NATIONAL ENERGY BOARD
OFFICE NATIONAL DE L'ÉNERGIE

Hearing Order OH-001-2014
Ordonnance d'audience OH-001-2014

Trans Mountain Pipeline ULC
Trans Mountain Expansion Project

Trans Mountain Pipeline ULC
Projet d'agrandissement du réseau de Trans Mountain

VOLUME 30

Hearing held at
L'audience tenue à

Delta Burnaby Hotel and Conference Centre
2nd floor, 4331 Dominion Street
Burnaby, British Columbia

January 23, 2016
Le 23 janvier 2016

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OH-001-2014

IN THE MATTER OF Trans Mountain Pipeline ULC
Application for the Trans Mountain Expansion Project

HEARING LOCATION/LIEU DE L'AUDIENCE

Hearing held in Burnaby, British Columbia, Saturday, January 23, 2016
Audience tenue à Burnaby (Colombie-Britannique), samedi, le 23 janvier 2016

BOARD PANEL/COMITÉ D'AUDIENCE DE L'OFFICE

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Applicant/Demandeur
Trans Mountain Pipeline ULC
- Ms. Terri-Lee Oleniuk
- Ms. Lesley Matthews

Intervenors/Intervenants
Salmon River Enhancement Society
- Ms. Annabel Young
- Dr. Marvin Rosenau

The Graduate Student Society at Simon Fraser University
- Mr. Mark Perry
- Mr. Daniel Oleksiuk

Ken Klakowich
- Mr. Ken Klakowich

Friends of the Earth U.S.
- Mr. Fred Felleman

Georgia Strait Alliance
- Mr. William Andrews
- Dr. Alexandra Woodsworth

Barbara Gard
- Ms. Barbara Gard

National Energy Board/Office national de l'énergie
- Ms. Nicole Godbout
- Mr. Asad Chaudhary

TABLE OF CONTENTS/TABLE DES MATIÈRES

Description	Paragraph No./No. de paragraphe
Opening remarks by the Chairman	14970
Final argument by the Salmon River Enhancement Society	
- Presentation by Ms. Young	14985
- Presentation by Dr. Rosenau	14995
- Questions by the Board	15059
- Presentation by Dr. Rosenau, continued	15079
- Presentation by Ms. Young, continued	15082
- Questions by the Board	15106
Final argument by the Graduate Student Society at Simon Fraser University	
- Presentation by Mr. Perry	15139
- Presentation by Mr. Oleksiuk	15190
- Questions by the Board	15243
Final argument by Mr. Ken Klakowich	15286
Opening remarks by the Chairman	15305
Final argument by Friends of the Earth U.S.	
- Presentation by Mr. Felleman	15329
- Questions by the Board	15442
Final argument by the Georgia Strait Alliance	
- Presentation by Mr. Andrews	15488
- Questions by the Board	15593
Final argument by Ms. Barbara Gard	15621
- Questions by the Board	15735

LIST OF EXHIBITS/LISTE DES PIÈCES

No.	Description	Paragraph No./No. de paragraphe

--- Upon commencing at 9:02 a.m./L'audience débute à 9h02

14970. **THE CHAIRMAN:** And good morning and welcome to this morning's session in Burnaby, which is part of the National Energy Board's hearing regarding Trans Mountain Expansion Project. We will continue to hear intervenors' summary oral arguments.

14971. We acknowledge today being on the traditional lands of the Coast Salish people.

14972. My name is David Hamilton and I am chairing the Panel. And with me to my left is Ms. Alison Scott and to my right Mr. Phil Davis.

14973. To start with, maybe take a brief moment to review some housekeeping items.

14974. In the event that we hear a fire alarm, the procedure will be to exit the hearing room using the entrance that you came in. Once you are outside of the hearing room, there are two evacuation routes. The first is directly to your left when you exit the hearing room doors, and the second is located beside the registration desk where some of you received your lanyard. Uniformed security guards will be at both locations to facilitate your exit. Please follow their instructions.

14975. Once outside the building, proceed to the hotel muster point located on the northwest corner of the Delta Burnaby Hotel and Conference property where Sumner Avenue and Manor Street intersect. At the hotel muster point, please ensure all members of your party are accounted for and await further instruction from the Delta Burnaby representatives.

14976. As indicated in Procedural Direction 20, the Board has set time limits to hear oral summary argument. The time limit for intervenors is 40 minutes each. This time limit will be strictly enforced and they reflect the intervenors have had the opportunity to file written argument-in-chief prior to providing your oral summary argument.

14977. There is a timer that will indicate a green light for the first 35 minutes, switching to yellow for the last 5 minutes of your speaking time. Finally, when your time is up -- excuse me -- a red light will come on. If necessary, the microphones will be switched off, although I will warn you before this happens.

14978. Final argument as a whole is an opportunity to express your views and opinions about the project based on the evidence filed by Trans Mountain and Intervenors on the hearing record. It is also an opportunity to make recommendations to the Board about matters within the List of Issues or any terms and conditions to which the project should be subject if it is approved.

14979. The Board will not give any weight to new evidence introduced during oral summary argument or any submissions made that do not address the List of Issues.

14980. With that, I think we're ready to get underway. And this morning we will be hearing from the Salmon River Enhancement Society, followed by the Graduate Student Society at Simon Fraser University, and then by Mr. Ken Klakowich.

14981. Before we begin, probably for the record and for our presenters this morning, I'll have Trans Mountain introduce themselves, please.

14982. **MS. OLENIUK:** Good morning. My name is Terri-Lee Oleniuk and I'm legal counsel to Trans Mountain. To my left is Lesley Matthews and she's the regulatory lead for the project.

14983. **THE CHAIRMAN:** Thank you.

14984. Again, good morning and welcome on behalf of the Salmon River Enhancement Society. And we have read your submissions and we'd now like -- be pleased to hear your oral summary argument. And as you know, you have the 40 minutes and so please proceed, Ms. Young.

--- FINAL ARGUMENT BY/ARGUMENTATION FINALE PAR THE SALMON RIVER ENHANCEMENT SOCIETY:

14985. **MS. YOUNG:** Panel and guests in this hearing -- actually, I don't think there are any guests here. My name is Annabel Young and I'm a director of the Salmon River Enhancement Society. It's a public volunteer stewardship group that has been in existence for over 20 years and is based in the Township of Langley, British Columbia.

14986. I will be giving the introduction to this oral summary. Our habitat scientist, Dr. Marvin Rosenau, will be providing the technical perspective after my introduction. I will then conclude this presentation.

14987. So this Society has a focus on the local Salmon River in Langley. However, it also has interests in other streams and watercourses in this area, such as Nathan West Creeks, as well as fish habitats throughout British Columbia. Many of these streams will be affected by the Trans Mountain Expansion Project if it is approved.

14988. The Society's main goal is to increase awareness of the importance of the Salmon River and other aquatic ecosystems through public outreach, advocacy and education. As an example, we have a collaborative program called Salmon in the Valley that provides full-day field trips for Grade 4 and 5 students educating them about this watershed.

14989. The Society decided to apply for Intervenor status as we wanted to ensure that if this project did in fact get approved by the National Energy Board, Trans Mountain would be held to the highest possible standards in respect to environmental impacts, mitigation and compensation. This is particularly so for the streams in our area of interest that the project would affect.

14990. So the Society decided we needed to find an expert, one that was a specialist in freshwater, habitat and aquatic issues. We wanted someone to help us with a balanced, systematic and, most importantly, a science-based report to clarify to the National Energy Board, the public and my group about the implications and potential negative environmental impacts of this proposal. We believe that that scientist that we have hired through the National Energy Board provided funding, Dr. Rosenau, met those criteria.

14991. Before we bring Dr. Rosenau to this microphone, I have to say that this has been a particularly frustrating exercise. We, a small society with limited resources, managed to retain a scientist with excellent credentials and who has provided a report that is thorough, rigorous and based on good science. But more importantly, our scientist has identified the real issues here.

14992. But we'd like to know why the Trans Mountain with all its resources at hand has failed to insist that their consultants were held to the same rigour when preparing their assessments and reports. We would have expected less advocacy and more technical evidence on the part of the people hired by Trans

Mountain to write their reports. Also, why indeed this Board did not demand the same. These reports are here to assist the National Energy Board to come to the right decisions. We have a lack of confidence in the project's technical reporting and this is not the way it should be.

14993. Repeatedly we have brought forward legitimate and carefully crafted questions, made scientifically rigorous statements, and tried to honestly and truthfully fulfil our obligations as Canadians and British Columbians concerned about our living environment to try and fill the gaps in the Trans Mountain's reports. At every turn we were stymied, blocked, stonewalled, or ignored. Our science was good. Yet Trans Mountain repeatedly belittled, not only our scientist, but those of other Intervenors and their experts who had made similar efforts to our own.

14994. In the context of what we are about to say, the Society has great concerns about the lack of science supporting Trans Mountain's positions. So please be attentive to what Dr. Rosenau has to say.

14995. **DR. ROSENAU:** Good morning. My name is Marvin Rosenau and I'd like to thank the National Energy Board for allowing me on the behalf of the Salmon River Enhancement Society to present this oral summary argument.

14996. My reporting for the Salmon River Enhancement Society concentrates on the inland environmental impacts of the Trans Mountain Expansion Project proposal and, in my view, the needless destruction of habitats, especially to streams and particularly to riparian areas.

14997. In the timeframe allotted to me, I will focus on a number of subjects relating to the unacceptable consequences that the Trans Mountain Expansion Project will have on aquatic ecosystems in the Langley area, as well as throughout the route in British Columbia.

14998. We are of the opinion that there will be extensive aquatic, riparian and terrestrial impacts that will cause long-term significant effects that cannot be adequately mitigated or compensated for should the Trans Mountain Expansion Project be approved as proposed. Hence, the focus of this argument is that this project should not proceed.

14999. These issues are as follows.

15000. Firstly, there has been a failure of the Trans Mountain Pipeline and its consultants to provide adequate baseline information in order to make decisions about the levels of environmental impacts to streams affected by the project.

15001. Trans Mountain Pipeline and its environmental consultants, in our view, have provided -- have refused to provide or failed to provide meaningful inventories of the habitat quantity and quality along the proposed route, nor any real information about the actual expected effects to streams that will be impacted by the project.

15002. There are about 250 streams of ecological significance in B.C., many that have species of commercial, recreational or Aboriginal significance that will be crossed by the proposed pipeline. Yet after three years, we know very little about the fisheries, capability of the environments that will be affected by the crossings, or how much habitat will be destroyed or altered.

15003. A particular concern to us is their lack of rigorous science and meaningful information with regards to the quality and abundance or riparian habitat. Riparian areas are the critical habitat features along the edges of streams.

15004. Trans Mountain Pipeline has consistently kept everybody in the dark and is attempting to persuade the Board that this is okay and possible to mitigate an unknown quantity of habitat with an unknown effect to another unknown level of mitigation. The term that we describe for this, in my profession, is junk science. You cannot have rigorous protection of habitat if you have an incomplete baseline dataset and incomplete environmental knowledge and, in my opinion, this has happened for this proposal.

15005. Secondly, there has been a complete failure by the proponent to adequately determine the extent of serious harm to fish habitat under the *Canada Fisheries Act* that will result as a function of this project. I'd say that after 35 years in the business, Canada is a country that values its fisheries and its freshwater and marine ecosystems and the protection of our aquatic habitat has long been the backbone of our legislation. Under the *Canada Fisheries Act,* one is not allowed to permanently alter or destroy habitat without the consent of the Minister.

15006. The primary criteria for deciding whether or not damage has occurred to aquatic habitat is a determination if serious harm -- and that's an official term in the fisheries legislation -- will occur as a result of some sort of activity in our

about a stream. Should serious harm be likely to occur to fish habitat, then legislation and policies are triggered in order to provide Canada's freshwater ecosystems with a series of actions that will ameliorate the impacts of a project as much as reasonably and scientifically possible. And if you can't mitigate it, this may occur through compensation and land purchase offsets, again, if mitigation is not possible.

15007. As proposed, it is my opinion that this will not occur with the Trans Mountain Expansion Project because of bad aquatic science and lack of interpretation by the proponent and its consultants.

15008. Just from a legal perspective, serious harm occurs when there is a permanent alteration to fish habitat of a spatial scale duration or intensity that limits or diminishes the ability of fish to use such habitats, or the destruction of fish habitat of a spatial scale duration or intensity that fish can no longer rely on such habitats.

15009. We want to make it perfectly clear to the National Energy Board that there will be widespread significant and permanent alteration and destruction of fish habitat throughout the project to salmon and trout streams as a result of the project and which will not be mitigated by the prescriptions that have been provided by Trans Mountain Pipeline and its consultants. And this will be extensively cumulative to the initial 1953 project.

15010. Our opinion is in direct contrast to the position that Trans Mountain Pipeline's consultants have had. They specifically, repeatedly and unequivocally, have stated that there would be no incidences of serious harm as per the *Canada Fisheries Act* at the approximately 250 stream crossings over 1,000 kilometres over the project in British Columbia.

15011. And I'll quote a response following from a Salmon River Enhancement Society's information request and provided by the proponent. They say:

> *"Overall, with the implementation of recommended mitigation measures and reclamation of riparian and instream habitat to similar preconstruction condition, no serious harm is expected to fish and fish habitat."*

15012. And I simply do not believe that this is possible.

15013. We assert that claims by the proponent over broad geographic areas with such complex and productive habitats and over such a large number of streams is preposterous. That is, we all know that the process of laying down pipeline strips virtually all the vegetation from the landscape in the working zone and the right-of-way, and this alone makes Trans Mountain's position not credible and extremely misleading.

15014. So how can Trans Mountain Pipeline's consultants come up with such an outlandish assertion that there will be no serious harm for the 1,000 kilometres and 250 stream crossings given the lack of information that they have provided in their reports?

15015. The most egregious damage, of course, will occur at stream crossings, and that's to riparian habitats. Riparian habitats are the critical vegetation attributes and they are the interface between the water and the upland terrestrial environments. Indeed, we have projected that roughly two-thirds of a million square metres of riparian habitat will be destroyed as a result of the proposal and Trans Mountain does not quibble with this calculation.

15016. Given the scale of the impacts, the complexity and ages of the vegetation involved -- some of the trees are over 100 years old -- and the damages to riparian habitats, it'll be particularly difficult or impossible to mitigate.

15017. Most troublesome is the fact that Trans Mountain Pipeline's illogical stance that damage will not be significant and serious harm will not occur over the 1,000 kilometres is that the proponent then will not be forced to provide compensation or offsets for the extensive damages that will occur.

15018. I'd like exhibit number C30-21-3 to be loaded, Adobe page 2, and this exhibit number applies for all of the figures that I will show. And this -- or this is a BC Oil and Gas Commission flow chart that basically tells you that if your channel width is greater than 2.5 metres and it's good fish habitat, you should directional drill or bore.

15019. Thirdly, Trans Mountain is refusing to use trenchless technology for stream crossings which would otherwise mitigate a lot of the serious harm that would occur. The key failure of Trans Mountain pipeline is to protect the most important of the stream habitats at these crossings, particularly the riparian areas, and it's the refusal by the proponent to use trenchless technology that is really at

issue here.

15020. This is contrary, again, to the recommendations by the BC Oil and Gas Commission, the Fisheries and Oceans in Canada and others that trenchless technology should be used at these high-value streams.

15021. Please load Figure 4, Adobe page 4.

15022. Trenchless technology involves the use of boring or tunneling or pushing a pipe under the bed of a stream, and it might be a road as well. So these are surface structures that need to be protected. The trenchless technology is meant to start far enough back from the edge of the area you might want to protect, again a road, a house or a stream, and deep enough into the earth without affecting, for example, the bottom, sediments, banks or riparian areas in the case of stream crossings. Trenchless methods are proven, are used worldwide to prevent destruction of human infrastructure, as well as sensitive ecosystems.

15023. So in stark contrast to the recommendations above by the environmental agencies to use trenchless crossings for high-value streams, Trans Mountain Pipeline is proposing the use of trenching methods, and this is almost exclusively for its watercourse crossings. Trenching cuts a channel through the stream, destroying the integrity of the swath of landscape for which it affects. Trenching will significantly destroy or permanently alter in-stream bank structure and riparian habitats at most or all the crossings far longer than the short recovery Trans Mountain is using, five years, for the timeframe that these will recover.

15024. Indeed it's impossible to understand how 50 or 100-year old trees that will be cut down during the construction will magically reappear intact in the riparian and construction zones all within a five-year period. It's our opinion that these -- in these regards, Trans Mountain and its environmental consultants are obfuscating the impacts to habitat productivity and functionality resulting from its plans to use trenchless technology at many of our high-value salmon and trout streams.

15025. Please load Adobe page 3, Figure 2.

15026. Fourthly, the use of Trans Mountain Pipeline of the Anchor Loop is a model for good environmental protection. It clearly demonstrates that the Trans Mountain Expansion Project cannot be trusted to provide environmentally rigorous mitigation or compensation for the damage that will be caused to aquatic

and terrestrial ecosystems. And we can see some of the damage. There's no vegetation on those stream banks in the anchor loop.

15027. Going back to 2008, Trans Mountain Pipeline completed a section of twinned line in the Jasper National Park and Mount Robson Provincial Park areas of Alberta and British Columbia. This portion of the pipeline between Alberta and British Columbia was about 150 kilometres long. And this was -- these are the crown jewels of British Columbia and Canada's national and provincial parks.

15028. And so this twinning of the pipeline crossed numerous watercourses and sensitive ecosystems. In its public meetings, written arguments, and oral arguments Trans Mountain Pipeline has repeatedly touted the anchor loop as a paradigm for environmentally sustainable pipeline construction; however, nothing could be further from the truth. In fact, their position is quite laughable.

15029. Onsite assessments of the project by myself just this last summer made it very clear that Trans Mountain Pipeline was allowed to destroy the landscape through which it passed and this project was anything but sustainable. Of particular concern was the extensive loss of riparian habitats to streams. Considerable amounts of vegetation were destroyed. As you can see, there's no vegetation. Basically those streambanks and riparian areas have been destroyed.

15030. Please load Figure 3, Adobe page 3.

15031. The mitigation of damage to riparian areas for the sites that were assessed was trivial or non-existent. Furthermore -- can you please load Figure 3, Adobe page 3? That's it? Okay.

15032. Furthermore there's no indication that Trans Mountain Pipeline ever properly compensated Canada or British Columbia for damaged riparian or terrestrial areas in these very important provincial and national parks. And it's not clear why such damage by Trans Mountain Pipeline to two of our nation's environmental treasures was allowed to occur.

15033. Maybe to the lay person the neatness of the right-of-way you can see on this particular figure here -- it's just basically low-level grass and maybe some low shrubs. This groomed vegetation on the rock banks of the streams -- the end result looks very good. However, to a trained habitat scientist like myself the landscapes left by Trans Mountain Pipeline in the anchor loop project has the ecological significance of a golf green or a Walmart parking lot.

15034. Please load Figure 6, Adobe page 5.

15035. Fifthly, unmitigated, uncompensated footprint damage in both riparian and terrestrial landscapes is a result of the Trans Mountain project in 1953 is outstanding and a commitment to address this issue needs to occur before Trans Mountain Pipeline is allowed to move forward in the expansion project.

15036. Here we have Juliette Creek, the crossing on the Coquihalla Highway, and you can see there's virtually no vegetation. The banks are rocked and the habitat is very poor.

15037. For the 1953 Trans Mountain Pipeline Project, the Proponent caused a scar across British Columbia that was almost 20 metres wide and around 1,000 kilometres long. Trans Mountain Pipeline has never properly or meaningfully mitigated or compensated Canadians or ecosystems that is profoundly disturbed or damaged over this time.

15038. Over the last 60-some years this long scar has had, in part, seen some natural environmental healing but now Trans Mountain Pipeline wants to pick the scab off of the partially mended injury and make the wound even greater and without any meaningful mitigation or compensation for the ecological damage for either the 1953 construction or the new proposed project.

15039. During the original construction large scale damage occurred to the terrestrial and aquatic environments that are still extant. And while we recognize that the environmental expectations of the mid-20th century were not what they are nowadays we have now moved into a new millennium and expect better protection of our ecosystems.

15040. We contend that while there have been large scale economic benefits that have accrued to individuals, especially the Proponent, as a result of the 1953 project -- and we're just surmising that -- the environment has suffered needlessly as a consequence and it requires redress.

15041. Recognizing that the rules and expectations were different in 1953, we remain of the opinion that social licence to expand can only be achieved when corporations move to reconcile outstanding historical grievances.

15042. Trans Mountain Pipeline has consistently maintained they are not

obligated under legislation to deal with the historical damage. Nevertheless, due to the proximity of both pipes and that the new project proposal is intimately intertwined with the 1953 project, the habitat require -- the habitat recoveries in the right-of-way that have occurred -- there's been habitat recovery since 1953 -- will now again be destroyed. Trans Mountain Pipeline has been obstinate about its willingness to see this point.

15043. Please load Figure 6, Adobe page 5.

15044. Finally, there is a need to redress lost ecosystem attributes due to footprint and un-mitigatable effects through compensation.

15045. The footprint impact by Trans Mountain Expansion Project, including the anchor loop, was calculated to be about 50 million square metres, including both aquatic and terrestrial ecosystems. This is between Alberta and British Columbia. Trans Mountain Pipeline has not quibbled with this number.

15046. This is a massive amount of pipeline -- or landscape for which Western Canadians have never received any meaningful redress for these historical grievances or will under the current proposal given to the National Energy Board.

15047. And I've worked in a lot of these types of projects over my career but no other industry in Canada can get away with what Trans Mountain Pipeline is trying to do -- not forestry, not development, not the hydroelectric industry, not mining, not agriculture. But the petroleum industry seems to feel that it is exempt from good environmental management and protection.

15048. This damage that historically occurred to some of our most sensitive and delicate and productive habitats in 1953 was substantial, and these effects continue to date from this earlier project and will be even more so via the Trans Mountain Expansion Project should it be approved as proposed.

15049. Of particular note -- and again I go back to riparian areas. And this is one of the streams, I think Meadow Creek in Jasper National Park. The stream is right here. This is the so-called riparian mitigation. Those little willows are about two feet high after eight years.

15050. Of particular note, the impact to riparian areas as a result of this project will be approximately 675,000 square metres, three quarters of a -- two

thirds of a million square metres, less the handful of streams where trenchless is actually being proposed.

15051. Riparian areas are some of the most critical habitats on our landscape, being the linkage between the aquatic and upland ecosystems. Trans Mountain Pipeline cannot be trusted to reasonably protect riparian habitats. And again, this has clearly been shown by their behaviour on the anchor loop. This is their idea of riparian mitigation.

15052. In large part, the clearing of the landscape, both in the right-of-the-way and construction zone, results in the complete loss of vegetation. And the experience from the anchor loop shows that very little in the way of natural planting is allowed to happen once the project is finished, particularly the riparian areas.

15053. It's not clear if this large level removal of vegetation in the right-of-way is required for system operations -- that may be so -- but -- or whether or not there's a better way to mitigate these losses. We're not aware of any large scale meaningful compensation that was ever received from Trans Mountain Pipeline for the losses of vegetation associated with either the historical 1953 project or the anchor loop and they're not -- does not seem to be any.

15054. Figure 5 please, Adobe page 4.

15055. There is no indication that for the Trans Mountain Expansion Project the Proponent is willing to compensate for cleared riparian and terrestrial habitats that will be lost. As, for example, in the Langley area we have large old 50-plus and 100-plus year old trees that will be cut down should Trans Mountain Expansion Project move forward as proposed. And we're not aware of any compensation offsets.

15056. And these are some of the right-of-way and construction zones at West Creek and Nathan Creek and Trans Mountain has refused to do trenchless crossings. We find this to be highly disagreeable and because this landscape will not be adequately mitigated under the existing Trans Mountain Expansion Project proposal Canadians, British Columbians and future generations will be out of pocket for these ecosystem losses.

15057. We deserve fair and adequate compensation for the damage caused by this project and the only way that we can see for this type of infrastructure change

is through environmental offsets to be at purchased properties. And there's various formulas in British Columbia, Canada, around the world that can be applied to offsets, and we won't go into it here.

15058. So as the ---

15059. **THE CHAIRMAN:** Dr. Rosenau, if you would indulge, and it won't count for your time, if we could ask questions as you go along, would that be appropriate? It won't count to your time.

15060. **DR. ROSENAU:** Whatever your -- to your pleasure.

15061. **THE CHAIRMAN:** You would be happy.

15062. Just on this -- on the question of compensation, and you indicated there are schemes within Canada. You give examples of B.C. Hydro has used for the Bridge Coastal, Columbia Basin and the Peace volumes compensation funding to address these things.

15063. **DR. ROSENAU:** Yes.

15064. **THE CHAIRMAN:** Is that -- was that a decision of the regulatory body that did -- required that? Was it something that was negotiated with the -- this -- the company or whoever was -- doing their development? How is that framed that would be an example that possibly could be recommended to be used in this case?

15065. **DR. ROSENAU:** That's an interesting one because I had been involved in some of the negotiations with B.C. Hydro.

15066. Some of the things like Bridge Coastal compensation program was post-facto. It occurred -- you know, and some of the projects in British Columbia, such as Coquitlam, Buntzen, Stave, happened 100 years ago. So those were only negotiated over the last 20 years. My understanding is the Peace-Williston compensation programs and the -- and the Columbia Basin compensation programs were negotiated at least as some of these projects were being built.

15067. So it's kind of a hodge-podge in that regard. Some of it would have been sort of regulatory and part of the authorization process and some of it would have been through historical redress.

15068. **THE CHAIRMAN:** And would some of that possibly have been something that would have gone and been considered in the regulatory process in -- when the company applied?

15069. As you say it was a mix match, because it was early on. So it could be a combination of things, am I hearing you say?

15070. **DR. ROSENAU:** That -- that is -- sorry, that is correct. For example, the Stave Falls redevelopment, which happened about 15 years ago, I was part of the negotiations for that and so this was pre BCEAA, so *British Columbia Environmental Assessment Act*.

15071. The authorization to be able to proceed with Stave Falls generating station power upgrade was a result of the agency's negotiating mitigation programs or compensation programs, at that particular project.

15072. But again, there are these -- there are these large overarching programs in British Columbia such as Columbia Basin and so those would have been negotiated either during the time of the development and then some of it after.

15073. **THE CHAIRMAN:** And I know your comments on the condition and what could be compensated from, you know, the nineteen -- the existing line and that's probably outside our -- the consideration that we have here. But would you see -- what would your recommendation be if we were to consider to recommend the approval, which I know is not your -- is not your position. I understand that.

15074. Is it something we could do for the expansion if it was approved? Is there a scheme or a compensation? Something that you would recommend?

15075. **DR. ROSENAU:** Well, there's economies of scale. If you've got a pipeline, and you're going to cut a trench through you're basically going to destroy all the little bits of riparian vegetation that have grown up in the last 60 years. And you're also going to basically take the stream and disrupt it, but you're going to have to fix it. So the argument that's being made by Trans Mountain and its consultants is that we'll fix it.

15076. And I don't kind of quibble with that. I just think from the -- from the anchor loop perspective, it wasn't done properly.

15077. So I don't see how it would be a problem to meld the two, the cost -- incremental cost, the economies of scale, to wrap the old project into the new project doesn't seem to me as a habitat practitioner and ecosystem restoration individual, the economies of scale would not be economically egregious if somehow the two -- the historic and the new were wrapped together.

15078. **THE CHAIRMAN:** I appreciate your responses, so we can continue with your thing.

15079. **DR. ROSENAU:** Thank you. So -- and I'll just start up here. We deserve fair and adequate compensation for the damage caused by this project. The only way that we can see is that we're going to get environmental offsets. We have purchased properties and there's the various formulas.

15080. So amazingly the proponent is attempting to push the scheme through using the lowest common environmental denominators, yet expects the Canadian public to embrace this as a good project. And it's really tough for a lot of people. I can tell you that.

15081. As a result the Salmon River Enhancement Society asks the National Energy Board to reserve its recommendation of this project until due environmental diligence is achieved.

15082. **MS. YOUNG:** So in the conclusion, as a part of the conclusion and following from Dr. Rosenau's comments, the Salmon River Enhancement Society would like to make a number of statements to this Board in the form of questions.

15083. One, why was the project allowed to proceed this far without providing a good baseline of environmental information? If you do not know what the baseline data are, how can one -- know what the expected effects will be?

15084. Trans Mountain, as Dr. Rosenau said, has consistently kept everyone in the dark and is attempting again to persuade this Board that it is okay and possible to mitigate an unknown quantity of habitat with an unknown effect and to land it with another unknowable level of mitigation.

15085. Number two, do you as the National Energy Panel, really believe that it is possible that there would not be a single case of serious harm to fish over a

distance of over 1,000 kilometres and 250 streams?

15086. Again, this is very misleading by the Trans Mountain and quite frankly a ludicrous position, when they have not provided information on which to base this claim. In public meetings the Trans Mountain consultants admitted that the work provided to the National Energy Board, the agencies and the public was largely a desk exercise and that a lot more needed to be done.

15087. Number three, when trenches crossing technology is a proven method of protecting streams in the riparian areas and is supported by the Canadian Fisheries and Oceans and the B.C. Oil and Gas Commission, how can this Board allow a proposal to go forward when the Proponent wants to use these highly damaging trenching methods to cross streams?

15088. Number four; why was the anchor loop ecosystems allowed to be so devastated by Trans Mountain; and is the National Energy Board going to allow the Proponent to use this paradigm for how -- this project, the expansion project, will be undertaken?

15089. Could you load Adobe page 7, please?

15090. As a note, the industry under the guise of Albert's -- Alberta's Emerald Foundation, awarded Trans Mountain its emerald award for undertaking what was supposedly a sustainable project in these protected ecosystems.

15091. With only a modicum of research, it turns out that this Emerald Foundation is largely comprised of energy industry insiders. So that's the conferring of the emerald award to Trans Mountain can only be viewed as cynical and disingenuous self-congratulation and insider back-slapping. For a project that obliterated some of this country's environment jewels, this is a little bit like the Academy Awards, the petroleum patting itself on the back with -- like the Oscars of the north.

15092. Number five; how can the National Energy Board even contemplate approving a new expansion when there's such un-remediated damage still extant from the 1953 project?

15093. Trans Mountain will cause significant cumulative effects on the existing damage that resulted from the 1953 construction. Only through reconciliation of its historic impacts can the Trans Mountain obtain social licence

to undertake this new project.

15094. Number six; there's little if any evidence that there will be meaningful offsets for the extensive non-mitigatable damage that this project will cause. Confirmation of this can be seen in the abysmal outcome that occurred in Anchor Loop. Simply because the project is long and narrow, doesn't hide the fact that the partial twinning of the pipeline can result in massive damage, including the permanent destruction of riparian areas.

15095. How can the Trans Mountain expect the National Energy Board to obtain support if there's little evidence that there will in fact be any meaningful offsets?

15096. In summary, this Intervenor process has been particularly disturbing. Especially unsettling is the failure of the National Energy Board to compel the Proponent and its environmental consultants to answer questions adequately.

15097. As an example, of our 113 requests for information, Trans Mountain Pipeline and its consultants only answered 25; 22 percent of the total. And many of these questions were answered with the words "see above".

15098. It is unclear to us why the National Energy Board refused to compel them to do so. Canadians also need an explanation as to why this Board did not force the Proponent to answer these reasonable, well thought out questions from not only us but other intervenors that would have added -- and the answers of which would have added rigour and honesty to the decision making process.

15099. Even more problematic, the environmental work done by the Trans Mountain consultants resulted in advocacy as opposed to presenting rigorous and objective science. It is good science as opposed to advocacy that this Board needs in order to assist itself in making the right decisions for Canada. We feel that it should be up to the Trans Mountain to provide information to this Board.

15100. If the Trans Mountain Pipeline wants to put in this pipeline, the onus should be on them to supply this Board with objective, science based, unbiased information in order for this Board to reach a balanced and knowledgeable decision as to whether to recommend this project proceeds or not.

15101. Unfortunately, this job of supplying the Board with scientifically defensible and sound reports have fallen squarely on the shoulders of the

intervenors, many of whom are individuals, charities, small groups, and First Nations. The whole process has become skewered, so now it's the intervenors that have been forced to come up with the very information that the Proponent should be supplying. We feel that this Board has failed in its duty to the Canadian public in not identifying this problem of advocacy versus objectivity by the Proponent for this project.

15102. In the context of the Trans Mountain Expansion Project and the environmental impacts associated with this project, British Columbians and Canadians deserve better and further, they deserve a National Energy Board system that works better. So we, the Salmon River Enhancement Society recommend that this project does not proceed as proposed.

15103. Thank you.

15104. **THE CHAIRMAN:** Thank you, Ms. Young and Dr. Rosenau, if you'd just give us a few moments.

15105. If you could allow us a 10 minutes short recess to consider some possible questions to you. Thank you.

--- Upon recessing at 9:43 a.m./L'audience est suspendue à 9h43
--- Upon resuming at 9:56 a.m./L'audience est reprise à 9h56

15106. **THE CHAIRMAN:** I appreciate your indulgence as the Board considered and have a couple of questions. First my colleague, Mr. Davies.

15107. **MEMBER DAVIES:** Good morning and thank you very much for your helpful presentation this morning. There are a lot of uncertainties, as we all know, when it comes to this sort of development. I think one of the thinks that bears pointing out is that irrespective of whether this Panel elects to recommend or not the GIC approval of this application, we must put forward the conditions that would apply should GIC elect to direct a CPCNB issue.

15108. So Cabinet gets the final word and irrespective of what our recommendation is, we must put forward conditions that would apply should the project be approved. Hence, draft conditions have been floated. They're not exhaustive of everything that we might consider, but I noted this morning many of the comments that you raised are issues that the draft conditions attempt to deal with.

15109. I'll offer a couple examples if I may, and then ask for your thoughts as to why that wasn't part of what we heard this morning.

15110. Section -- or Condition -- I'm sorry -- 51, deals specifically with old growth management areas, mitigation, and replacement planning questions, such as the identification and quantification of old growth management areas, the mitigation to be implemented if any, the potential offsets, et cetera. That's Condition 51.

15111. And then another example goes to the question of riparian areas, section 67 for instance -- Condition 67, excuse me -- for instance, deals with hydrology, notable water crossings, the quantification, et cetera, that you -- were mentioned. And then finally section 70 deals with horizontal drilling -- Condition 70 -- I seem to have the wrong word stuck in my head. Condition 70 deals with directional drilling.

15112. In summary, there are a number of examples of conditions which would address some of the issues that you're raised. Do you care, in question, to deal with any of those types of conditions? Because this would be a good opportunity for you to do so.

15113. **DR. ROSENAU:** Thank you very much, Mr. Davies.

15114. I think we tried in our written summary, or written chief evidence to piggyback on some of the recommendations that were made by the Grassland folks. I guess what I felt was that a lot of the riparian stuff was found wanting, and that again goes back to the Anchor Loop. Some of the comments in response to questions from the Adams Lake Indian Band is an example. We've gone out to Anchor Loop, we've checked it out. Pretty well everything is okay. A riparian habitat is pretty well intact and so we don't have to worry about it anymore.

15115. And you know, it didn't take me much of a timeframe to go out there. It was convenient because I was going out last June to my brother's son's wedding in Edmonton. So I made a concerted effort to stop at a whole variety of different crossings and the riparian areas simply have not recovered. In some of the photos that I showed you the riparian vegetation is missing.

15116. So there's something hugely lacking and I guess, you know, to try and tell the Board it would take probably a team of individuals to put all of the details

down. But what we tried to do is piggyback on the Grasslands' direction, and so we thought, or at least I thought, that the Grasslands folks had done a really good job of who you engage in dealing with this, setting up management plans, how long the mitigation should be covered off, how compensation should be developed.

15117. And so what I tried to do is just basically almost plagiarize what the Grasslands folks did and put in into a riparian thing. And again, riparian from my opinion is very, very important and so that kind of direction, I think, is something that we'd like to see.

15118. The directional drilling or trenchless drilling is -- trenchless, I think, is more accurate. I think that's really an important issue and I think that some level of stronger direction may be really effective. When we talk to the consultants, when we look at the documents, directional drilling or trenchless drilling, is almost non-existent.

15119. There's, you know, just a handful of streams, the bigger rivers like the Fraser River or the Thompson, but all these really high value habitats like West Creek and Nathan Creek in the Langley area, they've basically said, hey guys, you know, those trees are going to grow back; we don't have to worry about that riparian area.

15120. In regards to old growth forest what I would suggest is that scattered in second growth areas like from Hope to Vancouver -- like a lot of that vegetation within riparian areas and in the terrestrial right of way areas and construction areas have, you know, a tree here or a tree there.

15121. There's a lot of little patches of what I would consider old growth that were probably young trees that were left back in 1925 or 1918, whenever it was logged. And so those are still high valuable -- highly valuable ecosystem attributes and it's nice to talk about old growth, but nobody's going to say, well okay, that, you know, 14 foot circumference tree that we've measured in some of those locations, you know, has any old growth value.

15122. So I think some of these things are falling through the cracks and maybe Annabel wants to add to that? No. Okay, fine.

15123. **MEMBER DAVIES:** Thank you very much. That's all I had.

15124. **THE CHAIRMAN:** Thank you.

15125. Ms. Scott?

15126. **MEMBER SCOTT:** Mr. Rosenau, you described your interest in seeing the Board address problems that were created by the 1953 project and I have no doubt that we have authority under our legislation to address remediation offsets with respect to the application that's in front of us. I have less confidence about our ability to order remediation and offsets with respect to the 1953 project, and that's from a legislative statutory perspective.

15127. And at the same time, I heard you talk about what was necessary for Trans Mountain to achieve social licence for the project. And you suggested that these steps were necessary in order for Trans Mountain to receive social licence.

15128. And I was wondering if you could relate the concept of social licence to our legislation or perhaps that's something your colleague wishes to address as opposed to you. You were the one that raised it, so I was interested in pursuing it with you.

15129. **DR. ROSENAU:** Okay. So I'm not a legislative authority or lawyer, but you know, I've seen how linkages within large projects, both historically and new components to projects, are being addressed.

15130. So example, I noted that the Stave Falls development, which was authorized under a disposition order -- so that was just before BCEAA came into effect, and so this was basically a new project. Yes, it was a redressing of an old infrastructure but it was -- you know, it could have gone a number of different ways. They could have decommissioned it. And so a lot of the historic impacts were being addressed through the authorization under the pre-BCEAA disposition order legislation.

15131. So we're fertilizing Alouette Reservoir, which is adjacent to part of the watershed, but it really is not tied exactly to that particular project. And Alouette Reservoir was something that basically was damaged back in 1925.

15132. And so, you know, I guess from my experience is, you know, ministers essentially at the end of the day or whoever is giving the authorization, they're like God. They can pretty well say whatever they want.

15133. Now, yes, there is legislation that, you know, has boundaries, but I'm not sure that you can't horse trade the historic impacts into the new impacts, particularly when they're so intimately intertwined.

15134. You know, a little willow branch that's growing on the edge of Nathan Creek that sprouted up over the last 15-20 years, sprouted up subsequent to the 1953 project, is now going to get obliterated if they use trenchless crossing -- if they don't use trenchless crossing. And so I don't see how you couldn't find a way -- you couldn't horse trade a way to fix these outstanding issues, maybe not the whole thing, but as part of the conditions moving forward and authorization of this project.

15135. **MEMBER SCOTT:** Thank you.

15136. **THE CHAIRMAN:** With that, the Board would like to thank Ms. Young and Dr. Rosenau for your presentation today and your oral summary argument and answering our questions on behalf of the Salmon River Enhancement Society. So we will be considering your submissions as we will consider everyone's submissions as we consider making our recommendation on this matter. So with that we thank you.

15137. We'll take a very short five-minute break and then we'll hear from the Graduate Student Society at Simon Fraser University. Thank you.

--- Upon recessing at 10:07 a.m./L'audience est suspendue à 10h07
--- Upon resuming at 10:14 a.m./L'audience est reprise à 10h14

15138. **THE CHAIRMAN:** Good morning and welcome, representatives of the Graduate Student Society at Simon Fraser University. And we're looking forward to hearing your oral summary argument. So please proceed.

--- FINAL ARGUMENT BY/ARGUMENTATION FINALE PAR THE GRADUATE STUDENT SOCIETY AT SIMON FRASER UNIVERSITY:

15139. **MR. PERRY:** Thank you for hearing us today, Mr. Hamilton, Mr. Davies and Ms. Scott. Thanks as well to the many members of the public outside who have not been allowed to access this public hearing.

15140. I'm going to begin by discussing the threat this project poses to the

global climate, as well as SFU's brand. Next, Danny will speak about the atrocious shortcomings of the process itself, as well as its significant safety risks.

15141. I grew up on Coquitlam and my parents' house sits on a hill overlooking Burrard Inlet. I've canoed in the Inlet countless times and once was followed by a harbour seal that bobbed alongside out boat only disappearing after an hour of watching us.

15142. My partner and I's first date was by the Inlet. After a meal on Commercial Drive, we walked along Wall Street, which follows the water beside the port, and from there we headed through New Brighton Park and followed the Trans Canada Trail underneath Iron Worker's Memorial Bridge. I think it was a longer walk than either of us expected. The Inlet is central to so many lives that surround it.

15143. While I'd followed the Trans Mountain Project with concern, its unacceptable dangers, as well as the manner in which it was being forced upon local communities, the project directly entered my life during the fall of 2014. That fall, I had begun my first semester of graduate school just as protest were beginning to develop on Burnaby Mountain in opposition to the pipeline expansion.

15144. Local environmentalists and First Nations groups were coming together in solidarity to oppose the project. And I wanted to participate, but a hectic first semester meant I only made it down to the demonstrations a handful of times.

15145. That semester, I was taking a graduate seminar with SFU professor of English and local poet Steve Collis, who himself was very active in the protest movement. I'll never forget one night when I had a meeting with Steve about a project I was working on.

15146. When I walked into his office, there was a 1,000-page stack of legal papers on his desk. He laughed nervously and told me that he was being sued by Kinder Morgan. I didn't know how to respond and laughed awkwardly with him. Steve has a family with young children. And I can only imagine what it feels like to be sued for millions of dollars by a massive company.

15147. That incident illustrated for me the injustice of how this project was being forced upon a community that doesn't want it. Big oil uses its money to

bully the opposition and extract private profit at the expense of local communities and the global climate. Even a tenured professor wasn't secure.

15148. I found out that SFU's Graduate Student Society opposed the pipeline expansion and it had obtained intervenor status. As I adjusted to life as a graduate student, I wanted to do more to resist Trans Mountain, the latest local tentacle of a fossil fuel leviathan that scientists agree is destroying our planet. So I ran for the director of external relations' position and that's why I'm standing in front of you today.

15149. The Graduate Student Society along with the Simon Fraser Student Society, which represents undergraduate students, have a combined membership of approximately 35,000 members. We are the main bulk of people that live, work and study on the Burnaby Mountain and will therefore be directly affected by this project.

15150. The political leadership that represents these 35,000 students has resoundingly rejected the proposed expansion, submitting a written argument that draws attention to massive flaws in the NEB's procedure, the threat of global climate change, safety risks, and the reputational damage to SFU.

15151. Our opposition is accompanied by the voices of countless local groups, individuals and First Nations. In fact, the Tsleil-Waututh held a ceremony for intervenors on Monday and it was inspiring to hear their Elders' stories about growing up beside the Inlet, as well as to see their bravery in opposing this project.

15152. Two weeks ago, we found out that even the Government of British Columbia, a government that is certainly not an enemy of fossil fuel interests, has decided they are opposed to the project. When even the B.C. Liberals say they don't want this pipeline, it's pretty clear that the only people who do are Kinder Morgan's executives.

15153. The Student Society solicited feedback from members by distributing a survey to SFU students last spring. Of the students that responded to that survey, slightly more than 94 percent were opposed to the pipeline, and this overwhelming opposition is consistent with feedback that I have personally received from our members. Throughout this presentation, I will be referring to comments from our members and all of them derived from this survey.

15154. Despite the popular opposition to the Trans Mountain project, the power of Kinder Morgan's vast wealth means that they have been able to silence dissenters. But I want to give our members a chance to be heard.

15155. Ultimately, the approval of this project is a political decision. Whatever the Board recommends, the power to actually approve the project is in the hands of Parliament. Therefore, I want to address this message to the Government of Canada.

15156. On behalf of Simon Fraser's Graduate Student Society, we ask that you either decline to approve this project or initiate a new review process that includes the consideration of upstream and downstream greenhouse gas emissions.

15157. First of all, the Graduate Student Society is opposed to this project because the Board declined to hear evidence on a directly relevant issue of the greatest public importance, global climate change. If the Board were to consider this issue and give it its due weight, it could not possibly find that this project is in the public interest.

15158. At this point, I should not need to reiterate that every major scientific association in a field related to climate change has made a statement on the reality of human-caused global warming. We all know that one of the biggest contributors to greenhouse gas emissions is the fossil fuel industry.

15159. While the horrific consequences of global warming may not be experienced by members of the NEB, our membership, due to their youth, may live to experience them.

15160. So when the Board says that it will consider the public interest but won't talk about climate change, which public are we talking about? For future generations and the young, global warming is absolutely a matter of public interest. Those who support the further development of this industry are on the wrong side of history.

15161. One of our members who is pursuing a Master's degree in public policy made the excellent point that if we achieve the kind of political action necessary to prevent climate change, then the project will be irrelevant. She wrote:

> *"I am very opposed to this project. As a country we need to transition to renewable energies as quickly as possible in order to avoid the worse global effects of climate change. The oil industry therefore necessarily can no longer exist in anything close to its current form. Building new infrastructures to support the oil industry makes no economic sense, since within a few short years it will need to no longer to be used if we wish to have any hope left for the planet. Instead of building new expensive infrastructure that disrupts communities, puts people and the environment at risk and needs to be obsolete in a few years anyway, we should invest in renewable energies."*

15162. As stated by our member, if we don't achieve the necessary political cooperation that would make the pipeline obsolete, the alternative is potentially much worse. This infrastructure will be one part of a massive fossil fuel edifice that is raising global temperatures and endangering humanity.

15163. In this regard, the Graduate Student Society welcomes the evidence of Dr. Mark Jaccard, which was submitted to the City of Vancouver. He offers compelling evidence that should governments make serious efforts to mitigate climate change, the oil supply on which the project depends will simply not be developed. Dr. Jaccard writes that, and I'm quoting:

> *"The demand for the Trans Mountain Expansion Project depends on a global climate policy failure"*

15164. Recommending the approval of this project would be a bet the governments will be unwilling or unable to act on climate change.

15165. Ethical considerations aside, it remains to be seen whether the political will to limit global climate change emissions can be gathered. It is still likely, though, that at some point during the lifetime of the project, strict carbon limits will be put in place. If this happens, the highest cost sources of carbon, among them the oil sands, will be the first projects to be shut down. In this plausible and, in fact, hopeful scenario, the project will become useless. Dr. Jaccard writes that, quoting again:

> *"If, however, global climate change policy succeeds in preventing a greater than 2 degree Celsius rise in temperatures by 2100, then there will be no demand for the Trans Mountain*

Expansion Project."

15166. In addition to this risk that this project will become a stranded asset, there is the even greater risk that the project will actually be built and utilized for many decades, contributing to carbon dioxide pollution with, and quoting Dr. Jaccard again, "*severe economic, ecological and social impacts to coastal cities such as Vancouver.*"

15167. We would welcome future opportunity to make submissions on the upstream mining and downstream climate effects of the project to the Board should the opportunity to do so arise.

15168. In fact, after the recent victory of the federal Liberal Party, we believed we would have such an opportunity. The Liberals promised in their election platform that they would, and I'm quoting directly from their platform:

> *"…ensure that environmental assessments, including an analysis of upstream impacts and greenhouse gas emissions resulting from projects under review."*

15169. And yet we're still waiting for the changes that they promised during their campaign.

15170. The approval of this project is ultimately in the hands of the Liberal Party of Canada and therefore we hope that they remember this promise. We certainly remember it.

15171. The review process began under a government that privileged the oil industry above every other possible concern. This is an opportunity for the new government to demonstrate that they take the threat of climate change seriously.

15172. In regards to environmental review processes, Justin Trudeau has said that governments might grant permits, but only communities can grant permission. Our community has resoundingly rejected this pipeline in large part due to the existential threat posed by climate change.

15173. I'm going to read a few more comments from our members that illustrate this. A graduate student in communications wrote:

"This pipeline is detrimental to the wellbeing of our

> *community, our school, our health and our economy. I don't believe the public should have to assume the long-term and deadly risks associated with the economic gain of a private foreign-owned corporation."*

15174. A graduate student studying French wrote:

> *"I'm absolutely and unequivoquely opposed to Kinder Morgan's proposed pipeline expansion project, just as I am opposed to any expansion of pipelines across the country. Extracting and shipping more and more oil from Alberta Oil Sands is irresponsible, shortsighted and harmful to our environment and our future as Canadians. The vast majority of scientists around the world are in agreement that in order to slow down climate change we need to leave most of the existing oil reserves in the ground."*

15175. Finally, a graduate student in psychology wrote the following:

> *"The Trans Mountain Pipeline expansion is a foolhardy and irresponsible proposal which must not be approved. My generation and my children's generation will surely see the devastating impacts of global climate change in our world. By directly contributing to the expansion of fossil fuel producing industries, this pipeline runs counter to any reasonable effort to diminish these horrific and inevitable climate change impacts. The global impacts of climate change include rising sea levels, ocean acidification, increased desertification, more extreme weather patterns and species extinction, all of which will disproportionately impact developing nations in the global self. This is textbook environmental injustice as the countries least responsible for climate change will be most impacted by it. Thus, in solidarity with future generations and with countries far away from me, I cannot support this pipeline."*

15176. Beyond these real long-term consequences, our members are concerned that the reputation of their university will be tarnished by the construction of nearby fossil fuel infrastructure. In its evidence, the City of Vancouver included a report estimating that the City's brand value would be reduced by U.S. $1 billion in the event of a small oil spill and U.S. $3 billion in

the event of a large oil spill.

15177. We believe that the impacts of a similar brand evaluation ought to be considered in regards to Simon Fraser University. However, this brand evaluation could occur simply due to proximity to fossil fuel infrastructure.

15178. SFU attracts significant numbers of international students to British Columbia. It also sends significant numbers of graduates, both foreign and Canadian, to work across the world. These students are invested in the reputation of their university and have personal and pecuniary interests in seeing the reputation preserved.

15179. Our members' comments clearly indicate that proximity to fossil fuel infrastructure would impact their decision to come to SFU. For example, one member wrote:

> *"I'm an international student. One of the reasons I chose to do my Ph.D. at SFU and to live on campus was because of the natural beauty of the Burnaby Campus and the nearby parks. If I'd known there was an oil company right next to my campus, I would have avoided SFU. Half of my country, Bangladesh, will be submerged due to sea levels rising. I am not a supporter of fossil fuel because it destroys the environment and contributes to global warming. Please stop the expansion of the pipeline route and explore alternatives."*

15180. Another member wrote simply:

> *"I would be less likely to want to go to Simon Fraser University and would consider the proximity of the pipeline when deciding if I was going to SFU or somewhere else."*

15181. Vancouver's model of brand damage from an oil spill, while useful, may therefore be too limited. Our evidence shows that students see the brand of SFU being damaged by the construction of the project. Above and beyond any potential spills or disasters, the same is likely true for Vancouver, with a brand that has been valued at $31 billion U.S. and for Burnaby, British Columbia, SFU, and multiple other institutions, municipalities and businesses that trade in part on the goodwill that our region has as an environmental leader.

15182. Vancouver's estimates of damage to its brand value are an excellent contribution to this process. We suggest that they may be too narrow and that their focus on disasters does not account for any damage to local reputations from the construction of a major new piece of fossil fuel infrastructure. They may also be too conservative, as the apparent hypocrisy of striving for sustainability while building fossil fuel infrastructure will damage institutions' reputations in addition to any damage done by potential spills.

15183. Therefore, we ask that the Board include an estimate of the total brand damage to relevant institutions from both the construction and disaster risk of the project and, at the least, include Vancouver and SFU as part of its report. This is one of the potential commercial impacts of the proposed project and deserves consideration as such.

15184. Building this pipeline through SFU's campus would harm the reputation of SFU. This harm must be considered as part of any accurate assessment of the real costs and benefits of the project.

15185. I will end by reading a final comment from one of our members, an educational psychology graduate student who was explicit that there will be reputational risks to SFU from this pipeline's construction, in part, due to safety concerns.

> *"I believe that oil spills are an inevitable part of the industry. The latest Marathassa oil spill demonstrates this."*

15186. This was the tanker that leaked oil into English Bay last April.

> *"I believe investing in new and cleaner technologies is a better long-term policy. Therefore, I am opposed to the Kinder Morgan expansion."*
>
> *"I do not want a pipeline in a heavily populated environmentally sensitive (earthquake-prone) area. I would be less likely to want to go to Simon Fraser University, and I would consider the proximity of the pipeline when deciding if I was going to attend SFU or somewhere else..."*

15187. She continues:

"...I'm sure international students - who generate large amounts of revenue for the university in Canada - would consider this as well."

15188. To conclude, we ask that you not recommend the approval of this project due to the incredible risks it poses to the global climate as well as the reputational damage to SFU and therefore our members.

15189. Thank you.

15190. **MR. OLEKSIUK:** Thank you, Mark.

15191. I'm Daniel Oleksiuk. I am counsel for the Graduate Student Society as well as a member of the Society.

15192. I'd like to thank you for hearing us today, Panel members, Mr. Hamilton, Mr. Davies, Ms. Scott.

15193. Mark just talked to you about the need to factor in the reputational risk to some of our region's prominent institutions. He also related to you some of the student concerns that we've been hearings as part of the GSS's own consultation, and he also talked about the need to consider climate as part of the public interest.

15194. I'm now going to talk about this in terms of three questions offered to the Board to consider as it makes its deliberations.

15195. First, how safe does a pipeline need to be? Second, why do we conduct public reviews? And third, on what timescale should we consider the public interest or should we think about the public interest?

15196. So you heard yesterday from Simon Fraser students about their concerns about their ability to safely attend school when the only road up the mountain that one of -- that the main SFU campus is situated on -- when the only road up that mountain runs past both the current tank farm and the proposed expanded tank farm.

15197. So with those concerns in mind we're asking how safe this pipeline needs to be. And our short answer is it has to be safer than this one, because we don't know if there's a safer better alternative. The possibility has, I don't think, been fully explored and we submit that alternative routing options have not been

adequately studied. Surely -- at core, surely there must be a better location for the new storage tanks then at this major transportation hub of Burnaby Mountain Way and Gaglardi Way.

15198. Now, we can see that there is such a thing as tolerable risk, perhaps even tolerable extreme risk. After all, we live here in an earthquake zone. But extreme risks shouldn't be taken needlessly when there are alternatives and we should not impose these extreme risks on university students, at least not without exhaustively studying whether there's some potential alternate arrangement that would avoid these risks.

15199. On page 169 of its final argument, Trans Mountain concedes that, and I quote,

> *"Given the complex nature of activities associated with the construction, operation and maintenance of the project, an accidental release or other unplanned event is possible."*

15200. And we agree. History shows us that where pipelines and tankers are concerned unplanned events are possible.

15201. We've seen the evidence about risks to SFU's Burnaby Mountain campus. In particular, we're concerned about the evidence from SFU that a boil-over event is a credible threat. We're concerned about the evidence from Burnaby that its fire department would not have a safe place from which to fight a large fire. And we're concerned by the lack of detailed planning by Trans Mountain in the case of a significant boil-over event.

15202. Dr. Vince at page 7 of his report, submitted as part of SFU's evidence, defines a boil-over event as when water at the base of a crude oil tank or a tank of oil products with a wide boiling range is suddenly turned to steam upon contact with a wave of heat that has been gradually descending through the oil from a full surface fire. According to the Bowcock report the resulting discharge can travel up to 2,000 feet, and that's at page 59.

15203. SFU submitted evidence from Dr. Vince that a boil-over event is a credible scenario; Dr. Vince's conclusion was that the risk of a boil-over would be intolerably high if the expansion went ahead.

15204. We also share SFU's concern in pages 14 and 15 of its final argument

about Trans Mountain's failure to provide the university with the necessary information for SFU's own emergency planning. If something does go wrong it could be better or worse depending on what SFU and Burnaby and the fire department know about what could go wrong.

15205. And I'm going to come to the fact that Trans Mountain hasn't considered this a credible threat and hasn't sufficiently studied this or offered information about this.

15206. Boil-overs have occurred, and they will occur again. What's not credible is for Trans Mountain to argue that it could never happen here. Exxon Valdez, Kalamazoo, Deep Water Horizon, Lac Mégantic -- none of these catastrophes would have been deemed probable before they happened, least at all by the responsible operators. Let's not add Simon Fraser University to that list.

15207. The thing about the very worst disasters is they tend to be not only rare but they also cause exponentially more damage than average events or even relatively low probability events. A significant portion of all disaster damage, therefore, is caused by these very low probability events. In view of this fact, Trans Mountain's decision not to consider low probability high impact events like a boil-over cannot be justified.

15208. SFU students, as you know, arrive at Burnaby Mountain campus every day passing through the Burnaby Way -- Burnaby Mountain Way/Gaglardi Way intersection by car, bus and sometimes bike. They return by the same route. It's the only mass transport route on and off the campus. It's the only roadway.

15209. Both the Burnaby fire department and other experts have offered evidence that the project poses a real risk of an explosion at this very intersection and that this could lead to death and injury, blocking road access to the campus and stranding thousands on the mountain. There may be worse places than a major transportation choke point to locate this expanded tank farm but it's a terrible place to store this material.

15210. On to my second question, why do we conduct public reviews? This is partly in response to a question that the Panel asked to our colleagues from the Simon Fraser Student Society yesterday about the role of public hearings in building public trust and about what elements we would like to see as the students in a public hearing. So in our following comments we'd like to offer the Board our partial answer to that question.

15211. In Canada most complex policy decisions are made at the political level, as I think they should be, and even where we disagree with these political decisions representative democracy confers on them a kind of a legitimacy. We know that though a decision may not have gone our way, you know, maybe enough of our neighbours supported the decision to push it through, or if they didn't we can vote the offending party out. There's both legitimacy and potential accountability here.

15212. But a Board like this, a panel like this is not elected. You lack that kind of legitimacy and you have to establish your legitimacy otherwise through rigorous process. This can be a good thing. That independence can help a panel. A panel like this also has a few potential advantages over political decision makers. You can dedicate time to one issue that a government minister cannot. You can bring a lifetime of expertise to help decide an issue.

15213. I quote former B.C. judge Thomas Berger who wrote that these characteristics have allowed judicial commissions, for example, to have brought new thinking into public consciousness and expanded the vocabulary of politics, education and social science.

15214. So your legitimacy rests largely on the credibility of your process and on your ability to show that you've come with open minds, truly considered all perspectives and come to a reasoned decision based on all of the relevant criteria. Unfortunately here we have not had the opportunity to cross-examine the evidence. We've not been invited to discuss climate issues or pollution issues. These have obvious relevance to the decision before you.

15215. It makes it difficult, I think, for this Panel to claim to be considering the public interest. I think a lot of Canadians don't take this seriously and I'm not sure they should. I think it undermines Canadians' well founded faith in a lot of our public institutions.

15216. Indeed, our new -- our new Prime Minister has agreed with me, as recently as last summer. Saying that it's -- and I quote:

> *"It's obvious the Harper government's politicization of the National Energy Board, the process around approval for projects like this, is not working, and if there's any hope for projects like this and others to go forward, there needs to be a*

> *restoration of public trust. That's why we've announced we're going to engage in a new open process for all pipelines."* (As read)

15217. We're still waiting for that new open process. This hearing, meanwhile, has I think been a lost opportunity to actually engage the public who, I remind you, are still outside.

15218. I'd like to say hello to my friends outside and at home. I'd like to ask why they're out there and not in here with us.

15219. Instead of the public in the public hearing, we have an impressive amount of private security and uniformed RCMP officers. This is, I think, a misinterpretation of a public hearing. Where is the public?

15220. So to conclude, I have a few suggestions for what an effective public review might look like. We suggest the following elements.

15221. Both energy and environmental expertise represented on the Panel, cross-examination of evidence, consideration of the economic social and environmental cases for and against the project, open to the public, Aboriginal consultation, not just about the substances of the hearing, but about the development of the process itself.

15222. And finally, of course, a consideration of the likely effects of the pipeline on Canada's climate obligations.

15223. My third question that I offer to the Board is about the public interest. On what timescale should we think about the public interest?

15224. When we look at public interest in section 52, sub 2, of the *National Energy Board Act*, we see that you have a lot of legal leeway in deciding this decision.

15225. Your role as expert decision makers means that courts have shown a lot of deference to the NEB on what the public interest does and does not mean.

15226. But I submit that there are both moral and logical reasons that the long view must be a part of any honest consideration of the public interest.

15227. Looking forward to 2050, I will be 66, Mark here will be 62, Vancouver will turn 163 and Burnaby will be 157.

15228. The Tsleil-Waututh, Squamish and Musqueam will still be here and what will the pipeline be then, if we build it? I think that's a very relevant question.

15229. So the student societies, we bring a unique perspective to this project; that of younger generations.

15230. And it's not some trivial appeal to the precocity of youth, it's just the fact that this is a 50 plus year piece of infrastructure and our members are relatively young and they're likely to be here in 50 years when -- with the pipeline.

15231. Our view is that the project is likely to become a stranded asset at that point if it's built and that it is part of a carbon intensive future that's out of place in any rational plan for the mid-twenty-first century.

15232. Of course I'm coming around to discussing climate change and in the recent Paris Agreement which I'll cite, our government and the world agreed that climate change represents an urgent and potentially irreversible threat to human societies and the planet.

15233. These sentiments were also reflected in the federal election. After the election a local MP from the new government promised that -- and I quote:

> *"We are going to redo the National Energy Board process. We're going to broaden the scope. We're going to make sure it's objective, fair and based on science." (As read)*

15234. We have, I'm sure, all also heard the public musings of our government in the past week, that this process may be amended or expanded to include a science based assessment of climate impacts that this project -- we really hope that this comes about.

15235. Because building this pipeline is a bet against our own ability to make a clean energy transition. We're already over 400 parts per million from a pre-industrial base of 270 parts per million and the global -- and global emissions are still rising. Canada is one of the largest per capita emitters. So this contradiction

between our government's commitments to meeting reasonable climate targets and this pipeline were perhaps made clearest in a very strange argument put forward by the Government of Alberta in its final argument.

15236. They argue on the first page of their argument that they support -- they say they support this project because -- and I quote:

> *"Accessing fair [market] value for our resources will also allow Albertans to continue to make investments in greening our development and transitioning to a low carbon economy."*

15237. Somehow they submit building long term fossil fuel infrastructure is a means to a low-carbon economy.

15238. We submit that if the pipeline remains in use past 2030, there's very little chance of us meeting our Paris target of 30 percent below 2005 levels by then.

15239. Of course, if we do make a clean energy transition after building this pipeline, the pipeline will be worse than useless. It will be a contaminated site and a multi-million dollar liability and who will pay to clean it up, the next generation of the one after that?

15240. So we have -- we have serious concerns about the routing of the pipeline; in particular the tank farm. Burnaby is a lot denser than it was in 1953.

15241. It's a very different place and the communities -- those communities that have been built downhill from it, like Forest Grove -- a university has been built since 1953 above the tank farm. It's no longer a good site for the -- for the expansion of dangerous industrial storage facilities, but our core submission is simple. Until and unless the Panel considers climate change, it cannot plausibly claim to be considering the public interest.

15242. Those are my submissions. Thank you.

15243. **THE CHAIRMAN:** Thank you, Mr. Perry and Mr. Oleksiuk for your presentations.

15244. And during your comments, Mr. Perry and yours as well Mr. Oleksiuk, you reference the fact that we had discussed with the other students the aspect of

the balancing of national interests, public interest, local -- and local interests and social acceptance.

15245. And you had offered us some advice on that and Mr. Perry, you gave us a number of examples of those who -- municipalities, First Nations and we all -- who are against our project.

15246. So you -- and you've offered us some advice of how we may -- if it's the process to get to that public interest determination that may need to change, as you have outlined, and what may or may not happen in the future with the federal government, the Panel is seized with it right now.

15247. We're right in it right now and we have only, without any further direction, have to deal with the process we have in front of us now.

15248. Could you also give us some advice on when local interests give way to national interests? You touched on some; could you give us some advice on how we balance that and what -- I wouldn't want to say trumps it or what is that social acceptance? Local versus national.

--- (A short pause/Courte pause)

15249. **MR. OLEKSIUK:** So we would submit that generally speaking, everything else being equal, of course, national interest would trump local interest.

15250. But there are particular ways that the project as proposed, doesn't sufficiently take care of local interest. It could be -- it could be better. We also take issue with the definition of national interest in public -- in terms of the factors that have been set out in the hearing order that are being considered.

15251. So -- and the -- I guess the final comment would be that if all issues were considered, including -- if there was a -- if there was a better process, more issues were considered, I think we would find that local communities would be more willing to defer to the national interest.

15252. It seems to think to some people that we're not -- that their issues have not properly been considered. And this is part of what I was trying to get at when I asked why we have public hearings.

15253. We bring people together, we let them have their voices heard and people feel -- I think we've seen that a number of people feel that that hasn't happened. And it's not really possible to balance community interests against national interests until and unless we have that happen.

15254. **THE CHAIRMAN:** And my colleague Ms. Scott has a follow-up to the discussion. And I take it that is summed up in, as I quoted yesterday to the other students, was on page 14 where you said that -- on page 14:

> *"Though a decision did not go their way, their viewpoint was considered."*

15255. I think that's what you're saying to us, had we -- you know, if we considered everything and if the process had been different, we may have had -- people may still not like our decision, but it might be a more acceptable level of acceptance.

15256. So is that your summary as well?

15257. **MR. OLEKSIUK:** I think you would find that with some people, yes, it can make a difference.

15258. **THE CHAIRMAN:** Ms. Scott?

15259. **MEMBER SCOTT:** Sorry about that. A little bit of a technical problem.

15260. You outlined two ways in which decisions can be made by governments that are acceptable, if I can just use that word. And the first was through a democratically elected process where ministers are making decisions, I think is what you were describing. And the other was through a rigorous administrative tribunal review or commission or something of that nature.

15261. And I just want to take you back to our legislation. And I wonder if we don't have both of those elements here. I don't expect you to comment -- you've made your comments, rather, about what you think of our process and whether or not it satisfies that, that rigorous nature, but I wonder if you have any observations about the way our legislation works? We don't actually issue the Certificate of Public Convenience ourselves. We make recommendations to Governor in Council.

15262. And so how -- are any of your concerns about our process mitigated by what you see as potentially the democratic element and its role in this process?

15263. **MR. OLEKSIUK:** I still have concerns with the -- the Board, under section 52(2), is supposed to consider the public interest and is held out as considering the public interest., and I think that that means it's incumbent that there's a full consideration of all the most relevant factors. So I think the Board still does something. And to the extent that it does something, to the extent that it makes a recommendation in the public interest, I think it needs to fully consider the public interest, including climate change.

15264. **MEMBER SCOTT:** Yes, I heard you on those points. But I'm asking you about Governor in Council's role in this. And you describe circumstances where public legitimacy can be achieved if the decision is taken by a democratically elected process where, I think in your words, if people don't like the result, they can unelect the politicians. And I wonder if you have any observations about the legitimacy of our statutory scheme, if not this process, in ensuring that accountability and rigorous assessment of the public interest?

15265. It's a two-step process. It's not just us.

15266. **MR. OLEKSIUK:** No, I understand that the -- you only make a recommendation and the Cabinet will make the decision.

15267. I submit that to the extent that the Board does anything, it is tasked with considering the public interest. And if we had a -- it's not a completely political process. There is this aspect of it which is an expert tribunal making a recommendation in the public interest. And in my submission, that's still something. And to the extent that it is meant to consider the public interest, I think it actually has to consider the public -- the whole public interest.

15268. I think that's different from a minister just completely making a decision on their own. It's a mixed process. I understand that it's two steps. It's a mixed process. And the first step, it has to be all public interest, as well as the second.

15269. **THE CHAIRMAN:** And Mr. Davies also has a question.

15270. **MEMBER DAVIES:** I have some fond memories of Simon Fraser. I

lived out in Vancouver area back in the late '60s. And while I wasn't a student at SFU, I used to find my way up there to listen to some pretty interesting speakers, including Dr. Suzuki who claimed at that time that in his lifetime a mammal would be cloned. So we all disbelieved him.

15271. I noted then something which is still apparent today, and that is the access and egress to and from Burnaby was dependent upon one route, and I see that's the same today. We've heard extensive concerns about enhancing a risk of safety for those who are up-mountain should an event occur. And we've heard about a number of situations as recently as yesterday where the District of West Vancouver was concerned not only about future enhancement of risk -- the Marathassa example was brought forward -- but also concerned about the status quo risk.

15272. So what I want to ask is what, if any, role does the Graduate Student Society think this Board can and should perform in ensuring that, to the extent facilities that we regulate contribute to a risk, what enhanced role, if any, do you see us performing in facilitating emergency response plans and coordinating regional and municipal activities and things of that nature? And also, what role do you see the Society you represent in that dialogue?

15273. **MR. OLEKSIUK:** So I understand that to be a two-part question. I think the first part was just about the -- were you trying to get just about the existing risk or was it both existing and additional risk?

15274. **MEMBER DAVIES:** Well, I was tying the two together and I was asking the two-part question of what role do you see ---

15275. **MR. OLEKSIUK:** Right.

15276. **MEMBER DAVIES:** --- this Board or this Panel performing in addressing both the status quo as well as potential future risk? And then second, what role you see on behalf of the group you represent in regard to those two time horizons?

15277. **MR. OLEKSIUK:** In terms of the first part, we're looking at the current application, which is an expansion of the current tank farm and, to some extent, you're limited in your discussion. But it's also, I think -- and you might be getting at this -- an opportunity to look at emergency plans based on the existing facilities.

15278. So I guess your role here, you might view it as something of an opportunity to look at what existing risks there are, though you're of course limited in what recommendations maybe you can make. But it -- you know, I learned about this risk through this process myself, and I think it is a public discussion where we can look again at whether -- what was a good location in 1953 may not be ideal now. What do we do about that? This is a chance to look at that. So as to the first part of your question that's what I would say.

15279. For the second part, the GSS's role, I think the GSS's main role will probably be student engagement of graduate students. It may be in consultation with the Simon Fraser Student Society. It will bring a lot of those concerns, I suspect, to Simon Fraser University. A lot of the discussions will happen at the University, but at times, I imagine also with proponents and government agencies directly from the GSS. So it'll be a mix of forwarding those concerns through SFU and, as in this case, bringing them forward themselves.

15280. **MEMBER DAVIES:** Thank you.

15281. **THE CHAIRMAN:** With that we'd like to thank both of you for attending this morning, for providing your oral summary argument and for responding to our questions. And we will consider these as we will consider all other evidence that is being placed in front of us.

15282. With that, we'll take a very short five-minute recess then we will hear from Mr. Klakowich, if I'm going to pronounce it correctly. I'll be corrected later when he comes up, I'm sure.

15283. With that, we'll take a short five-minute recess.

--- Upon recessing at 11:01 a.m./L'audience est suspendue à 11h01
--- Upon resuming at 11:11 a.m./L'audience est reprise à 11h11

15284. **THE CHAIRMAN:** Thank you. Mr. Klakowich, we're looking forward to hearing your presentation and we're glad we were able to accommodate you to be able to make it.

15285. So with that, please proceed.

--- FINAL ARGUMENT BY/ARGUMENTATION FINALE PAR MR. KEN KLAKOWICH:

15286. **MR. KLAKOWICH**: Thank you very much. Mr. Chairman, Members of the Board. I'm very thankful for the opportunity to speak to this issue and acknowledge the representatives of Kinder Morgan. This presentation is going to be relatively short, and I hope I don't cover ground that's been well trodden already.

15287. I'm representing myself as a past resident of Westridge area of Burnaby and a concerned citizen of British Columbia. I say past resident as my wife and I sold our property located on Malibu Drive, approximately 150 metres from Cliff Avenue along which the current pipeline runs.

15288. In 2011, we were offered $1.2 million for our property which had a spectacular view or Burrard Inlet and just above the current Trans Mountain Terminal. We did not take the offer at the time as we were unaware of the proposed pipeline project and its impact on the area. We sold the property about a year ago, early 2015, and received $1 million, a reduction of $200,000. Other properties in the Lower Mainland have gone up in value considerably in that time; ours depreciated.

15289. This is an example of the impact of property values in the immediate area of the project. I realized that there has been an alternative proposal to bore under Burnaby Mountain. Because perception is stronger than reality, the stigma on the area still exists in the public view. Who is expected the make up the shortfall on my property sale?

15290. I have heard nothing of compensation to property owners anywhere along the proposed route in my situation and that others will likely absorb the devaluation by the property owners themselves.

15291. If this project is rejected, the value of the property I once owned will jump considerably. In my opinion, the proposal is for the benefit of the large foreign corporation and the local -- reading issue -- corporation and the local long-term benefits along the route will be, at best, minimal, if any. Any long-term jobs created along the route will be the equivalent of opening a service station and small café. As I understand, there will be pumping stations along the route.

15292. Because of the large foreign component of the ownership of the

completed project, I wonder what the long-term national and local interests will be served at the cost of the profits to the foreign corporation. I see only minimal local input in the form of labour for the construction phase. It is my understanding that the engineering and design work will be done offshore. This only provides very short-term benefit. In the long term, Canadian raw materials will be shipped overseas, reminding me of the old line "Heroes of wood and drawers of water" used to describe the Canadian economy.

15293. Just because a project was approved in the past doesn't mean it's acceptable now. I believe a wiser, much more considered approach would be to evaluate the local political and public temperament as part of the parameters for the development of the Trans Mountain proposed project.

15294. A logical option to consider would be to relocate all the existing facilities to a less intrusive location such as Roberts Bank, for example. At a site such as Roberts Bank, much larger vessels can be accommodated. It could connect via dedicated utility corridors that also include such things as rail lines, electrical power transmission lines and our major highways. This would not need to impact on residential areas and alleviate much of the public safety concern.

15295. Under current condition, the refineries and shipping -- ship-loading facilities currently located east of the Second Arrows Bridge in Burrard Inlet would not be permitted. Expanding these is in no one's best interest except for the corporations currently owning and using them. The locations of all these facilities is more suitably located -- the location of all these facilities to a more suitable location is only a matter of time.

15296. Any reasons for not considering -- consolidating the utility corridor would be purely technical. Current technical issues are far more easily resolved than future political ones.

15297. It is my understanding that over the past many years, that vessels have transited Burrard Inlet to dock facilities, unloading and offloading cargo, that only minor spills have occurred to much local consternation. With a tenfold increase in traffic to load petroleum products, the possibility of an incident increases proportionally.

15298. The political and public outcry over a major spill in the inner harbour would be deafening. A small by comparison spill in the English Bay last year would pale by comparison. I realize that the possibilities of a major spill are

small, but why take the chance? The ramifications of the Exxon Valdez spill is still being felt. There is no possible way to return the environment to a pristine state once contamination occurs. There are still areas of Europe contaminated by mining practices of the Middle Ages.

15299. As you can see from my presentation, I'm not opposed to the project in principle, but I am opposed to the project as presented. There are so many alternatives that present a far smaller impact on the people living along the proposed route and I find it stretches the credibility of the proposal to the limits of one's imagination.

15300. The big question on my mind, did Trans Mountain or Kinder Morgan think this proposal through in a realistic and logical manner before presenting it? I think not. The cost of this process to all those involved is many times the official figures, and to what end? I believe that an unrealistic proposal should be given the attention it deserves, which is none. It is my opinion that if Trans Mountain were to re-evaluate the proposed endeavor, they could come up with a much more viable proposal that would meet most of the concerns.

15301. Thank you.

--- (A short pause/Courte pause)

15302. **THE CHAIRMAN:** Thank you, Mr. Klakowich. The Board have no questions. And again, we thank you for making your presentation today.

15303. With that, we're adjourned until 1:30. And this afternoon we'll hear first from the Friends of the Earth U.S., followed by the Georgia Strait Alliance, and finishing today with Barbara Gard.

15304. So we'll reconvene at 1:30.

--- Upon recessing at 11:21 a.m./L'audience est suspendue à 11h21
--- Upon resuming at 1:30 p.m/L'audience est reprise à 13h30

15305. **THE CHAIRMAN:** Good afternoon and welcome to this afternoon's session here in Burnaby, part of the National Energy Board's hearing regarding Trans Mountain Expansion Project. We will continue to hear intervenors' summary oral argument.

15306. And I also again would like to acknowledge today being on the traditional land of the Coast Salish people.

15307. My name is David Hamilton. I am chairing the Panel. And with me to my left is Ms. Alison Scott and to my right, Mr. Phil Davies.

15308. Just before we get going, I have some housekeeping, but also one of our presenters this afternoon is on the phone so I'd like to check that he can hear us before I continue.

15309. Mr. Felleman of Friends of the Earth U.S., can you hear us?

15310. **MR. FELLEMAN:** Loud and clear. Thank you.

15311. **THE CHAIRMAN:** Thank you.

15312. This is for those who are in the room, a bit difficult for you to deal with, but in the event that you hear a fire alarm in the building please exit the hearing room through the entrance you came in.

15313. Once you are outside the hearing room there are two excavation routes. The first is directly to your left when you exit the hearing room doors and the second is located beside the registration desk where some of you received your lanyard. Uniformed security guards will be at both locations to facilitate your exit. Please follow these instructions.

15314. Once outside the building proceed to the hotel muster point located on the northwest corner of the Delta Burnaby Hotel property where Sumner Avenue and Manor Street interest. At the hotel muster point please ensure all the members of your party are accounted for and await further instructions.

15315. As indicated in Procedural Direction No. 20 the Board has set time limits to hear oral summary argument. The time limit for intervenors is 40 minutes each. This time limit will be strictly enforced and they reflect that intervenors have had the opportunity to file written argument in-chief prior to providing oral summary argument.

15316. There is a timer that will indicate a green light for the first 35 minutes switching to a yellow for the last five minutes of your speaking time. Finally,

when your time is up a red light will come on and if necessary the microphones will be switched off although I'll warn you before this.

15317. Final argument as a whole is an opportunity to express your views and opinions about the project based on the evidence filed by Trans Mountain and Intervenors on the hearing record. It is also an opportunity to make recommendations to the Board about matters within the List of Issues or any terms and conditions to which the project should be subject if it is approved. The Board will not give any weight to new evidence introduced during summary argument or any submissions made that do not address the List of Issues.

15318. With that, I think we're ready to get started, and today -- this afternoon we'll be hearing from the Friends of the Earth U.S. followed by the Georgia Strait Alliance and finishing off today with Ms. Barbara Gard.

15319. And for -- I think it important to recognize, I will request Trans Mountain to introduce themselves to those in the hearing room and those listening on the telephone.

15320. **MS. OLENIUK:** Good afternoon. My name is Terri-Lee Oleniuk and I am legal counsel to Trans Mountain. With me today to my left is Lesley Matthews, and she's the regulatory lead for the project.

15321. **THE CHAIRMAN:** With that then, we will begin this afternoon with the Friends of Earth U.S. and Mr. Fred Felleman who will be making their presentation.

15322. And, Mr. Felleman, I don't know if you're watching on the live link as well as well as listening -- participating on the phone. Are you looking at the live link?

15323. **MR. FELLEMAN:** I am.

15324. **THE CHAIRMAN:** Okay. I will indicate -- I know you won't see it, but I will indicate when you're -- the 35 minutes is up so that you're aware of the time that you have left.

15325. And, if you're in agreement, if the Panel have any questions during your presentation would you be willing to entertain them when the -- if the subject matter comes up for questioning?

15326. **MR. FELLEMAN:** That would be fine, sir. I will not likely take up the full time.

15327. **THE CHAIRMAN:** Okay. Thank you.

15328. With that then we'll proceed. The floor or the telephone is yours, Mr. Felleman.

--- FINAL ARGUMENT BY/ARGUMENTATION FINALE PAR FRIENDS OF THE EARTH U.S.:

15329. **MR. FELLEMAN:** Thank you so much for this opportunity to participate by phone. I'm sorry; my schedule precludes me from making it in person.

15330. My name is Fred Felleman. I am a northwest consultant for the Friends of the Earth.

15331. Friends of the Earth U.S. is the founding -- is founded in 1969 with a mission to defend the environment and champion a healthy and just world.

15332. Friends of the Earth U.S. is part of the Friends of the Earth International, the largest coalition of network environmental organizations with operations in 75 countries.

15333. Since 1997 our work in the northwest is focused on the protection of the Salish Sea and those who depend on it, and we've developed particular expertise in Maritime risk assessments.

15334. As to my background, I earned a MSc. in fisheries biology from the U-Dub in 1986 researching the feeding ecology of the now endangered Southern resident killer whale community.

15335. The core area of the population's critical habitat centers around the area of highest oil spill risk posed by tankers calling on Kinder Morgan's Westridge Terminal.

15336. I've received gubernatorial appointments to the Washington State Ocean Policy Work Group, the Maritime Commission. I've also been an active

participant in the Puget Sound Harbor Safety Committee for many years as well as the Puget Sound Ecosystem Monitoring Advisory Committee.

15337. I was just elected to the Port of Seattle Commission where I've started my four-year term of office as of the 1st of this year.

15338. I'd like to start this presentation by expressing my appreciation of the Trudeau administration's intention to reform the NEB review process as it applies to this application. One should not have to retain an attorney to participate in an environmental review. And I'm sorry that Friends of the Earth U.S. was not able to afford to participate with legal counsel and our lack of formality, I think, is a reflection of that and I appreciate your due diligence in considering our concerns.

15339. I'd like to turn first to this figure I have of E.1-2, which was from the TERMPOL analysis of just the probability of oil present on the shorelines of the Salish Sea. Just for a point of reference, this figure shows the 95 percent probability region. If a spill were to occur off Turn Point, which is the area considered most likely for an accident to occur, that this -- the 95 percentile would include the entire west side of San Juan Island, the northwest corner of which is where I've had a home for the past 20 years.

15340. So my -- and this is also the center of the core area of the endangered killer whale population. So you could see the pink dot off to the left; that's the origin of a spill, and the red line including -- enclosing the west side of San Juan Island. So my interests here are personal and professional. My legal standing is pretty clear in that regard.

15341. As well as, in Figure 3 of this TERMPOL document on the following page is just a depiction of the different size of the tank vessels that would call on this project, which we were showing to be -- the maximum size is the Aframax tankers which would be -- the maximum size would be up to 106,000 dead weight tonne, which would only be able to be partially loaded due to the restriction of the Second Narrows.

15342. However, we know that the original project called for the use of a ---

15343. **THE CHAIRMAN:** Just -- I don't mean to interrupt you, Mr. Felleman. I'm just trying to make sure that we're looking at the figure that you've asked for. And I'm not sure if we can put it on our live link so that those who are not here can see it. I can't remember if we -- we can do that.

15344. So can we just confirm which exhibit map you're referring to just for clarity?

15345. **MR. FELLEMAN:** My first figure was the -- on my list -- there was -- I had -- did have some confusion in terms of the documents that were already in the record versus what I had to put actually on my exhibit list.

15346. But the Figure E.1-2 was from the TERMPOL analysis of spill probability, and that was not specifically called out in my exhibit list, but was a document from the Kinder Morgan Application. So I'm not sure. I can't see what figures you have in front of you.

15347. **THE CHAIRMAN:** Yeah, maybe I'll ask if our camera could go to that figure to see if this is the one. It does say Trans Mountain Oil Spill. I can't even see the -- unless ---

15348. **MR. FELLEMAN:** Oil Spill Study.

15349. **THE CHAIRMAN:** Yeah.

15350. **MR. FELLEMAN:** Okay. Well, all right. So the -- I hope it's in colour. I mean, I made a -- I emailed a collection of slides.

15351. **THE CHAIRMAN:** That is the correct slide I am being advised. I'm just wondering if we can show it on the live link. I guess maybe we can't. Sorry? On the video, yeah. Oh, it is showing on the video I am told. Sorry.

15352. **MR. FELLEMAN:** I'm not seeing any -- I am not seeing it. I'm just seeing the Panel.

15353. **THE CHAIRMAN:** This is not part of your time. I just want to make sure we ---

15354. **MR. FELLEMAN:** I was just going to ask that.

15355. **THE CHAIRMAN:** No, it won't be a part of your time. I just wanted to -- just want to make sure that everybody that needs to see it is seeing it. That's my main concern, and we understand what it is.

15356. **MR. FELLEMAN:** I appreciate that.

15357. **THE CHAIRMAN:** If you just could give us a second, please.

--- (A short pause/Courte pause)

15358. **THE CHAIRMAN:** I'm getting my instructions now. If you have got your video on full screen and you didn't -- if you reduced it to not full screen that image will be shown as well, side by side.

15359. **MR. FELLEMAN:** Thank you so much. I appreciate that. I can see it very clearly now.

15360. **THE CHAIRMAN:** Okay. So we're all looking at the same one, so that makes it -- that's fine. Thank you very much.

15361. **MR. FELLEMAN:** Okay. So the for me just to quickly go back, you can see in the centre of the -- in the centre of the waterway you see the pink dot. Am I still audible?

15362. **THE CHAIRMAN:** Yes, you are.

15363. **MR. FELLEMAN:** Okay. The pink dot in the dead centre just above Sydney, you know, just due west of Turn Point you see, that's the estimate -- you know, that's the hypothesized origin of a spill, which is the area most -- considered most likely where the tankers have to make the tightest turn around Turn Point, which is the northwest corner of the United States projection.

15364. And at that point, if the spill were to occur in the wintertime, the red line is the envelope of an area of 95 percent probability of the shorelines being oiled, and you can see the entire west side of San Juan Island is included in that area, which is the primary thoroughfare of the southern resident killer whale population that feed up along that shore chasing those Fraser River salmon, and also is the location of my residence of the past 20 years. So as I was saying before, my interests in this project are both personal and professional.

15365. So the next slide is also from the TERMPOL analysis of just depicting the different size of tankers that would call on this project, if indeed that's available.

15366. **THE CHAIRMAN:** And did you indicate what that one was?

15367. **MR. FELLEMAN:** That was Appendix 3 in the -- again, I did not give that a -- I did not give that a reference number in my exhibit. I guess, you know --- anyway, I will just tell you the project calls for a maximum size tanker as being the Aframax tanker which would have a maximum dead weight tonnage of 106,921 dead weight tonnes. This is -- and these would only be able to be loaded partially due to the depth restrictions of the Second Narrows.

15368. In fact, we know that the original application called for tankers of a larger scale, which was withdrawn for reasons that I think were primarily political. The intention was originally to dredge the waterway to allow for these larger size tankers.

15369. In fact, the Suezmax tanker -- there are three a year that are seen up in that region which carry in excess of a million barrels of oil and are 280 metres in length versus the -- just the 240 metre length of an Aframax. The fact of the matter is even the Exxon Valdez tanker is not considered a super-tanker. And -- but vessels of that size would be illegal to call on Washington waters as of a law passed back in the ‘70s.

15370. And one of the concerns that I could come back to and will probably be an emphasis of my presentation is the regulatory uncertainty associated with who is basically these ships subject to? Whose regulations are they subject to? And until this question of regulatory uncertainty is resolved, I believe it would be inappropriate and premature to initiate such a significant change in risk to this waterway.

15371. As I said, we’ve already seen the fact that three of these larger tankers have been calling on the Vancouver region while not knowing precisely what they’re doing up there. I would imagine that they process called “lightering” in which smaller ships are able to decamp their oil onto a larger ship, given the economies of scale of moving product, crude oil, over the Pacific Basin, there’s such an economy of scale that one would expect that this process would likely to occur in the interim before dredging of the Second Narrows would occur and therefore would expose this region to the risk of both the transfer of the crude oil as well as the movement of these larger tankers, and depending on the size of those tankers, could be in violation of US law.

15372. So then moving from there, there’s a series of slides from the George

Washington University Vessel Traffic Risk Assessment, which I was directly involved with, which is Figure A -- no, Exhibit A4L9W5. And there are a series of four or five slides in that series. That's A4L9W5.

15373. **THE CHAIRMAN:** Do you see the front cover of that one? It's the George Washington University ---

15374. **MR. FELLEMAN:** Right. And that's not showing up on my screen. As long as you're seeing it, but it would be good if the viewing audience could see it as well. I still -- I still just have the -- oh, there it is.

15375. **THE CHAIRMAN:** You've got it now? Okay.

15376. **MR. FELLEMAN:** This is -- all right. This is the -- this is a portion -- the document I'm providing is a subset of that, but -- so I don't have the page numbers to direct you to. I did provide them, scans of them for this presentation but they're not being shown to you right now. I will proceed as if they were.

15377. The George Washington University under contract to the Washington State and to the Makah Indian tribe of Washington conducted a vessel traffic study looking at 2010 being the base case of vessel traffic to our region and then adding projected future traffic to the area and see how this traffic varied based on -- as compared to 2010.

15378. We looked at the Kinder Morgan project as well as a coal terminal at Cherry Point, the Gateway Coal Terminal, as well as a series of other terminal projects in the Delta Port region that we sort of lumped together by containers and others.

15379. Clearly no single project has a bigger oil spill consequence or risk posed to this region as compared to the Kinder Morgan project given the volumes of oil that this project would move through the area. And the -- so it's really important to look at not just the overall risk to the -- the risk to the overall Salish Sea, but to the specific waterways transited by the vessel.

15380. Kinder Morgan and others have depicted that, well, this is, you know, there's already some 400, 500 tankers going to Washington State waters. This is a doubling that, a sevenfold increase I've heard them just saying before the state legislature.

15381. But if we're just looking at the increase of Kinder Morgan bound tankers and just along the route in which they would ply, which would be the Juan de Fuca, Haro Strait, Georgia Strait route, we can look at specifically the -- in the Haro Strait, Boundary Pass area which is the narrowest portion of the passage before you get to the actual terminal. And if they would have shown you the slides I gave them you could see that.

15382. **THE CHAIRMAN:** But perhaps, Mr. Felleman, I think it's important that we see what you're referring to because that's part of our process, to ensure that what we see and reflects of what you're saying so -- and to see that, so ---

15383. **MR. FELLEMAN:** I gave them the slides, the same slides you just saw before was attached to the -- was attached to the document that I'm trying to speak to right now.

15384. **THE CHAIRMAN:** Perhaps if you could stay online and have a discussion with our -- we'll take a short recess and you can discuss online -- because our Regulatory Officer is here and is working the exhibits. She might be able to recover them if they were attached to the email or not. So I will perhaps take a short recess and allow you -- you can speak on -- over the system to our Regulatory Officer.

15385. **MR. FELLEMAN:** Very good.

--- Upon recessing at 1:51 a.m./L'audience est suspendue à 13h51
--- Upon resuming at 2:10 p.m./L'audience est reprise à 14h10

15386. **THE CHAIRMAN:** Thank you, Mr. Felleman. I understand -- and I'd like to thank our Reg Officer for -- Regulatory Officer, oh, and our legal counsel for getting us back on track and so that we all know what we're looking at. So with that, you can continue.

--- FINAL ARGUMENT BY/ARGUMENTATION FINALE PAR FRIENDS OF THE EARTH U.S.: (Continued/Suite)

15387. **MR. FELLEMAN:** My apologies. And it's been an awkward enough process participating in this in writing. It's even that much harder by telephone.

15388. So getting back to the George Washington University project I was

explaining to you was looking at the baseline of 2010 vessel traffic as we know it. This is the study area. Basically the Salish Sea, but cutting short the very traffic within the Canadian waters of the Georgia Basin. Obviously the traffic comes back and forth but it's not looking at the actual manoeuverings in and out of the, you know, terminals at either Vancouver, Burnaby. So, if anything, this is an underrepresentation of oil spill risks for sure, and -- but just -- it's a relative risk analysis.

15389. And what was not able to be presented there was just the changes in risk. Overall the waterway is -- are much -- is much less than if you look at a waterway-by-waterway analysis. But the -- so that, you know, a smaller waterway like Haro Strait, Boundary Pass would have a nine-fold increase in vessel -- in accident rate.

15390. Can I show the next slide, please?

15391. However, the -- these take a little while. The idea that you can look at -- most vessel traffic analyses are done by frequency, by the number of ships that pass. The George Washington University looked at the time, the duration of vessels in the waterway, and then the probability of a spill occurring of different sizes.

15392. As you saw from the Kinder Morgan analysis that, you know, there were extraordinary rates of thousands of years between the spills of certain sizes.

15393. And what you find is that, you know, there's obviously a far greater frequency of smaller spills than there are of larger spills. So if you look at spills of, you know, greater than 2,500 metres like in the red off to the left, there's a 3.1 percent probability of such an accident occurring within 25 years, which is not trivial and it's certainly far higher than what was being proposed by the -- in the Kinder Morgan analysis.

15394. But, you know, a far more likely size spill is between 1 liter and 1,000 metre cubed with that average being around the 65 metres. And that's an 85 percent probability of an accident in 25 years.

15395. So now this doesn't get into the consequences of a spill or the location of a spill, but this is the overall waterway, just adding Kinder Morgan traffic to the baseline of 2010.

15396. Now, the -- this does consider the existing current traffic around it, and so the possibilities of an accident or a grounding affected by other ships are considered. But what this doesn't consider then is the -- this is then the increase of -- actually, this is sound-wide with the addition of the traffic in 25 years.

15397. So now what is I think more important than -- you know, predicting the absolute volumes is a little bit of an extrapolation but it certainly shows -- using an actual simulation with real data is -- gets you numbers that are far more of concern than is being presented by the needle-in-a-haystack type calculations that were being presented to the Board. And these concerns are increased even further.

15398. If you just look at the waterway, it's like Haro Strait, Boundary Pass, like I was saying, if you look at the time of vessels in there. And I think you can go to the next slide. You know, tankers in that waterway increase by a factor of nine with just Haro Strait, Boundary Pass with the increase of this traffic. There's the amount of oil through that waterway increases by a factor of 12, and that the accident frequency increases by a factor of seven with collisions and groundings increasing by a factor of six. So this is just a probability based on from the base case.

15399. But so now -- and here you can just see that the large square right in the centre of the Salish Sea is like 20.6 percent of the probability of an accident occurring. Well, actually, you see the big blue around the entire study area is where there's that 85.5 percent probability of a spill occurring within the next 25 years. And then within that zone you can see that 20 percent of that is within the larger Salish Sea area. And then as you narrow into the -- closer to the San Juan, you see the 13 percent.

15400. So this is -- the green lines are, what do you call, they're proportional to the traffic and show you the varying risks between these two.

15401. All right. So rather than belabouring this anymore, so the idea of what is actual risk is actually the product of both probability as well as consequence. So if we can go to the -- the next image is, I believe, A4L9X4.

15402. And so there's clearly an increased probability of a spill associated with the increase in vessel traffic. Obviously variations in terms of how you interpret that based on the analytical approaches. This is one of the only ones -- the only one that's been subject to peer review and a National Academy analysis.

So -- and it's been through a collaborative process with even Kinder Morgan participants in the review.

15403. But the consequence side or the probability times consequences has a lot to do with the -- well, that's not the -- well, actually, so fine. There's a table in there, which is Table 3. This was a paper presented by coastguards of both countries at the International Oil Spill Conference in 2014 looking at the oil spill equipment stockpiled on either side of the border in a rather, you know, empirical fashion done by our respected federal on-scene coordinators.

15404. And what is most apparent, if we can get to Table 3, is the tremendous disparity in equipment stations on the U.S. side of the border versus the Canadian side. I think it's probably one more page. And, you know, while I know there's been a lot of aspirational calls for creating a world-class system in the waterway but it seems to be contingent on this project going forward without recognition of the tremendous risk exposure that Kinder Morgan currently poses to the waterway.

15405. That's not it; we're looking for Table 3 if we can get there.

15406. But anyway that's the study area which is the same, you know, body of water we're looking at.

15407. So there has been a lot of recognition of the need to provide mutual aid across the border for us to muster an adequate response and there was amendments made to the *Fisheries Act* in Canada to address the question of liability, making -- basically, waiving liability for U.S. vessels -- there it is -- plying Canadian waters, and this was in hopes to allow for U.S. assets to provide mutual aid to Canada and vice versa without fear of reprisal when things go wrong.

15408. What you can see here, and I'll get back to that, is the WCMRC as the Canadian assets divided by different boom sizes on the left versus the EDRC is the daily recovery capacity; it's basically how strong a pump you have. The storage capacity, the number of response vessels, work boats, et cetera and so forth, in the vertical column.

15409. And if you take the other two columns, NRC and NSRC those are U.S. assets. And you add the two on the right together to compare to the one on the left and you'll see it's, you know, at least twice as much equipment in the boom

department. You can see we have, you know, whatever total is 25, you know, 30, 35,000 feet versus 7,000 feet.

15410. Anyway, going back and forth you can see the stock piles on the U.S. side are extremely more substantial and so that the idea was, "Well, let's be able to share each other's wealth in the course of a spill." And like I said, the liability was thought to be the major problem.

15411. There's two outstanding challenges here though. One is, of course, if there's a spill it's going to be affecting both our countries' respective assets and one would be hard pressed to imagine one country releasing the assets to the other when both of us are in dire straits. So I think it's a bit of a fallacy to imagine a large oil spill allowing for -- you know, either country allowing for equipment to be diverted, even though the number sounds bigger when you combine them together.

15412. But more importantly if in fact we were able to see a spill that was -- restricted itself to the Canadian side for, let's say, an ebbing current off of Victoria as the oil goes out the Strait of Juan de Fuca, MSRC has stated -- the Marine Spill Response Corporation; the largest stockpile of equipment in the region -- has expressly stated they will refuse to attend to that spill because Kinder Morgan refuses to pay them to standby.

15413. Now, if Kinder Morgan was -- you know, each of these contractors make their money by having long-term standing contracts with the potentially responsible party, and that's how they make their living. When the spill occurs their meter is running but all that equipment has been maintained and kept ready by the standby fee. And MSRC has basically said, "Look we're not in the business of just providing, you know, response assets when you need them. You need to make sure they're there when you need them."

15414. And so even though the liability question has been resolved, Kinder Morgan's refusal to pay the single largest cache of equipment to be available to them is really the impediment at this point for mutual aid to occur, if indeed it even was possible for us to allocate assets across the border based on the nature of the spill.

15415. So this really kind of underscores to me a real challenge and the failure of Kinder Morgan to acknowledge the risks that they currently pose to the waterway, no less willing to address the heightened posed by the project.

15416. But this also underscores a broader question to me is Kinder Morgan doesn't own the tankers and the obligation -- once the ship leaves the dock, Kinder Morgan's legal exposure ends unless it was their vessel, and while they have been getting into tanker business they've expressed in the IRs that they are not planning on bringing them here.

15417. So all of this additional safety measures on the prevention and the response side are really, you know, at their discretion and they really do not have the legal ability to require any of it. And while this might be a lot of attention in fanfare to get their application approved it does not in any way provide the durability of assurance that it will be there once the ships have sailed.

15418. So all I'm pointing out here is that the existing equipment stockpiles, there's a tremendous disparity. The ability for one country to move the equipment across the border, while currently unlikely for MSRC because of the contractual relationship, in reality is our countries will probably be rather self-interested in making sure that the assets are protecting our respective assets, and therefore, Canada has a long way to go.

15419. There's been a lot -- and I am not suggesting by any means that the United States has inadequate stockpile but to suggest that the combination of the two for both of our risk is nowhere near appropriate given the nature of our -- the region's wealth and declining health of a lot of our assets.

15420. So that was -- sorry it took a long time to get there. So just to get back to the point about risk when we have high densities of traffic with -- increasing densities of traffic with, you know, minimal spill response assets, that certainly elevates the risk. But what's at stake in this waterway is, as the SeaDoc Society suggests, that the Salish Sea is one of the largest and richest inland seas. It covers over 16,000 square kilometres, 7,000 kilometres of coastline, 419 islands, depth of 650 metres which comes to play in particular when we're moving this heavy oil, diluted bitumen, which has this propensity to sink, especially when coming in contact with the salty Fraser River, and whose characterization of the nature of that oil has been misrepresented by both sides of the borders' regulatory environment.

15421. They talk about the specific gravity of the designation of oil, whether it be Type 4 or 5. The fact is that dilbit, because it's diluted bitumen that the lighter ends evaporate leaving the heavier ends behind. It is not like crude oil,

although at the time of release it behaves like crude oil. But that ends quickly and the fumes coming off of it are far more volatile, exposing the workers to a much worse condition. And so if you get there fast, you get a bad exposure to the air. If you wait long, it sinks.

15422. So it really has a very different characterization to respond to, although neither of our countries is adequately acknowledged that although the National Academy of Sciences just brought a paper of this which the NEB has refused to incorporate but it makes the findings no less true.

15423. Getting on to the next slide; the issue that I think I'm most concerned with and that I think really needs to be resolved before this project can give its full due diligence, is this a question that I raised in my IR back in -- this is on the TERMPOL review, 1.1, which I'm just going to get the number here. That's the NEB Hearing Order OH-001-2014, and I was told that that being that part of the record it was able to be called up but I understand it will take a moment.

15424. But it's this 1.1 my heading is, "The Uncertainty of the Regulatory Environment," and again this is the -- these issues of the different ways in which we measure risk, the different ways which we look at the return likelihood of a spill or the volumes of equipment we have to a spill, ultimately underscores the importance of who -- if we determine over time -- well, we may -- our two respective countries may agree that a certain level of risk is acceptable across the border to deal with this.

15425. Over time this may change and so the question is one country may not agree with the other country's, in the future, interpretations, and then can the United States say, well, we think two tug escorts are appropriate as these ships pass through our waters, or we think a speed limit is appropriate as the approach turn point or x, y, or z.

15426. However, these ships are passing through to Canada and the Canadian pilots and others have asserted over the years, that due to the Treaty of 1846 -- I think there was an addendum to it -- that the right of innocent passage pertains to this -- to this waterway. And there has been a misreading of this treaty that needs to be addressed.

15427. So here's the order. As you see in 2.1.4, when I was asking the question about the question of the innocent passage, the result -- the return side, you know:

> *"Since sailing the great lakes and entering certain ports on the West Coast involves passing through United States waters, U.S. regulations will apply to that leg of the voyage. The Proponent should contact U.S. Coast Guard for any additional requirements that may affect the transit vessels while in U.S. waters at the following address…"* (As read)

15428. Which is just as I was suggesting. However, if you go down to the small iii's at 1.8, Trans Mountain's response to my IR number 1 says that:

> *"Canada and the USA as sovereign nations have rules and regulations for all vessels calling on their nations' ports. In the case of shared waterways serving both nations, Canada and the United States allow the free passage of vessels to access the other's ports as long as the vessels meet all requirements of the destination or departing port."*

15429. So "destination or departing port," so that's the -- so they may leave from Singapore and arrive at -- in Vancouver. So the destination port would be dictating what the regulatory environment is according to -- according to this.

15430. Now, I point out in the next page -- actually, I guess you can't -- I can't see the full page on that -- on my screen, but I would hope that -- there's the (iii), yeah.

15431. That sort of -- I see it as a very contradictory finding. One says while you're in U.S. waters you're subject to U.S. law; the other one says basically if you're just passing through you're on the -- you're subject to the port of your destination's regulatory regime.

15432. I then point out that this is contradictory in these responses. And I say at the top of this next page, which is the following page on the screen, as far as I can see, and it says, I think:

> *"The statement in the TERMPOL is in direct contradiction to Kinder Morgan's response…"*

15433. And that:

"This disparity serves to prove [the] point [that]... the need for clarification on this matter prior to permitting [is required]."

15434. So anyway, the point is though that this is not anything new. This has -- this has been a longstanding point of contention and when, you know -- but however, you know, in British Columbia, the Supreme Court of Canada -- both the Supreme -- both the Court of Appeals and the Supreme Court of Canada found that the waters of the Strait of Juan de Fuca and the international boundary are -- between Canada and the United States are the internal borders of Canada and British Columbia. So they've firmly asserted that Canada's jurisdiction applies to your side of the border.

15435. There has not been a similar finding on the United States' side, nor is the United States party to the Law of the Sea Treaty, making for this uncertainty.

15436. So people refer back to the treaty with Great Britain of 1846 and this is in the -- this is the basic -- this is the underlying document for the vessel traffic agreement.

15437. And basically when I've enquired with the pilot and say, "Like, how do you come up with this interpretation that innocent passage pertains to these waters?" they basically cite Article 2 of the treaty, which is in -- let's see, okay institute imposing -- that's -- okay.

15438. So if we -- it's not the position to respond to this question, right? So this basic question about who is in charge, Kinder Morgan has no control over the ships.

15439. They can vet the ships that can call on their waterway; they can't require what they do, nor will they take on the liability associated with it. It's for the regulatory governments to do that. In the harbour, obviously, the Port of Vancouver has jurisdictional authority over escorts in that waterway and then we have, you know, the Canadian Coast Guard.

15440. Kinder Morgan can promise all they want, but it's not their ships. They can't dictate. And so, like I said, regardless of whether our Coast Guards agree or don't, right, at this moment in time, the durability of this agreement, given the vastness of the reserves of the Alberta fields, needs to be assured.

15441. And our sovereign countries need to be able to be assured that we can

exercise our rights into the future and protect those of our citizens.

15442. **THE CHAIRMAN:** Mr. Felleman, when you're -- if I may, could I ask a question, because it's on this topic that you're on right now.

15443. **MR. FELLEMAN:** M'hm.

15444. **THE CHAIRMAN:** You've said -- you know, your comment was who is in charge, is it Trans Mountain and what they -- but I know it's complex, and I appreciate the complexity of it across our borders.

15445. Do you have any advice unto which Canadian authorities, which American authorities need to sit down and decide how to respond to spills? It maybe seem a simple question, it's probably got a complex answer.

15446. **MR. FELLEMAN:** Well, you know, I think, you know, quite frankly, we have a very unique situation in our -- in our waterway in that we have a cooperative vessel traffic system, you know, managed by our respective Coast Guards. Which is a -- and, you know, we have the vessel traffic radar system and AIS system to track vessels, which is a brilliant safety measure and will forge a dialogue with our two countries, and for the most part has been a great asset to the safety of our waterway.

15447. We run into problems just to get access to data. As a U.S. citizen I've been trying for years to try to get the incidence of accidents that occur in the Haro Strait, Boundary Pass area, where my Coast Guard will not share it with me, even though it's a jointly managed waterway, because the Canadian Coast Guard doesn't want to release it.

15448. So we spent millions of dollars on vessel traffic risk assessments only to find out that we are not representing all the incidents that occur on the waterway. This is all -- this is one of the numerous -- because they feel that there's different, you know, public disclosure laws on your side of the border.

15449. So while there are places where we collaborate, there are other places where there's clear disparities. But when it comes to the jurisdiction of a waterway in how it is -- how it is used legally, while there is uncertainty there's a thing called, like, customary law; basically, it is as it is treated. And this is my concern; if we continue to not address the underlying description of the -- are these internal waters or are these high seas?

15450. This is a -- what we call a dead-end strait in the parlance of the Law of Sea Treaty, but people are treating it as if it's open high seas.

15451. There is a body called the Sea Youth Council, which is -- it's an entity that is basically designed to address these boundary disputes between our -- in the northwest, that should be convened to address this question.

15452. And until the -- until this basic question about how can we assure that our risk management system can be flexible to deal with the future exposures that we have, it's really quite critical.

15453. And something as basic as to whether Kinder Morgan's long-term desire to bring in takers larger than are allowed in U.S. waters through our waterway, is going to be legal is -- quite frankly, bears tremendously on the social licence that they will be able to receive from this side of the border and, I think, of the citizens of your country.

15454. This is -- you know, large tankers are not exactly -- you know, I'm sure their polling data was such that they withdrew this because they thought it was going to be a tremendous source of consternation.

15455. And so -- however, without this question of innocent passage resolved, we have no assurances other than what we know is Kinder Morgan's ultimate desire to bring in ships larger than are allowed under U.S. law. And I find this to be wholly irresponsible to pursue until this basic question can be resolved.

15456. And just I can say in closing that, you know, the actual -- you know, back in -- because I have a place up in the San Juan's where the Pig War was fought, or not fought, there is a national park with all the records of the treaty, you know, and there is this language that says, you know, that there is *"Nothing in the article shall be construed to preventing or intend to prevent the government from the United States from making any regulations respecting navigation."*

15457. So while innocent passage, so to speak, is not really innocent. You can -- nobody would sign a treaty with another country if you didn't have a right to access your port. And any Canadian ship, flagged ship or of course government vessel, military vessel, would have truly innocent passage. But just because you're calling it no -- not any flag bound to Canada is innocent. It is going through United States waters and therefore is subject to regulation.

15458. We can't close a gate on your traffic, although I'm sure the Port of Seattle might want to. That's a joke. The fact of the matter is it's under -- it's subject to U.S. regulation if you're in our waters, and you cannot navigate your way from the ocean to the Port of Vancouver without being in U.S. waters.

15459. Unfortunately the very people who regulate the waterway and who navigate the ships through that waterway are operating under the belief that the United States has no jurisdiction over this question. And at this point, allowing this to persist is in neither of our countries interest and I would urge an elevation of this question that, like I said, has been unresolved for many years.

15460. It's just a -- I don't think ever been more important to be resolved when we see such a unique and significant threat posed to this region that, you know, historically all the spill risk has been primarily focused on the Rosario Strait region where U.S. tankers are focused while the Haro Strait region has taken all the freight traffic bound to and from Canada, which is, you know, substantially more traffic. Then it goes Rosaria Strait. It is not loaded with oil in the same volumes or frequency.

15461. And now Kinder Morgan wants to bring that level of traffic to the Haro Strait side. This is the transboundary side of our waterway. This needs to be resolved in a bilateral fashion. And I'm hoping that the reboot in the review of this process would afford the time for this question to be resolved.

15462. And it's at that I would conclude my comments.

15463. **THE CHAIRMAN:** Thank you, Mr. Felleman.

15464. And just give the Panel a few moments to consider if we've any further questions.

--- (A short pause/Courte pause)

15465. **THE CHAIRMAN:** The Panel is going to take a very short five-minute recess to consider any further questions.

15466. **MR. FELLEMAN:** Standing by.

--- Upon recessing at 2:41 p.m./L'audience est suspendue à 14h41
--- Upon resuming at 2:44 p.m./L'audience est reprise à 14h44

15467. **THE CHAIRMAN:** Mr. Felleman, thank you for your patience, and at this time the Panel have no further questions of you or on behalf of the Friends of the Earth U.S.

15468. So we thank you for your participation today and can assure you that the evidence you have filed and that the Friends of the Earth U.S. have filed will be taken into consideration.

15469. So with that we thank you for your participation today.

15470. **MR. FELLEMAN:** Thank you very much.

15471. And my apologies to my colleagues for the delay I played in your -- I appreciate your facilitating my participation.

15472. **THE CHAIRMAN:** Thank you.

15473. We'll take a -- in fact, we won't -- I would ask now if the Georgia Strait Alliance could come forward. And we'll just turn the microphones off but we'll just stay in the room.

--- (Short pause/Courte pause)

15474. **THE CHAIRMAN:** Thank you.

15475. And we're now prepared to hear from the Georgia Strait Alliance. Mr. Andrews, I understand will be starting.

15476. Thank you.

--- FINAL ARGUMENT BY/ARGUMENTATION FINALE PAR THE GEORGIA STRAIT ALLIANCE:

15477. **MR. ANDREWS:** Thank you.

15478. Mr. Chairman, Members of the Panel, my name is William Andrews. I'm counsel for Georgia Strait Alliance. With me is Dr. Alexandra Woodsworth,

the energy campaigner for GSA.

15479. I acknowledge and thank the Musqueam, Squamish and Tsleil-Waututh First Nations for allowing us to have this meeting on Coast Salish traditional territory.

15480. Georgia Strait Alliance is a registered charity. For 25 years GSA has worked to protect and restore the marine environment and coastal communities of the Georgia Strait and adjoining waters. This geographic focus coincides directly with the project related marine shipping area. The Georgia Strait Alliance has some 7,000 members and supporters who live, work and recreate within the project marine area.

15481. Georgia Strait Alliance respectfully submits that the Trans Mountain Expansion Project is not in the public interest under section 52 of the *National Energy Board Act* and that the Panel should recommend that it not be approved.

15482. Further, GSA submits that the Panel should conclude under *Canadian Environmental Assessment Act* 2012, which I'll refer to as CEAA 2012 -- should conclude under CEAA 2012 and recommend to the Minister of Natural Resources that the project will likely have significant adverse environmental effects including significant adverse environmental effects on the endangered southern resident killer whale population and that these effects cannot be justified in the circumstances.

15483. To give you an outline of what I will cover I will begin with the Panel's environmental assessment of the project under CEAA 2012. My primary focus will be on the project's significant adverse effects on the southern resident killer whale and why those effects cannot be justified.

15484. Next I will summarize why GSA says the project is not in the public interest under the NEB Act. I will briefly describe the expert evidence that GSA filed on coastal local governments in the marine project area. I will summarize at a high level GSA's comments on the Board's draft terms and conditions. And then I will conclude with GSA's views of the process itself.

15485. Under CEAA 2012 the Panel's report to the Minister of National Resources must provide two things: first, whether the project with mitigation measures is likely to significantly -- is likely to cause significant adverse environmental effects; and second, if the project with mitigation is likely to cause

significant adverse environmental effects whether the significant adverse environmental effects can or cannot be justified in the circumstances.

15486. Subsection 19(1) of CEAA 2012 requires the Panel to take into account a broad range of factors in making these findings. The list of factors begins, of course, with the environmental effects of the project. And notably the federal *Species at Risk Act* requires particular rigour in your evaluation of the project's effects on species at risk. Here, that means the endangered southern resident killer whale and other species.

15487. Subsection 19(1) requires the Panel to take into account the environmental effects of malfunctions or accidents associated with the project. Here, that means, among other things, oil spills.

15488. Subsection 19(1) requires the Panel to take into account any cumulative environmental effects that are likely to result from the project in combination with other physical activities that have been or will be carried out. That means, among other things, other marine shipping negatively impacting the endangered southern resident killer whale.

15489. Subsection 19(1) requires the Panel to take into account alternative means of carrying out the designated project. Significantly, in my submission, the Board has allowed Trans Mountain to file only the most perfunctory and dismissive evaluation of alternative means of carrying out the project and, in my submission, that leaves a large gap in the record, despite the thousands of pages of evidence.

15490. Subsection 19(1) requires the Panel to take into account comments by interested parties such as Georgia Strait Alliance and the dozens of other intervenors.

15491. And section 19(1) requires the Panel to take into account technically and economically feasible mitigation measures that would mitigate any significant adverse environmental effects of the project. Here, Trans Mountain has provided evidence and acknowledged in argument that there are no technically and economically feasible mitigation measures that would mitigate the significant adverse effect of the project on the southern resident killer whale.

15492. Subsection 19(3) allows the Panel to take into account community knowledge and Aboriginal traditional knowledge. GSA strongly urges the Panel

to do so in the present environmental assessment.

15493. Section 5 of CEAA 2012 sets out the environmental effects that must be considered. It specifically includes aquatic species as identified -- as defined in subsection 2(1) of the *Species at Risk Act* such as the southern resident killer whale.

15494. First and foremost, the stated purpose of CEAA 2012 in section 4(1)(a) is to protect the components of the environment that are within the legislative authority of Parliament from significant adverse environmental effects caused by a designated project. And I note that the Panel is required to apply CEAA 2012 for the purpose of protecting the environment in all areas of federal jurisdiction and not just within the Board's own jurisdiction to regulate pipelines.

15495. As I've said, I'm going to focus today on the southern resident killer whale. Before I go there, I want to emphasize that there are numerous other aspects of the environment on which the project would have unjustifiable significant adverse effects.

15496. One example is the effects of a pipeline or project-related marine shipping oil spill in or near the Fraser River or Salish Sea on chinook salmon. These have been addressed comprehensively by the Living Oceans Society and Rainforest Conservation Foundation and the Friends of Ecological Reserves. I commend to the Panel the final written arguments of those intervenors. GSA endorses those submissions.

15497. I'm going to make five point regarding significance. First, the southern resident killer whales are listed as endangered under Schedule 1 of the federal *Species at Risk Act*. This is a legal fact. It is not contestable, nor is it contested by Trans Mountain.

15498. The southern resident population is not merely sensitive or vulnerable. It is endangered. There were only 82 individuals in the population when the evidence was filed. As Trans Mountain's experts acknowledge, there are encouraging signs that the population is at least holding its own, but its longer term survival remains precarious.

15499. Section 79(2) of the *Species at Risk Act* requires you, the Panel, as the federal authority under CEAA, to provide special analysis and protection to the southern resident killer whale and its critical habitat. For an excellent analysis of

this crucial aspect of the project's mandate, I refer you to and endorse the final written argument of Living Oceans Society and Rainforest Conservation Foundation at pages 78 to 104.

15500. Second, regarding significance, there is a direct overlap between the project's geographic zone of influence and the geographic area of the critical habitat of the southern resident killer whale. Critical habitat is a key concept in the *Species at Risk Act*. As the preamble states, the habitat of species at risk is key to their conservation. The critical habitat of the southern resident killer whale has been scientifically established in the recovery strategy for the southern resident killer whale. Exhibit C291-1-4.

15501. One hundred (100) percent of the designated southern resident killer whale critical habitat in Canadian waters falls inside the boundaries of the marine regional study area and the U.S. portion of the marine regional study area is designated as critical habitat for the southern resident killer whale under the *U.S. Endangered Species Act*. These facts are acknowledged by Trans Mountain's own experts.

15502. Geographically, the project's impact on the southern resident killer whale is not a glancing blow on the periphery of the critical habitat. Rather, the project's impact lands squarely within the endangered species' critical habitat. The entire population spends much of its time in the project's marine regional study area.

15503. Counsel for Trans Mountain told you, in Calgary, in his oral submissions in December that:

> *"It's a situation where an endangered species' primary area is located pretty much smack dab in the middle of some of the busiest shipping lanes in Canada."*

15504. Transcript 25, Line 12285.

15505. I submit that the *Species at Risk Act* requires you, as a Panel, to reframe that to be "Trans Mountain is proposing a fivefold increase in oil tanker traffic smack dab in the middle of the critical habitat of the endangered southern resident killer whale."

15506. Trans Mountain's own experts candidly acknowledged that the project

would harm the southern resident killer whale because of sensory disturbance to the whales caused by underwater noise from project-related marine traffic. Acoustic disturbance reduces the amount of time that the whales spend feeding.

15507. In addition, acoustic disturbance also acts additively with other stressors in the environment. These effects are rated by Trans Mountain's own consultants as negative, long-term, high-magnitude, high-probability and significant. The project would have a significant adverse effect on the southern resident killer whale even without taking oil spills into account.

15508. The fourth factor regarding significance is that Trans Mountain's own evidence is that the project's adverse effects on the southern resident killer whale would be significant. The Trans Mountain consultants state, in so many words:

> *"The potential effects of increased project-related marine vessel traffic are determined to be significant for southern resident killer whales."*

15509. Exhibit B18-29, page 88-323.

15510. I note that despite its own evidence, Trans Mountain's legal argument flip-flops and slides around on whether the company acknowledges that the project would likely cause significant adverse environmental effects.

15511. At line 12137 of Transcript 25, counsel for Trans Mountain told you that:

> *"Trans Mountain submits that this evidence demonstrates the project is not likely to cause significant adverse environmental effects as defined in CEAA 2012."* (As read)

15512. Later, at line 12169, counsel allowed that the effects may be significant. And at line 12201, counsel said:

> *"The only predicted significant adverse environmental effects are for southern resident killer whales."* (As read)

15513. It is instructive that counsel for Trans Mountain did not take any exception when the Chairman characterized Trans Mountain's position as follows, start at line 12280.

> *"Trans Mountain has acknowledged the significant adverse effects in relation to two areas. One, in relation to residual effects on southern resident killer whale associated with increased project related marine vessel traffic. And two, in relation to traditional use associated to with the southern resident killer whale."* (As read)

15514. And the Chair went on and again counsel for Trans Mountain took no exception. Quote end.

> *"And the company has also stated that there are no feasible mitigation measures to address these significant effects."* (As read)

15515. My fifth point regarding significance is that a project related oil spill in critical habitat would necessarily have a significant adverse effect on the southern resident killer whale. The magnitude of the negative effect would of course depend on the size of the spill, the location, the weather, the water conditions, the time of year and numerous other factors that are outside the control of Trans Mountain.

15516. Furthermore, a project related oil spill would necessarily have a significant adverse effect on the southern residents' critical food supply, the chinook salmon.

15517. In conclusion regarding significance, the Panel must find, I submit, that the project is likely to have a significant adverse effect on the southern resident killer whale. I respectfully submit that any other finding on this point would not be reasonable.

15518. There is no valid justification for the project's significant adverse effects on the endangered southern resident killer whale population. There is a very real prospect that these adverse effects could push the southern resident killer whale toward extinction.

15519. The killer whale is an icon and a cherished part of British Columbian and Canadian identity. The killer whale is an indicator species; it is at the top if the food chain. As goes the southern resident killer whale, so goes innumerable other species crucial to a healthy marine ecosystem.

15520. The killer whale has significant cultural and spiritual value to First Nations as they have eloquently expressed to the panel. The killer whale is a significant draw for tourism and recreation in Georgia Strait.

15521. Trans Mountain characterizes the project's impact on the southern resident killer whale as purely a local matter. Counsel for Trans Mountain told the panel at line 12102 that:

> "*So, regardless of the clamour the authorities are clear that a specific individual's or locale's interest must be weighed against the greater public interest and if a project is in the greater public interest the specific interest must give way."* (As read)

15522. The *Species at Risk Act* is a full answer to that argument. It officially recognizes that while life has value to Canadians and is part of Canada's and the world's heritage, the threat to the endangered southern resident killer whale is a threat to the greater Canadian public interest. It is not merely a specific local interest.

15523. As for the clamour that Trans Mountain complains about, the *Species at Risk Act* states in the preamble:

> *"All Canadians have a role to play in the conservation of wildlife in this country, including the prevention of wildlife species from becoming extirpated or extinct."* (As read)

15524. Trans Mountain states, as would be expected, that the project's significant adverse effects on the southern resident killer whale and on traditional use are justified in the circumstances. Exhibit B-442, page 72.

15525. Significantly however, Trans Mountain does not directly state why these effects would be justified. Instead Trans Mountain lists numerous factors that it implies should be considered. Exhibit B44, page 310 to 311.

15526. None of these, I submit, justify significant adverse effects on the southern resident killer whale population. Trans Mountain states that:

> "*Neither Trans Mountain nor the NEB has direct control over*

> *marine vessel activity within the southern resident killer whale critical habitat."* (As read)

15527. This, I submit, is clearly irrelevant to whether the project's adverse effects are justified. However, it does highlight that neither Trans Mountain nor the NEB are in a position to eliminate the adverse effects on the endangered population if the project is allowed to proceed. Trans Mountain states that:

> "*The project will only slightly increase existing levels of marine shipping in the area."* (As read)

15528. Here, Trans Mountain is effectively trying to deny the established evidence that the project's effect on the endangered southern resident killer whale would be significant. That is not a justification. Trans Mountain states that:

> "*The shipping lanes that will be used by project related vessels already exist and are well utilized and subject to strict regulation by federal authorities."* (As read)

15529. The existing shipping is one of the factors contributing to the southern resident killer whale's status of being endangered. Adding project related marine shipping would increase the existing pressure on the species.

15530. As the authors of Lacey and others report:

> *"It is abundantly clear that under status quo conditions the southern resident killer whale population cannot withstand additional negative pressures, recover from its current endangered status, and persist."*

15531. Exhibit C291-1-6, page 2.

15532. Trans Mountain states that the shipping lanes will continue to host marine vessel traffic with or without the project. Again, this is an attempt to deny that the project's effect on the endangered population would be significant; it's not a justification.

15533. Trans Mountain states that:

> "*The impact will continue to be significant with or without the*

project." (As read)

15534. With respect, this is pure semantics. Of course the existing shipping will continue to significantly affect the southern resident killer whale in the absence of the project. But the impact of the shipping on the endangered southern resident killer whale population would be worse with the project than without the project.

15535. Trans Mountain states that:

> "*There is no clear solution that has been identified to alleviate the residual adverse effects mentioned above."* (As read)

15536. That is patently incorrect. It is abundantly clear that refraining from adding a new source of significant adverse effects is a measure that alleviates pressure on an endangered population.

15537. Finally, Trans Mountain states that:

> *"Any justification decision should consider Trans Mountain's commitment to work collaboratively with all interested parties and stakeholders, including existing shippers, to find solutions to adverse effects on the southern resident killer whale."* (As read)

15538. This would not prevent the harm and it doesn't justify the harm. When counsel for Trans Mountain was appearing in Calgary, Mr. Chairman, you asked how the Panel should weigh the project's significant impacts on the southern resident killer whale in making the public interest assessment.

15539. The response of counsel for Trans Mountain was limited to referring to Trans Mountain's intention to involve itself in the Port Metro Vancouver ECHO program, which stands for Enhancing Citation Habitat and Observation program.

15540. Counsel then made the audacious claim at line 12287 that because Trans Mountain would be involved in the ECHO program:

> "*If the project were to be approved there may be an actual benefit in protecting this species."* (As read)

15541. So in other words a five-fold increase in tanker traffic, which Trans Mountain acknowledges would have a significant adverse effect on the southern residents, would actually benefit the endangered southern resident killer whale. With respect, the Panel can and should quickly dismiss that argument.

15542. Significantly, the one argument that Trans Mountain has not explicitly made is that the putative financial benefits of the project justify deliberately adding to the stresses that have already pushed the southern resident killer whale to endangered status, but that really is what the company's position comes down to.

15543. The large amounts of money that Trans Mountain, as the shipper, and oil companies, as the owners of the diluted bitumen, say they would make if the pipeline expansion is built outweighs -- goes the argument, implicitly -- outweighs the significant adverse effects on the southern resident killer whale and on the traditional use associated with the southern resident killer whale. Georgia Strait Alliance urges the panel to reject that crass calculus.

15544. In conclusion on this central point, there is no justification for deliberately adding to the stresses that have already pushed the southern resident killer whale to endangered status.

15545. Turning to the CPCN application, the test is a broad public interest test. Trans Mountain would have you see the public interest test through the lens of the Board's role as an energy regulator. That approach, I submit, is long outdated. Under the *Species at Risk Act* and *CEAA* 2012, the Panel has additional legal mandates to protect biodiversity and to conduct environmental assessment.

15546. I have five points regarding the public interest test applied to the project.

15547. First, the project's oil spill risks and impacts are unacceptable. Oil spills do happen despite measures to prevent them. Counsel for Trans Mountain told you in his oral final argument at line 12179 that:

> *"Oil sands products have been safely transported by Trans Mountain Pipeline for decades."*

15548. With respect, that is simply wishful thinking.

15549. The existing Trans Mountain Pipeline and the extension to the Westridge Terminal have experienced numerous spills, both land-based and into the marine environment. Three of these occurred in the past 10 years.

15550. The 2007 rupture resulted in a 15-metre geyser of oil forcing the evacuation of homes in a Burnaby neighbourhood and significant quantities of oil ending up in Burrard Inlet. Reference Exhibit C77-28-1.

15551. Counsel for Trans Mountain also told you in Calgary that:

> *"The risk of an oil spill in the region if the project is approved will be fundamentally the same as it is today."*

15552. With respect, that argument defies common sense. The project would entail a fivefold increase in oil tanker traffic from the Westridge Terminal. Obviously, that would increase the risk of a marine oil spill.

15553. The panel should accept the City of Vancouver's evidence that Trans Mountain has underestimated the risk of a spill and that there is a substantial likelihood of a spill at the Westridge Marine Terminal or in Burrard Inlet over the project's lifetime.

15554. A major oil spill from project-related shipping would devastate the Southern resident killer whale, the marine environment more generally, coastal communities, the regional economy, and B.C.'s international image for decades to come.

15555. Trans Mountain takes a "blame the messenger" approach to this. Counsel said at line 12114:

> *"Trans Mountain is well aware that the timing of this project has coincided with the heightened public awareness of the risks associated with energy development and the transportation of petroleum products."*

15556. And at line 12115, he said to the Panel:

> *"A heightened awareness does not change the nature of the risks of pipelines. Those risks are well understood and have long been successfully managed."*

15557. What this apparently means is that in Trans Mountain's view the problem is the heightened public awareness, not the risk and consequences of an oil spill.

15558. And I submit that the Panel should be concerned, not reassured, by Trans Mountain's nostrum that the risks are well understood and have long been successfully managed.

15559. That is exactly the same kind of approach that led to the Lac Mégantic disaster, and more closer to home, to the M/V Marathassa spill in English Bay.

15560. Second, emergency planning and response in the project marine area is inadequate. GSA commends to the panel the report of Nuka Research and Planning Group commissioned by the City of Vancouver at Tsleil-Waututh Nation and Tsawout First Nation, Exhibit C77-31-2:

> *"...even with the enhancements proposed by Trans Mountain, the West Coast marine oil spill response regime would not be sufficient to respond adequately to a major spill of project-related diluted bitumen."*

15561. Furthermore:

> *"The likelihood of eventual..."*

15562. Excuse me. Inadequate funds, in my submission, are available to pay for the cost of responding to a major project-related marine oil spill.

15563. Furthermore:

> *"...the likelihood of eventual reimbursement [of costs incurred in responding to a project related marine oil spill] is uncertain at best. British Columbians and Canadians would be at considerable financial risk if the Project is approved."*
>
> *"Canada's West Coast oil spill response regime is characterized by poor communications, a lack of transparency, and a lack of clarity about roles and responsibilities. This was highlighted by the communication breakdowns that occurred*

during the flawed response to the M/V Marathassa spill..."

"Georgia Strait Alliance is particularly concerned about the deficit of local community involvement in oil spill planning and response [within] the Project marine area, as set out in GSA's evidence [at Exhibit C138-2-2]. Local governments are generally unprepared and unable to engage effectively in marine oil spill preparation and response activities, despite having an important role to play in a coordinated response. [This] is due in [large] part to a lack of engagement and communication on the part of senior spill response partners. Moreover, citizens are not consulted at all, and are given no recognized voice in spill planning or oversight."

15564. My third point going to the public interest test is that the Panel should conclude that the project has no net economic benefit to Canada.

15565. GSA submits that the project should reject Trans Mountain's claim that the project would have vast financial benefits. Trans Mountain's evidence exaggerates the financial benefits and fails to take into account the direct costs and the opportunity costs of the project.

15566. In addition, Trans Mountain's evidence fails to take into account the potentially enormous economic costs of the project harming the health of the Salish Sea. A project-related oil spill would jeopardize the significant jobs and revenue generated by tourism, outdoor recreation, sport fishing, and other sectors.

15567. GSA commends to the panel the report prepared by Dr. Gunton and Associates at Exhibit C214-30-2.

15568. Fourth, the project is contrary to Canada's new commitment to transition to a low-carbon economy. Construction of the project would lock in transportation infrastructure for diluted bitumen and other carbon-intensive fossil fuels. This would exacerbate the GHG emissions associated with extraction and combustion of the fuels as well as with the transportation itself. It would perpetuate Canada's overreliance on the fossil fuel industry and hinder the development of Canada's clean energy economy. The project would push Canada farther down the path of climate destabilization rather than towards the new Canadian government commitment to transition to a low-carbon economy.

15569. Fifth, as I stated earlier, the Panel should determine under *CEAA* 2012 and bearing in mind the *Species at Risk Act* that the project's significant adverse effects on the Southern resident killer whale are not justified in the circumstances. This determination should be given substantial weight in supporting a decision that the project is not in the public interest under the *NEB Act*.

15570. I will turn now to the GSA expert evidence regarding coastal local government marine oil spill preparedness and response.

15571. GSA commissioned the Social Planning and Research Council of British Columbia, SPRC BC, to prepare the report filed as Exhibit 138-2. The authors are Jason Copas, Matthew Waugh, and Scott Graham. The focus is on local governments with coastlines on the Georgia Strait and adjacent waters.

15572. The primary emphasis is on coastal local governments outside the Lower Mainland who are not intervening in this proceeding. The authors interviewed local government emergency management personnel and compared the marine oil spill response regime in the Georgia Strait region to the comparable regimes in Washington State and California.

15573. The authors concluded that local governments in the Georgia Strait region who participated in the study generally see themselves as unprepared for a marine oil spill.

15574. The respondent local governments are mostly unclear about their roles before, during and after a marine oil spill. They feel unsupported in their efforts to gain clarity about their roles.

15575. **THE CHAIRMAN:** Sorry, I see you've noted that you have five minutes remaining.

15576. **MR. ANDREWS:** Documented procedures for local government involvement in activities regarding marine oil spills in the Georgia Strait region are largely absent. The local governments reported little or no engagement with WCMRC or other marine oil spill regime leaders.

15577. Many of the interviewed local governments in B.C. see themselves as well suited to contribute to particular activities regarding marine oil spills. However, the limited engagement by senior partners with local governments has led to a situation in which local governments lack clarity about their roles in the

response regime applicable to the Georgia Strait region.

15578. The SPRC BC report reinforces, I submit, the broader conclusion that the marine oil spill planning and response capability in the project area is inadequate at the present time.

15579. The report concludes with recommendations aimed at strengthening the marine oil spill regime applicable in the Georgia Strait region. GSA urges the Panel to adopt these recommendations as terms and conditions within the package that the Panel will provide under section 52(1)(b) of the NEB Act.

15580. I will highlight two or three of these briefly. The first is that the federal government should ensure that all oil spill response plans, including those of WCMRC, the Canadian Coast Guard, provincial and local governments and industry, are available in the public domain. Currently, they are not.

15581. Second, senior response partners should improve their communication and engagement with local governments regarding marine oil spill planning and training in the Georgia Strait region.

15582. Third, Trans Mountain should be required to fund an independent regional citizens' council for the B.C. south coast. This council would provide citizen oversight of marine oil spill planning and response and hold the oil spill response partners accountable to local communities.

15583. Georgia Strait Alliance has made numerous detailed comments on the Board's Draft Terms and Conditions. I won't go through them all but there are three themes. The first is where the Terms and Conditions refer to the project, that should explicitly include project-related marine shipping.

15584. Second, where the Terms and Conditions refer to consultation regarding matters associated with project-related marine shipping, the description of the parties to be consulted should explicitly include coastal local governments and community stakeholders.

15585. And third, the Terms and Conditions must go beyond merely rubberstamping the marine commitments that Trans Mountain has already made.

15586. Georgia Strait Alliance wishes to put on record that it is very dissatisfied with the present proceeding. Georgia Strait Alliance has chosen,

optimistically, to continue to participate fully and actively. However, many other intervenors have expressed their frustration by dropping out. GSA believes that the Panel made a fundamental error in ruling that it would not assess that the environmental impacts of the oil industry upstream of the project or of the processing and combustion of the shipped product downstream of the project.

15587. At the same time, with respect, as the Board hears the company's assertions about the punitive financial benefits of the project on the whole economy, the Board is deliberately closing its ears to any evidence of the GHG emissions consequences of the incremental upstream and downstream activities that the project is expressly designed to facilitate. This is an anachronistic approach.

15588. In GSA's view, it's absurd to imagine that the Board can make a balanced, well-informed decision on whether this oil pipeline project is in the public interest without fully considering the project's impact on climate change.

15589. Briefly, GSA expresses regret that the process has substantially failed to provide adequate engagement and consultation with numerous First Nations, and the Georgia Strait Alliance is deeply troubled by the Panel's exclusion of hundreds of well-informed engaged citizens from participating in this proceeding.

15590. Subject to any questions, those are my submissions.

15591. **THE CHAIRMAN:** Thank you, Mr. Andrews. If you could give us a few moments?

--- (A short pause/Courte pause)

15592. **THE CHAIRMAN:** If you may, we're going to probably take a short, maybe five-minute break, to have a discussion. Thank you.

--- Upon recessing at 3:28 p.m./L'audience est suspendue à 15h28
--- Upon resuming at 3:37 p.m./L'audience est reprise à 15h37

15593. **THE CHAIRMAN:** Thank you, Mr. Andrews, for your indulgence. And I think the Panel does have some questions.

15594. Ms. Scott first, please.

15595. **MEMBER SCOTT:** I'm interested in pursuing your description of the interplay between the purpose section of CEAA and SARA and our own Act and jurisdiction. I think you quoted section 4(1)(a) or paraphrased it and suggested that we had -- we were required, in essence, to protect the environment in relation to all elements of federally regulated undertakings, and, as I understand it, the scope of 4(1)(a) is limited to, in our case at least, that are caused by the designated project. And typically, the NEB's jurisdiction ends at the Westridge Terminal.

15596. And I wondered if you could help me understand how the jurisdiction of other regulators, federal regulators that do have jurisdiction beyond the NEB's, how or whether that affects your assessment of our obligation?

15597. **MR. ANDREWS:** The -- first of all, just to be sort of accurate about it, the purpose section is CEAA 2012 refers to components of the environment that are within the legislative authority of Parliament. So that's a constitutional authority to legislate whether not that authority has been exercised by way of statute.

15598. But, specifically, I think what you've raised are two somewhat different questions. One is the fact that the pipeline ends at Westridge Terminal and what should happen with the marine impacts; and the other is the purpose of CEAA in relation to the Board's own regulatory authority.

15599. So if I may first start with the pipeline where the Board has regulatory authority and Canada has legislative authority, constitutionally, CEAA is saying that the Board must include in its consideration the environmental effects on matters, for example, regarding fish and fish habitat under the *Fisheries Act*, even though the Board does not have regulatory authority over fisheries, some other department does. And so that's -- in that sense the Board has to go beyond its own traditional pipeline regulatory role and consider whole new aspects of the environment that are under federal jurisdiction.

15600. And then to do with the effect of the marine -- project-related marine shipping, that's a matter of the impact of the project and the Board has scoped in project-related marine shipping as an aspect of the project regarding which it will determine environmental effects. So that decision has been made, and I submit it's fully within the Board's jurisdiction and quite proper for it to have done that.

15601. So the project-related marine shipping is within the effects of what the

project -- of what the environmental assessment is considering. So the fact that the Board doesn't appear to have direct regulatory authority over marine shipping, is not relevant because there are other federal authorities that do have jurisdiction over the marine shipping component, and that's both in terms of the navigation and shipping-related powers and also the Species at Risk powers.

15602. So what I'm saying there is that the -- that the Panel here needs to address the -- in this case the impacts on the southern resident killer whale fully; that it has a purpose under CEAA to protect the components of the environment, including, in this case, the Southern resident killer whale, because that is within -- that's a component that's within federal constitutional authority, even though the Board doesn't have regulatory authority.

15603. **MEMBER SCOTT:** Okay. I think I have your argument. Thank you.

15604. **MR. ANDREWS:** Yes.

15605. **THE CHAIRMAN:** Just following up, when you had your three points in conclusion on marine shipping, consultation, and -- along with local governments, and the conditioning aspect. And as I was going through your -- you laid out your conditions, some on 15 --starting on 15 some of them, that the adequacy of engagement and communication from senior marine oil spill response part of this local government.

15606. Then you talked about your recommendation regarding a consultative committee, and then regional citizens' counsel which you mentioned as well. And then I'm coming to a marine shipping-related commitments and your approach to have a participation and funding of coastal local governments and oil spill planning, training, and response.

15607. And I'm trying to -- it's partly in response to Ms. Scott's question and some of your argument, is it jurisdiction for us to do something, to recommend something, to put something onto other bodies, federal bodies, that have responsibility for this as well. And also during the City of Port Moody and the District of West Vancouver, their similar concerns about involvement of the communities and also in a framework of oversight on it.

15608. So I've probably got two questions, is the integration of all of that, and I went to a little bit with that with Port Moody and the District of West

Vancouver; how to coordinate all that so that not every -- we have a problem where nobody knows who's doing what and we're all trying to do the same thing and make a better response scheme, how to handle all -- any spills that come along and involve all the people that should be involved.

15609. So your thoughts on jurisdiction perhaps, you answered a little bit to Ms. Scott, but also coordination along the whole coast, whether it's a group in Burrard Inlet, whether it's coming up the Georgia Strait, all of those things. If you have sort of a framework or some help me -- help me to understand so I -- you know, we can consider what we should recommend and how far we can go with this.

15610. **MR. ANDREWS:** I think there are two parts to the answer to that, the response to the question. One is the range of powers and levers that the Board has -- the Panel has to cause things to happen in the world, and the other is the -- what exactly needs to happen in the world.

15611. So my submission, first of all, the Board has a broad array of tools that it can use. It -- from the soft end, the Board can comment in its reasons, it can identify gaps. It may go no farther or it may make comments regarding what might be possible solutions, all the way through to the other end of the spectrum. The Board can require, if it issues a Certificate of Public Convenience and Necessity, obviously that certain terms and conditions are attached to that certificate.

15612. One of the particular hooks that the Board has over the Applicant in this case is the Westridge Terminal criteria for receiving tankers. So, for example, the -- that the Proponent would have to commit that the Westridge Terminal would receive tankers that meet certain criteria that are linked to the outcomes that the Panel has determined are priorities in relation to marine oil spill response.

15613. On the other side of the equation, I would not suggest that this Panel is going to singlehandedly resolve the coordination challenges regarding response to a marine oil spill in Georgia Strait on both sides of the border.

15614. What the Panel can do is help focus attention on the problems due to lack of coordination, and it can make suggestions about how to improve that, and if it does recommend approval, or even in the terms and conditions I submit that it

is certainly within the power of the Board to recommend that terms and conditions include measures that will go toward dealing with the coordination issues.

15615. I'll leave me response at that and ask -- invite any further questions if that hasn't fully answered your question.

15616. **THE CHAIRMAN:** No, that's very helpful and I didn't see Ms. Woodworth was dying to jumping up. You're happy to -- you're fine to go ahead. That's fine.

15617. With that we thank you for your presentation today for -- on behalf of the Georgia Strait Alliance and we can assure you we will continue to consider all the evidence that comes in front of us as we move on this -- through this process, but I thank you.

15618. And next up we have Ms. Barbara Gard who's going to make...

--- (A short pause/Courte pause)

15619. **THE CHAIRMAN:** A short five minute break just to get ready.

--- Upon recessing at 3:49 p.m./L'audience est suspendue à 3h49
--- Upon resuming at 3:51 p.m./L'audience est reprise à 15h51

15620. **THE CHAIRMAN:** Thank you. Thank you and welcome to this afternoon. You are our last presenter today on a Saturday and we thank you for that and we're looking forward to hearing your oral summary argument.

--- FINAL ARGUMENT BY/ARGUMENTATION FINALE PAR MS. BARBARA GARD:

15621. **MS. GARD:** Thank you for the opportunity to speak to the National Energy Board as an intervenor. My name is Barbara Gard.

15622. I'm a landowner of Tract 2488 in Abbotsford. For the past months I spent odd moments contemplating how to begin this presentation, what to say.

15623. One thought was to start off by introducing myself, stating my name, and that I am nobody of any importance for you to listen to. I am not a scientist,

biologist, environmentalist, politician or lawyer. I do not have a corpus of scientific research or legal arguments to present to you.

15624. I am just one person; a landowner of a property with Trans Mountain, Kinder Morgan, Canada Pipeline Easements running through it.

15625. All I have to offer today are the experiences I have borne witness to since October 2012, when KMC began its reconnaissance of my land to prepare the documentation for application to the NEB for Trans Mountain Expansion Project.

15626. A coincidence is that a few weeks ago, I was expressing my concern to KM regarding environmental damage to McCallum Brook as result of a pipeline integrity dig on a section of pipeline that is part of the expansion project.

15627. A dig which impacted McCallum Brook on the property adjacent to and upstream to my property, from which myself and my neighbours take our water and that supports an amphibian species at risk.

15628. The coincidence is that in this discussion, it was said, to the best of my memory, "Barbara you're just one person, this is just one small section of pipeline. TM covers thousands of kilometres of pipeline, hundreds of watercourses. You are the only person that this is important to. No one else cares like you about this small watercourse."

15629. Implying I am no one of any importance to listen to. I do not want to be here today and there should be no reason for me to be here today. If all the statements that TM have made and promised about their commitments to the environment and landowners, and if all the rules and regulations the NEB has put in place with the belief and understanding that they would protect the environment and landowners, I would not be here today.

15630. My presentation will address three of the issues under consideration at this hearing, through factual description, observational data.

15631. The issues I address are number 4, the potential environmental and socioeconomic status of the proposed project, including any cumulative environmental effects that are likely to result from a project.

15632. Number 10, the potential impacts of a project on land owners and their

land use; and number 8, the terms and conditions to be included in any approval the Board may issue.

15633. I have lived at my property since June 2010. The property is seven-and-a-half acres located in lower Sumas Mountain, which is a unique ecosystem home to several endangered and species at risk.

15634. Part of the property was a beautiful wooded acreage dissected by McCallum Brook. At the time of the purchase the TM easement on the property presented as 6 to 10 metres tract, with a white and yellow pipeline markers mostly hidden by tall grass, bordered by blackberries and shaded overhead by an arbour of tree branches.

15635. Everyone who visited commented on how beautiful the property was. I enjoyed seeing deer and bear, watching and hearing owls swoop overhead and land on the lateral branches of mature maple trees.

15636. I even had the unusual pleasure of spotting a rare porcupine and of seeing the very, very elusive mountain beaver, recognized as the oldest rodent in the world; a species that I had never heard of, as well as the more common opossum and raccoons and rabbits. It was my very own small Stanley Park. A walk on the property was peaceful and relaxing.

15637. Note; this description is past tense.

15638. In August 1952, the land owner of a property was paid the sum of $29.82 by the Trans Mountain Oil Pipeline company, for a 60-foot easement; $29.82, 63 years ago.

15639. In October 2012, I was contacted by Trans Mountain and asked to sign consent to various legal environmental surveys and general route reconnaissance for the Trans Mountain Expansion Project.

15640. I expressed my concern, that I use a property for a dog kennel and ran the dogs on the right-of-way throughout the day. I was informed that I would receive compensation and accommodation -- when the expansion project was approved and the pipeline went ahead -- for example, to pay to put my dogs in a boarding kennel, but that I was not entitled to any compensation during the reconnaissance period.

15641. Illogical statements and situations befuddle me. As a landowner, and in this case a dog kennel operator, the degree of inconvenience is no different if a restriction occurs during the TM reconnaissance period or during the TM Pipeline Expansion Project.

15642. KM stated they had no obligation to pay me anything for my time or inconvenience or restricted use of my land, nor would they for reconnaissance.

15643. As a landowner since October 2012, the pipeline expansion project has taken over my property and my life. I keep hearing and reading references to if the project is approved, then these are the conditions that will apply. As a landowner the project is not an 'if'; the project has been my reality for the past three-plus years.

15644. To meet the requirements for the application to the NEB for the Trans Mountain Pipeline Expansion Project there has been a continual stream of KMC contractors taking access to my property; contracted surveyors of a watercourse, routing, right-of-way, pipeline location, invasive weeds, fisheries, Aboriginal stakeholders. With one notable exception, to the best of my knowledge and my request for documentation from KM no one to do a survey identifying species at risk or the endangered species on my property.

15645. So many contractors, even the contractors that presented as employees of KM turned out to be contractors.

15646. At one point, I wondered to myself whether KM was an actual company that had employees. This fall, the KM employee who finally stepped in after two years of destruction to my property, had to put a contractor in charge of another contractor to try to prevent more destruction to my property because the KM employee was needed on a pipeline project.

15647. I emphasize this as it has been a very real issue for me as a landowner to deal with contractors, rather than company employees, and I think it is an issue of concern for the pipeline expansion project overall.

15648. Employees know and represent the ethos of a company. They have a history with a company, their employer and what it represents; contractors do not. They know and represent the ethos of their employer and their narrow area of specialization.

15649. Lack of direct communication network is a concern for project safety and efficacy. You can write rules and regulations and conditions to be met by a company, but it's people that carry them out and it's human error that underlies disasters.

15650. The agreement with me as landowner is with KM. The obligation of a contractor doing the work on my land is to meet the contract to KM.

15651. They have no contract with me as a landowner. I am a fly in the ointment. I have felt like they have no sense of obligation to me or to respect my property.

15652. So inconsequential, they can make derogatory comments about landowners, call me on a Sunday to say they are coming on my property the next morning or not even notifying me they're coming giving me the impression that they see the land as belonging to KM, not to me as a landowner.

15653. Twenty-nine dollars and eighty-two cents ($29.82) has bought them 24 hours a day of ingress and egress to my property.

15654. Trans Mountain states that what they value the most is safety and the environment. We live in a treasure, a unique place, and we've got to look after it. Our commitment to environmental protection extends before, during and after construction. Our goal is to protect the environment and have as little impact as possible.

15655. Where we do make an impact during construction, we ensure that we are returning the land to its original function. This is what I was promised when the TM Expansion Project reconnaissance began, that when TM finished their work, I would not be able to tell they had been on my property.

15656. The first stage of reconnaissance was to do some clearing of a right-of-way. The promises, in advance of the clearing beginning, they would mark out their right-of-way boundary. They would mark each tree that needed to be removed. They would not cut down the mature pacific dogwood trees. When the ground crew arrived, the work would take a day or two. Branches of trees would be taken off a property. They would make sure gates were closed so no dogs could escape.

15657. I mentioned how beautiful my property was in the past tense because

these promises were not kept. TM did not survey the boundaries of their easement. They did not mark the trees so I could see in advance what they would remove.

15658. Fact: they spent seven days mowing and cutting every tree branch along the corridor. They mowed down the habitat of a red-listed Oregon forest snail. They mowed all the riparian area of McCallum Brook. They mowed the riparian area of a blue-listed northern red-legged frog, a species of concern nationally. They travelled back and forth over McCallum Brook and the riparian area with heavy equipment.

15659. Fact: they cut trees beyond the boundary that they had discussed with me as belonging to their easement.

15660. Fact: they cut the mature pacific dogwood tree, British Columbia's provincial tree which has had protected status.

15661. Fact: The federal government permitted them to cut one-third of the trees within the riparian area of McCallum Brook and they advised me that they are permitted to cut down one-third of the trees in a riparian area every year. They chipped the wood and blew it over the habitat of the Oregon forest snail to a depth of 10 centimetres or more.

15662. They cut every lateral branch from trees along the corridor, including the mature maple tree branches where the owls perched. They left branches and debris and sharp wood chips over the total easement area that made it difficult and unsafe to walk until they came back to clear it up almost a year later.

15663. They left large cut branches hanging in the trees. They left the field gates open, not once or twice, but four times, including when they called to tell me that I could let my dogs run below when they took their lunch break. In seven days, they turned my mini Stanley Park into a causeway. I find empty Oregon forest snail shells under the woodchips.

15664. The branches the owls perched on are gone, so so are they. I no longer have the pleasure of listening to them and watching them swoop overhead. There is no beauty in a property lined with trees that have half their branches sheared off. The peace and pleasure and relaxation and ease the property afforded me was destroyed in seven days. It went from beautiful to a scar -- $29.82.

15665. TM is right; I am only one person that sees and cares. If this destruction occurred in public view, I believe it would have generated a fuss.

15666. The word "mitigate" is used in several of the draft conditions. Number 44 outlines requirements for the project regarding wildlife species at risk mitigation, habitat restoration plans. The meaning of the word "mitigate" is the effort to reduce loss of life and property by lessening the impact of disasters; to make less severe or painful. It does not reference preventing the disaster from happening in the first place.

15667. TM's initial promise to me at the start of the reconnaissance was that there would be no noticeable impact of their work on my property; ergo, there would be no actions taken that would require mitigation.

15668. TM has since told me that the clearing could have been done with greater sensitivity, without noticeable and/or less visual impact. Three years later, I am now told that in the future, they know of and can provide someone to complete work on my property that would be sensitive to the environment.

15669. TM's mitigation plan for the disaster on my property: the trees will grow back. You won't notice. I am 60 years old. By the time the 25 to 40-year old trees grow back, I am likely to be dead or living in a seniors' home.

15670. According to the NEB Landowners Guide, compensation is available for damages suffered as a result of the operations of the company. KM's response: "There is now way to put a cost value to trees or beauty. Therefore, no value to compensate for." If it had been corn or blueberries and I could document the loss of income, I could be compensated.

15671. Most recently, I was told that maybe the loss equated to a few hundred dollars. One young tree at a garden store can cost several hundred dollars. Four men spent seven days clearing my property. Each time I raised the question of compensation with KM, the response was always that I have no right to any compensation.

15672. If this destruction is a one-off occurrence and anomaly, I would most likely not have applied to be an Intervenor to speak to the NEB Board today. I do not believe that what happened on my land is an anomaly.

15673. The NEB can draft conditions that have the intent of protecting the

environment and TM can make statements about their commitment and goals to protect the environment, but it comes down to people.

15674. I have mentioned how most of the people who have been on my property for reconnaissance have been contractors. The KM employees I have met have to do with a pipeline integrity and maintenance.

15675. KM is very vigilant about monitoring pipeline safety and security. If I move a branch from one area to an area within the pipeline right-of-way or take stones out of a creek to improve water flow, a pipeline integrity manager may be at my gate the next day to check the disturbance to the property. Pipeline employees reflect KM's due diligence for pipeline integrity.

15676. To review my concern about the environmental damage to my property, KM sent a pipeline integrity manager to meet with me about two years ago. If the environment is of equal importance and high value to KM, would there not be an environmental integrity manager?

15677. An environmental integrity manager could have monitored and prevented the mowing down of a riparian area each year. An environmental integrity manager could have not permitted heavy equipment to cross back and forth across McCallum Brook, each year damaging the integrity of the watercourse; could have protected the riparian area of a blue-listed northern red-legged frog, nationally recognized as a species of special concern; could have prevented the habitat of the red-listed Oregon forest snail from being destroyed.

15678. An environmental integrity manager could have made sure that an environmental survey of the endangered species and at-risk species habitat was on file and adhered to for all pipeline operations, maintenance, reconnaissance or expansion; could have overseen clearing of nuisance alders and poplars, but not mature maples; could have recommended a plan for preventing the encroachment of blackberries, which require mowing four times a year, not once a year; could have prevented the loss of owl and bird habitat by making sure that lateral branches at different flight heights remain; could have monitored the integrity of habitat restoration and be familiar with core current best practices.

15679. An environmental integrity manager could monitor best local practices for rehabilitation and restoration for disturbance to the local watercourse rather than relying on a generic cookie-cutter plan.

15680. Poor environmental practice has not been a one-off occurrence. It has not been an anomaly. It has been an ongoing occurrence with incident after incident. Nor do I believe that what happened on my land is a unique situation.

15681. The people on and off my property work along the pipeline corridor. I believe it reflects the ethos of a company that perceives environmental requirements as somewhat bothersome steps needed to make NEB requirements.

15682. KM makes many fine statements and advertisements about their commitment to the environment and how they hold it dear to their heart, but as the saying goes, "The proof is in the pudding." It's not what you say but what you do that counts. What you do, your actions, reflect your true values.

15683. If KM held their environmental practices to high standards, they would actively recruit and have on staff the best professionals in the field, experts in watercourse restoration and habitat maintenance, but they do not. They hire contractors.

15684. NEB requires only that they meet minimal standards. When the wrong design was used for restoring McCallum Brook after the pipeline integrity dig, I asked KM to engage a highly respected professional expert in the field of watercourse restoration to provide design information regarding current best practices. KM offered $500 to cover the cost.

15685. The alternative possibility is too worrisome for me to consider that the integrity of the standards and practice of the environmental work I have seen aboveground are the same as KM's standards of practice for the pipeline underground.

15686. If minimal environmental standards means TM does not see any problem or difference between a marshland habitat, once a mountain ravine watercourse, and a Coho salmon stream I sure hope they know the differences in quality of pipe and that the NEB will require them to choose the highest standards rather than minimal standards.

15687. The pipeline is built in segments. Each joint where the segments meet have to be perfect for product flow not to leak. Gradients have to meet and match and the seam has to be perfect and well-monitored and maintained.

15688. In attempting to explain my concern about the wrong restoration

design of a segment of McCallum Brook they have removed I use the pipeline anomaly -- pipeline analogy. The joint of the segment upstream and the joint of a segment downstream have to fit perfectly and at the right gradient for the water flow of a brook to be able to function as it needs to for downstream flow. It requires the same quality and care and maintenance and monitoring as a pipeline does. They didn't like the analogy. Like my land, McCallum Brook is a disaster.

15689. People have different skillsets. Good management requires employing people who are skilled at the task required. Having someone that is excellent at using heavy equipment for clear cutting is important but that is not the same skillset required to do careful habitat restoration or revegetation. Habitat restoration requires someone that recognizes the difference between the branches of native thimbleberry, salmonberry, snowberry, and the invasive blackberry, and the work needs to be done by hand.

15690. If TM truly valued the importance of the environment they would have employees as dedicated to the environmental protection and safety as they have for pipeline protection and safety. Every KM person I have met doing an environmental study or environmental maintenance has been a contractor working for a contracted company.

15691. I have witnessed incidents on my property that clearly reflect a lack of environmental care, knowledge, and/or sensitivity. KM tells me that every contractor equally reflects the values of the company as any employee. If this is the case, what I have witnessed leads me to believe that KM has an ethos that sees the environment as a hindrance to the pipeline expansion and pays lip service to environmental protection and best practice.

15692. The most compelling incidents have to do with a destruction of a habitat of the endangered red-listed Oregon forest snail on my property. The KM people that destroyed the Oregon forest snails' habitat were the ones that told me the possibility of it being found on my property.

15693. They told me it lived where stinging nettles and maple trees were found and said that finding a red-listed Oregon forest snail on a property was the only thing that would create a hindrance to the pipeline expansion. I had never heard of the Oregon forest snail at the time, or that it was a red-listed species, or what its habitat was and that it might be on my property.

15694. If you were interested in the environment, knowing that you could find

a red-listed species -- pretty cool and exciting -- what you wouldn't do would be to destroy the habitat by mowing down all the stinging nettles, cutting down the maple trees, and pouring wood chips over the area where it might be found before first having an environmental biologist check to see whether the Oregon forest snail would be found in the habitat.

15695. You would know how rare a red-listed species is so that when you really did find an Oregon forest snail shell in the area that was razed to the ground you would not pick it up, look at it, and throw it away saying "Ah, we find these everywhere" because you would know the difference between the shell of a red-listed species and the common Pacific Sideband snail.

15696. You would listen to the environmental biologist recommendations and follow them, not ignore them the next day and do exactly what you were told not to do.

15697. You would know that bee and insect habitat is to be protected; that the Pacific Dogwood tree and the hybrid Eddie's White Wonder Dogwood are not the same. You don't plant Eddie's White Wonder in a woods to replace the native tree that you should not have cut down in the first place; that the native dogwood is extremely difficult to establish, which is why it was protected.

15698. You would know the difference between invasive species and native species. You would respect riparian areas and be excited to learn that it was a habitat of a Northern Red-legged Frog and know that the habitat is to be protected from degradation and it's protected under the B.C. *Wildlife Act*.

15699. You would understand the meaning of a habitat corridor and not use the word "just" as if it means that a corridor is not important. You would know how delicate an ecosystem is. You would know that a watercourse is a continuum from headwater to outflow, that you can't disconnect a section in the middle without impacting downstream.

15700. I have mentioned that I and the neighbouring properties draw water from a shallow well out of McCallum Brook which transits north/south to my property. The pipeline passes under McCallum Brook upstream of a property immediately adjacent to mine which is owned by the City of Abbottsford and passes under McCallum Brook downstream from my well at the south end of my property.

15701. The pipeline expansion will require the removal of McCallum Brook during the construction phase upstream and immediately adjacent to my property and just upstream from my well. The expansion project area identified also includes a portion of McCallum Brook on my property within the KM easement.

15702. I have to believe that the NEB thinks that they are including draft conditions that will protect McCallum Brook during the pipeline expansion project; that when the expansion project is over KM will have been required to restore McCallum Brook to what it looked like before it was removed and then rebuilt.

15703. This is exactly what KM publicly promises. They avow after construction we put the contours back, we make sure we protect all those features like the soils, the water, and the habitat for the animals. When we are finished our job it should look right, it should function correctly, and it shouldn't strike people that something disruptive happened there.

15704. Now, here is a conundrum. Which version of McCallum Brook is the NEB going to expect KM to restore it to? The pipeline has altered the brook three times and McCallum Brook has never been restored to its natural design, flow, habitat, or riparian area by TM.

15705. The real McCallum Brook flows through a mountain ravine flanked by ferns, thimbleberry, salmonberry, snowberry, vine maple, alder, poplar, western red cedar, dogwood. The real McCallum Brook averages six feet wide, 15-feet deep. It's a ravine. The soil in the area is heavy clay topped with soil and plant debris. There's lots of shale rock and the creek bed is composed of various size rocks from small to occasional boulder. The water flow varies from periods of high flow that would carry down small logs and boulders to periods of recent drought conditions when water flow has been reduced to a small trickle.

15706. Two species at risk rely on McCallum Brook for their survival. The elusive mountain beaver relies on the water from a brook at the south end of my property. Before I saw one, I never even heard of a mountain beaver. Suddenly before me was a strange animal that looked like it came from Australia.

15707. The mountain beaver is considered to be the world's most primitive living rodent species. That's pretty special. Its habitat is very limited, one of which is the lower Sumas Mountain, including the corridor of the pipeline expansion. The mountain beaver has primitive inefficient kidneys and must drink

one-third of its weight in water every day. It needs water in McCallum Brook every day or it dies.

15708. The other species at risk is a Northern Red-legged Frog which lives in the habitat around the brook laying eggs in the slow-running pools and living on the forested banks.

15709. The section of McCallum Brook that is on my property that is not pipeline easement is truly beautiful west coast nature at its best. Then there are the KM versions of McCallum Brook. They do not resemble the real McCallum Brook at all.

15710. McCallum Brook version number one would be what the brook looked like after the original pipeline construction which involved cutting down the trees, blasting the rock, leveling the ravine, creating a grade for maintenance vehicle access. In the south crossing, riprap was used to stabilize the banks. So I'd assume the same was used on the section upstream of the property.

15711. McCallum Brook version number two would be what the watercourse transformed into between then and this fall. The NEB draft conditions and KM statements indicate that post-construction monitoring program last for five years.

15712. Version 2 is what happens when a watercourse has not been rebuilt to original condition and is left unmanaged for years. The mountain ravine watercourse becomes a marshland with willow trees and bull rushes, not vegetation common to a rainforest.

15713. With the leveling of a ravine, the flattening out of a gradient, the removal of a natural vegetation and trees, the watercourse filled in. The riprap settled into the brook. Vegetation materials upstream washed down into it. Soil and silt filled in the brook so it became a mudflat and marshland with blackberries taking over the native vegetation with the exception of some persistent native ferns. Willow took root in the midst of a watercourse further impeding water flow downstream during drought conditions.

15714. In October, KM completed an integrity dig on the section of pipeline going under McCallum brook. This required removing the watercourse and then putting it back. Now, what version of McCallum Brook would you think was required to be rebuilt? The real McCallum Brook or Version Number 1 using a 60-year old design that failed, or Version Number 2, how it looked immediately

prior to the integrity dig, the marshland? Which version would KM be required to rebuild given the environmental protection standards the federal government has in place and the intent of the draft conditions?

15715. Given the lack of environmental integrity I had witnessed on my property, I still naively believed KM when I was told that the watercourse would be better after the work than before. With drought conditions for the third summer in a row, to maintain water flow downstream and keep the mountain beaver alive, this segment of brook needed to be cleaned and restored.

15716. The City of Abbotsford told me they had zero budget for watercourse restoration and did none. KM told me that they could not get approval to touch a watercourse to clean it up due to federal and NEB guidelines.

15717. I naively assumed that making it better meant restoring it to the real version of McCallum Brook. After all, it was 2015 and all around North America watercourses altered over the last 50 years are being restored to their natural state. Or would restoration mean they would have to put it back to the way it was before they started the dig, the marshland?

15718. When contractors came up with McCallum Brook Version Number 3, I was gobsmacked, to say it politely. Version Number 3 was construction of a coho spotting stream. Photos are included in supplemental evidence A74411 and A7440.

15719. Basically, small round rock placed over a landscape fabric with riprap covering a low bank. Version Number 3 is engineered for pipeline integrity. I do not understand what environmental standards they have met to have this approved. It's a disaster.

15720. Amphibian habitat has not been replaced. Foreign soils, rocks, plastic sheeting have all been introduced into the watercourse, while polyethylene sheeting-come-landscape fabric has a lifespan of 5 to 10 years, will disintegrate and flow downstream.

15721. In one glance at the completed project, I advised them it would fail with the first rainfall as the watercourse design did not fit the water flow volume. Maybe the design was based on drought condition water flow. It was designed to meet pipeline integrity standards, not environmental integrity standards.

15722. KM left the project. Three days later, it rained. The design failed. All the round rock rolled downstream with the water flow and into my section of McCallum Brook. A few weeks later they mitigated the disaster by replacing the round rock with large rock-come-boulders, a mitigation measure that will impede water flow downstream during low flow periods. When would the failure have been noted if I didn't live next door to see it occur?

15723. I have, in my written argument-in-chief, outlined concerns I have with the draft conditions, which I believe are insufficient environmental protection. The conditions would not protect any of the outcomes I have described in this oral summary.

15724. Consultation with landowners is often not required. There's no language protecting wells. There's no language protecting secondary growth, trees that can be well over 50 years old, only language protecting old-growth trees. They include lots of language about plans and studies but not nuts-and-bolts requirements to make sure the land is revegetated to its natural habitat.

15725. Five years is not enough time to re-establish a habitat, especially when methods required to do so are not implemented. Environmental management and monitoring needs to continue for the lifespan of the project before, during and after construction. Plans sound good, but proof is in the pudding.

15726. When NEB conditions require KM to restore habitat to how it was before construction, what will be meant by before? KM has already destroyed habitat on my land and the watercourse before the project has even been approved.

15727. The question I have for the NEB is this ---

15728. **THE CHAIRMAN:** I'll just note, Ms. Gard, that you have five minutes. Thank you.

15729. **MS. GARD:** The question I have for the NEB is to what level environmental standard will you hold KM accountable?

15730. Their work on my property is evidence that KM's level of environmental integrity is minimal. Minimal standards of practice have permitted KM to create their very own pipeline versions of McCallum Brook.

15731. I ask the NEB, why would out federal government approve a project with a company with a history of minimal environmental integrity?

15732. For the sake of all that lives on our land, write conditions that require the highest standards of environmental practice, such conditions that require KM to return McCallum Brook to its real version, not theirs.

15733. I am just one person who cares.

15734. Thank you for your time and patience to listen to me, to this oral summary. Thank you.

--- (Applause/Applaudissements)

15735. **THE CHAIRMAN:** Ms. Gard, you started off your presentation when you said you were just a landowner with a passion that we heard through -- on the environment, protection of your land. You talked about the conditions that we have to assess and the potential impacts of the project on landowners and land use.

15736. I don't think I -- the presentation you've given us is a very credible approach, I think, that you have taken, your own life experience in dealing with this, and I'm just wondering if you feel the recommendations -- the changes to the draft conditions are strong enough for you?

15737. I sense that putting the word "landowner" in there may go some way and involving landowners in some way, but I'm wondering on the strength of that and then the protection of the environment, of course, is extremely important to this Board -- to this Panel and to the Board.

15738. And then the lifecycle aspect of it was how do we ensure that the conditions are being met? And I'm just interested if you think that there's some path of strengthening those from you and how we should do condition compliance and hold any applicant, in this case Trans Mountain, to condition compliance? When they say they're going to do something, we need to know they're going to do it and do it correctly.

15739. **MS. GARD:** I'm sorry, the question is whether more language and -- what I emphasized in the presentation is the destruction already of the endangered species and what McCallum Brook has turned to. So when I had those

experiences and when I read the 143 draft conditions, I read it to look at how would those conditions have stopped what had happened. And none of it -- there is none of those conditions that protect me as a landowner from anything that has happened on my property.

15740. And the fact that it was this October that they did the same to McCallum Brook, again when I read those conditions, where in those conditions does it present it -- would it have prevented it from happening again? Nowhere.

15741. So when they're restoring it, what are they restoring it to? And there's nothing in the conditions that say that they -- that's strong enough language to make it restored to the natural environment. And when I was preparing it, it was coming up with the fact that there's no one that has come on my property that is an employee of KM that has been involved with the environment. So I trust that they put their employees into pipeline integrity, but I don't see any care or knowledge of anyone on property that understands the environment.

15742. One example, they did not understand why I was upset that they had put little round rock into the brook. Now, for me the concept is if you're going to make it natural, there's one glance -- everybody comes up; they look at it and they laugh. It doesn't look natural. And they said to me, "Well, what's the problem? It's natural rock. It's good for coho salmon."

15743. So those are the pipeline integrity people, and you're putting pipeline integrity people in charge of the environment and contractors.

15744. The construction they did was from the 1950s. It was a cookie-cutter form. It was not taken at all to what was needed for that section of land. And the discussion with me was, "It's just one little section." No, it's a continuum. And when I used the analogy of the segments -- the joints having to be correct, he walked away. They don't like that.

15745. When I was talking to them, I really believed that you could bring the two parts together to have that meeting, so I could sit down with the pipeline integrity people with the best creek restoration person from Victoria and that we could explain to KM why it was so important. I was told I could come to the meeting and then I wasn't allowed to.

15746. And $500 to bring in the best specialist? That tells me that there is no understanding of the value and the importance. And if that language is not in

there in your draft conditions to require it, if the ethos is not there, the company isn't going to do it.

15747. And when I read the word "minimum", that's a flag for me. If I go to a surgeon, I don't want the minimum neurosurgeon working on me; I want the best. And I want the language of the NEB Board, if it's going to go ahead, it needs to be the best that they can do to return it, and I see nothing in here that requires them to do the best.

15748. **THE CHAIRMAN:** Thank you for your response to that. That helps me understand even further your position.

15749. Throughout the process, had you made any -- because we have landowner complaints processes as a lifecycle regulator. Had you used the Board's process to file a complaint?

15750. **MS. GARD:** I spoke to the NEB -- not to the NEB -- I spoke to KM. I said that it was appropriate for them and I to try to resolve it before it went to higher levels or to the press, and so they are offering to now meet with me. And I will just find out more of my rights, and if we cannot come to some agreement, then I will take the process to the NEB.

15751. Thank you.

15752. **THE CHAIRMAN:** Again, thank you for coming today and bringing your oral argument to us. We have heard it and we will consider it along with all the other ones that we hear.

15753. With that, we're adjourned.

15754. We will reconvene at 9:00 a.m. on Monday, January the 25th and we'll hear in the morning from the City of North Vancouver, Lyackson First Nation and then the Independent Contractors and Business Association of British Columbia. And in the afternoon, we'll hear from the Wembley Estates Strata Council, Lisa Craig and the City of Victoria.

15755. With that, we're adjourned until 9:00 a.m. Monday morning.

--- Upon adjourning at 4:34 p.m./L'audience est ajournée à 16h34