machine inside her residence.

So I'm just wondering, you know, it looks like the stuff that could be coming at this debris deflector could be, you know, significant in size and the potential to damage.

So if you could maybe speak to that question.

A. **MR. MENNINGER: Sure. I think, to your point and for the benefit of the Board, debris is a significant concern that the design team has had in place and in mind from the outset of this project, starting with the diversion structure. The changes that we made from the concept design that had overhead redial gates in place within the structure and replacing them with crest gates that allow for debris to flow overtop of them is**

a key -- was one of the initial first decision points that we made as part of the project team in order to mitigate for debris.

So the debris -- so those were tested and the reason -- and part of the reason how that was arrived at was that we did test debris within the physical model.

So we actually crafted scaled trees and put them within the model to demonstrate their effect. The trees also had roots. We put real root balls on the ends of the trees to simulate that effect.

So the intent there was to make sure how do these gates operate with debris and can we pass debris overtop of them.

So one of our mitigation strategies is that, is to promote for debris to continue downstream to stay in the Elbow River and pass through our structure, recognizing that during some of these bigger flow events, when we're going to have more flow going -- potentially more flow going to the diversion than going downstream, we weren't going to be able to keep debris out of the reservoir and away from our diversion inlet.

So we proposed this debris deflection barrier. That's now incorporated within the design. That was also tested within in the physical model. So --

But in terms of the design elements of it, that debris deflector has been designed to consider impact loads from very large debris. And beyond -- so the impact is one thing.

So we looked at -- and Matt had a key role in this. We did look at impact loads from trees and from large trees, right? But we also looked at an impact load from a Ford F250 coming down the river and hitting it. So we looked at the velocities going into it and their -- and their contact with those structural members.

Probably the more structural one that we looked at, though, is we considered the effect of like drag force pooling a large mat of debris up against that deflector and designed it accordingly.

It is long; I think it's been mentioned here that it's 170 metres in length. So -- and by contrast the diversion inlet gates are only 40 metres total.

So if you consider that, the -- in terms of blockage, that structure has a ton of flow area.

So getting flow, what we've shown through our hydraulic calculations is that getting flow through that structure will not be an issue during these design events.

And then finally to your point, again, you know,

we designed it to promote where possible debris to stay in the river and continue downstream, but in this scenario, that if -- when debris gets within the structure or wither up against it or within the channel, you know, there is provisions for cleanup. And maybe I can have Matt Wood describe how we would propose to perform some of those activities.

Q. Just before we get to cleanup -- and, Mr. Wood, I definitely want hear from this -- you said you modelled a Ford F150 coming down the river; did you model a house coming down the Elbow River?

A. MR. WOOD: Yes. Thank you, Mr. Chairman and Mr. Secord, that is a good question. It's one that we have actually received as well. I will correct Mr. Menninger. It was an F350, a diesel, a 1-tonne diesel, given that this is Alberta.

But, you know, when you have the house, the house itself -- and I know there's a very famous video from one of the residents in Bragg Creek who lost their house, unfortunately, to the flood, where the house comes down and slams into the bridge at Bragg Creek.

You see it break up, right, and so -- so the impact from that is maybe not the same as a hard, dense, heavy object, and that's where the truck came in.

But, to that point, when things like, say, a house -- you know, we even talked about tarpaulins could have the same effect, right? Like, anything that's a blockage of the structure -- a piece of sheathing from a house, a picnic table, all those things that have blockage faces could accumulate on that; and to Mr. Menninger's point, the structure has been done -- designed with a lot of very -- if you think of the lint screen in your dryer, right, it gets accumulation on it, so you make that screen bigger so that the air, in this case, the water can still move through it.

Q. And, again, before we get to you, Mr. Wood, on the clean-up portion, do I understand it, Mr. Menninger, then, that, in this sort of football field or half football field model that you created, you actually -- did you actually create these -- the deflector barrier and then, you know, trees with root balls on them, and then essentially created a channel which would then had a flow velocity of, let's say, 1600 cubic metres per second, and then -- are you actually testing, you know, building a model to actually see what happens on a small scale? Did I understand that correctly?

A. MR. MENNINGER: Yeah. Yes. We tested it up to

the design flood event with debris, and it was basically a three-dimensional model of the Elbow River. We even embedded sticks into it to represent the forest upstream of the floodplain berm. All those features are incorporated in it.

Q. And to be clear, we're not talking about a computer model, we're talking actually a physical model where you get water, you generate a certain flow velocity, and then you observe what occurs in the model itself. Do I have that right?

A. **MR. MENNINGER: That's correct. And the details of that are in Exhibit 174.**

Q. Right. All right. And so I had asked, then, about the means and methods for cleaning up debris accumulation during a significant flood event should this occur.

So in a scenario where you have -- somebody's, you know, a tarpaulin, you know, covering, you know, a -- you know, a 100 or 200 round bales or, you know, something like that hitting the debris deflector, what are then the contingencies for getting that removed from the deflector?

A. **MR. WOOD: So, Mr. Chairman, if I may, just maybe a correction.**

I'm not too sure if you intended this, Mr. Secord, but the cleanup wouldn't be necessarily during flood

operations. It would be in post-flood operations when it is safe to get in there to remove it.

As Mr. Menninger explained and designed, the debris deflection barrier is intended to accumulate sediment and it's been designed to accumulate debris, and it's able to do that. So you wouldn't go in and actively remove it during a flood.

But after a flood, once those service spillway -- I'll be very quick -- once the service spillway gates drop, that head pond that Mr. Menninger mentioned, would lower and debris removal from the barrier can be done in the dry.

Q. And so I guess the -- I think you've that answered this, Mr. Wood -- or I guess the answer I assume is, the impact to the intake diversion capacity during such debris blockages, would I be fair in sort of inferring, then, that you don't expect there to be an impact on the intake diversion capacity? Maybe that's more for you, Mr. Menninger? But either of you.

A. MR. MENNINGER: Sure. This is John Menninger.

There will be some effect, right, but it will not affect our ability to divert and meet the thresholds for the 2013 flood based upon our simulations, and we looked at a significant debris of blockage.

But like I said, it is four times the width of the

diversion inlet.

Q. Can you please indicate the conditions under which Springbank Road will require closure during the operation of the SR1 reservoir?

A. MR. MENNINGER: So it would be at the point where the water is within a certain distance of the pavement. That elevation, I believe is about -- you know, based on Alberta Transportation engineers' recommendations is, you know, within a metre.

I think there are other safety considerations that probably need to be in place for confirmation on that. And during diversion, I would expect that, you know, we'd have to consider those elements.

So I think some of that's part of the flood action plan that will have to be put in place, but, you know...

A. MR. WOOD: If I may contribute to that, Mr. Chairman, Springbank Road doesn't overtop until a 50-year event. That's been indicated throughout the length of the project.

I believe what Mr. Menninger is referring to is that even though it may overtop at a 50-year event, there would be monitoring of it, and what he's referring to is the substrate underneath. You may not be able to drive heavy loads on it and stuff once

you're at that point just below that pavement.

So it may be just before the reservoir is full with a 50-year event.

Q. And who will be responsible for the closure of Springbank Road under these conditions?

A. MR. MENNINGER: I believe that's -- be still -- that would be determined as part of the operations plan in conjunction with Alberta Environment and Parks and Rocky View County.

Q. Okay. And so in terms of providing resources for the closure of these roads under these conditions, again, that would be something to be determined in the future?

A. MR. MENNINGER: That's correct.

MR. SECORD: Okay. Mr. Chair, I'd like to, if I could turn to Exhibit 339, but if it's okay with you, could we take like just a five-minute stretch break for a minute or two?

THE CHAIR: Well, we could. I mean I'd like to wrap up probably around 5:00 today if we could, but we can go, I mean, a few minutes past is fine.

So if we want to just take five minutes for --

MR. SECORD: Just a couple -- maybe just come back in about three minutes?

THE CHAIR: Three minutes is fine, yeah.

MR. SECORD: Thank you.

THE CHAIR: And we'll close shortly after 5.

(ADJOURNMENT)

THE CHAIR: Okay.

Q. MR. SECORD: If we could go to PDF page 7. And, Mr. Menninger, are you familiar with the Alberta Dam and Canal Safety Directive?

A. MR. MENNINGER: Yes, I am.

Q. And you can confirm this document has an effective date of December 11, 2018, and would apply to SR1?

A. MR. MENNINGER: That's correct.

Q. And if we could turn to that section 2. -- Section 2.1 at the bottom of that page, it says, "Information Required for a New Dam or Canal": (as read)

> "1) When applying for an authorization to construct a new dam or canal, a dam/canal owner must submit to the director, in writing, all of the following information."

Can you advise whether all of the information set out in Section 2.1 has been filed with the NRCB?

A. MR. MENNINGER: Sure. I'd be happy to explain that. So the answer is not everything has been filed with the NRCB or with the Dam Safety Review Board or reviewers at this time.

What the -- in our discussions with the director

of dam safety of Alberta is that this process is, while not laid out explicitly in the directive is a -- what's a term I'm looking for -- it is kind of a stepped or phased process for submission of an application.

And I'll give you a reason why.

If I could reference you to section C -- Section C(vi) on page 9, it also requires a construction completion report. We can't complete construction without authorization, and so you can't submit the full requirements. That's just one example.

So there's multiple expectations here from the reviewers that you first submit your hazard classification and your preliminary design information.

That information is then provided to the agency -- to the department and they review it, and they provide comments and feedback about those elements.

Those components -- and they will advise if they need additional information -- are basically the elements in order to get approval for construction, if you will.

And then the next stage gate that you're at is that, during construction, you would then develop that operation, maintenance and surveillance manual, your emergency management plans, response plans, all these

other elements that we're talking about.

And there's a reason why.

So your operations manual for a dam incorporates all the elements associated that you have to do to operate those mechanical and instrumentation components, where when you do gate procurement and design for a project like this, you don't specify one manufacturer or one supplier. You put it out for bid with requirements for performance specifications. And then the contractor goes and procures something that meets those requirements and then it's reviewed and approved by the government.

So we can't write an operations manual until we know what specific equipment needs to be operated. So that's just one example. But then the construction completion report is another.

So, basically, it's a staged process to get through the dam safety review process with them, and so we are in that process.

They have been provided the hazard classifications and the majority of information that's in those first sections of this element, including site characterization and analysis, and things like that nature.

Q. So in terms of the regulatory process, AT applies to

the NRCB for authorization, then, to build SR1; correct? You're looking for an approval --

A. MR. MENNINGER: I guess -- maybe someone else on the panel would be better to answer questions about authorizations of the NRCB.

Q. Mr. Hebert?

A. MR. HEBERT: Mr. Chairman, Mr. Speller will provide the response on this matter.

A. MR. SPELLER: So, Mr. Chairman, we're applying through this process of the NRCB for permission to proceed with the project.

The authorization to build the project and the acceptance from the dam safety reviewers on the design of the project come through Alberta Environment and Parks and their approvals teams.

Q. So you get, Mr. Speller -- you're hoping to get an approval from the NRCB, and then at some point in the future, then you would also be getting an authorization to construct as well from the director?

A. MR. SPELLER: From the director of -- a director at AEP, yes.

Q. Okay. And then if we look at page 9, for instance, that Mr. Menninger referred to, he refers to, just above that, it says that you're to submit to the director V(E) testing and commissioning.

What is involved in testing and commissioning that the director wants to see?

A. **MR. MENNINGER: Sure. So that would be, as part of the design, we're developing requirements for the performance of a number of mechanical and, like I said, electrical and other instrumentation components, structural components, that will have to be proved out in, you know, prior to acceptance by the government and handover.**

So, in this scenario, if you're talking about a gate system, the commissioning of that gate system would consist of the operation of those gates through the full cycle as an expectation, as part of the commissioning process.

Q. Now, Mr. Menninger, my clients would like the opportunity to review this information as part of the approval process. It looks to me like, obviously, you know, we're not going to have testing and commissioning happening before the NRCB decision, but would AT accept as a condition of an NRCB approval, a requirement that the testing and commissioning details would be shared with the SCLG?

That might be a question for Mr. Hebert perhaps.

A. **MR. MENNINGER: Mr. Chairman, if we could caucus quickly on this if you don't mind.**

THE CHAIR: I'm just looking for my mute button. Yes, please.

Mr. Secord, it's on 5:00, so, you know, is there a logical question or two and then -- for a break, and then we can continue on tomorrow morning.

MR. SECORD: Maybe what we'll do is, we'll from them when we come back, and we can break now and resume at 8:30 tomorrow morning, sir?

THE CHAIR: Yes.

MR. SECORD: Okay. Thank you.

PROCEEDINGS ADJOURNED TO MARCH 26, 2021 AT 8:30 A.M.

Certificate of Transcript

We, the undersigned, hereby certify that the foregoing pages 866 to 1115 are a complete and accurate transcript of the proceedings taken down by us in shorthand and transcribed from our shorthand notes to the best of our skill and ability.

Dated at the City of Calgary, Province of Alberta, on March 25, 2021.

"Lorelee Vespa"

Lorelee Vespa, CSR(A) RPR CRR
Official Court Reporter

"Deanna DiPaolo"

Deanna DiPaolo, CSR(A)
Official Court Reporter

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EXHIBITS

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