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THURSDAY, MAY 11, 2017
UPON COMMENCING AT 9:30 A.M.

THE CHAIRMAN: All right. Good morning, everyone. Welcome back to the CEC hearings into to the Manitoba-Minnesota Transmission Project. And we're going to begin where we left off yesterday with questioning of the routing panel by Mr. Toyne. Go ahead.

MR. TOYNE: All right. Thank you, Mr. Chair. I hope to be no more than about another hour with my questions. But as my lawyer colleagues on the other side of the room can attest, my ability to predict how long my questions will take has not been particularly good so far, so I'll do my best. But if I have underestimated it, again, I do apologize.

So there's really two areas, two broad areas that I'd like to cover today. Move into the preference determination aspect of the model, I've got a number of questions in there. And then a series of questions that focus on what happened during Round 2. So if we could talk for a couple of minutes more about the Preference Determination Model. To start off, I have more conceptually, so

I think these questions might be better directed towards Mr. Glasgow, and then we'll get into some of the detail as to how it played out.

So, Mr. Glasgow, as I understand it, the criteria and the weightings that are assigned to those criteria in the Preference Determination Model, they'll have a fairly significant impact on which route is ultimately selected by this methodology.

MR. GLASGOW: That's correct.

MR. TOYNE: And again, just at the conceptual level, would you agree with me that the individuals that are selecting those criteria and assigning weights to them, that that should be a diverse multidisciplinary group of people?

MR. GLASGOW: I think the people that work the EPRI methodology, it's up to each project proponent to decide who best can represent their corporate values.

MR. TOYNE: Right. So what I take from that is, if GTC is using this model for a project, they'll have a particular way of setting these criteria and assigning the weights, and that might be a little bit different from say the way Manitoba Hydro will do it?

MR. GLASGOW: That's correct. The methodology does not prescribe precise positions within a company that should set those values. That's left up to the judgment of each proponent.

MR. TOYNE: Would it typically be people who are in more senior management or executive type positions that would be setting the criteria and assigning the weights, at least in your experience?

MR. GLASGOW: Yeah, I think it's, you know, up to each organization that uses the methodology to determine who is in the best position to determine their corporate values. So I have seen it done by a variety of different levels of staff.

MR. TOYNE: All right. And just to go back to it, perhaps with a little bit more detail, would you agree with me that regardless of the positions of the individuals that are part of the team that's selecting the criteria and setting the weights, that it would be important conceptually that those individuals come from diverse and multidisciplinary backgrounds?

MR. GLASGOW: Well, the entire methodology includes experts from, you know, a

variety of different backgrounds. And so this model is meant to basically decide between a very few alternatives selected for route, and sets a pretty high level decision. And so I think it's appropriate for executives to participate in assigning corporate values.

MR. TOYNE: All right. So maybe we'll get down into a little bit more detail. So I don't know if you were here when we went through it, but I have no doubt you're aware. The team at Manitoba Hydro that selected these criteria and set the weights, they were four senior engineers in Manitoba Hydro. You are aware of that?

MR. GLASGOW: Okay.

MR. TOYNE: Would you agree with me that having four individuals from effectively the same disciplinary background, setting the criteria and attributing the weights to them, is not ideal from a conceptual perspective?

MR. GLASGOW: No, I don't agree with you.

MR. TOYNE: Okay. Can you explain why having four people with effectively the same disciplinary background would be appropriate to set the weights and select the criteria?

MR. GLASGOW: No.

MS. BRATLAND: If I could just build on Mr. Glasgow's response?

MR. TOYNE: Sure.

MS. BRATLAND: So from Manitoba Hydro's perspective, the management team that assigned the weights for this model, as the senior managers and the transmission business unit, they have extensive experience in planning, design, construction, operation and maintenance of transmission systems, and as such were deemed best equipped to make decisions at this level and inform the development of the criteria of that model.

MR. TOYNE: So I'll put out a hypothetical to you. You may have been told not to answer hypotheticals, or they may object, but let me get it out and we'll see what happens.

So as a hypothetical, would you agree with me that if the team had consisted of, say three of those four engineers and, for example, Mr. Joyal, I'll pick him today because I kind of picked on him the other day, if he was one of the four, would you agree with me that the criteria and the weights assigned to them would have been

more appropriate than the criteria and weights assigned to them by the four engineers that actually made that decision?

MS. BRATLAND: No, I wouldn't agree. I think the appropriate people were in the room to set the criteria. And the management team was aware of the process that would be happening before those criteria would apply, were aware of the multidisciplinary nature of the teams that would be informing decisions up to that point, and the appropriate level of knowledge and expertise and experience was in the room when those decisions were made.

MR. TOYNE: Another conceptual question, at least I think it's a conceptual question, if you do have a group that's neither diverse nor multidisciplinary making this decision like what we have here, should that group be seeking outside input from other aspects of, whether it's Manitoba Hydro, or GTC, or one of the other requests that you have worked with, from say some of the other departments within the utility?

MR. GLASGOW: It's up to each project proponent, each user of the methodology to determine how to best express their corporate

values. It's not necessarily recommended to get input into the expert judgment phase or the preference determination phase.

MS. BRATLAND: If I could, sorry, I just wanted to build on Mr. Glasgow's answer again. I want to just point back to something I said in the presentation, and note that when the Preference Determination Model is applied in a decision-making environment in the route evaluation workshop, it is very much within a multidisciplinary team, with all of the discipline specialists and teams representing and applying the model, and bringing all of the knowledge and the feedback that they have received through the public engagement processes and the First Nation-Metis engagement processes to those decisions.

MR. TOYNE: So, Mr. Glasgow, in your experience with the use of this EPRI-GTC model, do utilities typically rely on a team that's neither diverse nor multidisciplinary to set these criteria and weights, and not seek any additional input from within their organization? Maybe a different way to ask it is, is the way that Manitoba Hydro set these criteria and weights, is

that the way it's typically done with this model?

MR. GLASGOW: Yes. Like I said, it's up to each utility that uses this model to determine the best method to represent their corporate values. And so I think it's a great idea to have management participate in identifying their corporate values or the criteria, the highest level criteria that's used in the Preference Determination Model. As Ms. Bratland mentioned, there are several other opportunities for multidisciplinary input throughout the process, especially in the application. So the management team just identified the criteria and the relative weight of this criteria, but it was a very multi-disciplined team that actually applied that model to select the preferred route.

MR. TOYNE: All right. So if the Commission sees this particular aspect of the routing process as flawed, would this be a flaw in the model or a flaw in Manitoba Hydro's application of the model?

MS. BRATLAND: I don't think our panel is in the position to comment on whether the Commission will see it as flawed.

MR. TOYNE: If we could pull up slide

21, that was on the currently blank screen. This would be the one that has the actual criteria and weightings that were set by the four engineers?

MS. BRATLAND: Just one second. We'll pull that up for you.

MR. TOYNE: Sure. And for those following along in the EIS, it's Table 5-9.

So, again this is I think a conceptual question directed more towards Mr. Glasgow than the other witnesses on the panel.

Sir, as I see this, cost schedule risks and system reliability all fall within the engineering perspective and they represent 55 per cent of the weights in the model. And I'm going to suggest to you that that's a reflection of the fact that the team that selected these criteria and set the weights was biased in favour of the engineering perspective. So conceptually, does that make sense to you?

MR. GLASGOW: No. I think cost is not just a function of engineering. Obviously cost is there by all the ratepayers, and so it's certainly a community issue as well as an engineering issue.

MR. TOYNE: And conceptually, would you agree with me that if the team at Manitoba

Hydro that selected these criteria and assigned weights to them was more diverse and multidisciplinary than the four engineers that actually did it, that the criteria and weights here could look quite different?

MR. GLASGOW: That's a hypothetical question.

MR. TOYNE: Yes, sorry.

MR. GLASGOW: If there's a different set of people --

MR. TOYNE: Yes.

MR. GLASGOW: -- that adopt this model, would it appear differently?

MR. TOYNE: Yes.

MR. GLASGOW: As I stated before, these values represent the values of Manitoba Hydro, and I believe it's up to Manitoba Hydro to determine who gives input into this.

MR. TOYNE: And would you agree with me that this model could still work if you had a different list of criteria with a different list of percentages attributed to them? Like this isn't the only way that the model could work with these criteria and these percentages?

MR. GLASGOW: Well, this model is

intended to represent the corporate values of the project proponent. And so if it was not calibrated with the corporate values of the project proponent, I don't think it would work as intended. So, no, I don't agree with you.

MR. TOYNE: All right. And you have used the phrase corporate values a couple of times. So your understanding is then, from the model's perspective, this would be Manitoba Hydro's corporate values?

MR. GLASGOW: I understand that these are the highest level criteria and the relative weights that were used in the project.

MR. TOYNE: Another hypothetical, if the percentages attributed to cost and community, for example, were reversed, so that cost was only worth 30 per cent and community was worth 40 per cent, would that still be a reasonable set of criteria and weightings to use for the Preference Determination Model in your experience?

MR. GLASGOW: I think if it's not the values that Manitoba Hydro wants in this model, it would not be reasonable.

MR. TOYNE: In your experience of the other utilities that have used this model, have

they used different lists of criteria and different percentage weightings for the criteria?

MR. GLASGOW: Yeah, I think this varies from project proponent to proponent. But just as, you know, companies' culture and corporate values vary, one of the strengths of this methodology is it's flexible and it's allowed to be calibrated and implemented in different locations with different regulatory, social and physical environments. And so this is one of the ways that this model is calibrated to work in Manitoba based on the project proponent's considerations. So I would not prescribe to use the same values set by say a company in Georgia in Manitoba, or vice versa.

MR. TOYNE: All right. So if we could turn now to some other criteria specifically, so I suspect most of these questions will be directed towards the other two panelists.

If we could talk about the way in which delay is factored into these criteria. So as I understand it, delay is factored into two of the criteria. We've got delay that's considered in schedule risks, and then there's also aspects of delay that are considered in the community

category; correct?

MS. BRATLAND: No, that's incorrect. As Mr. Joyal indicated, the potential schedule risks is the consideration of delay.

MR. TOYNE: All right. So I had spent some time asking the panel on Tuesday some questions about the very extensive discussion of delay that took -- that's reflected in the meeting notes from the community breakout session. So those meeting notes from the community breakout session don't accurately reflect what was discussed at that breakout session? Is that what you're saying?

MS. BRATLAND: No. I'm saying in the Preference Determination Model, when the criteria are applied, the consideration of delay occurs under the criteria of schedule risk. The conversations that are held within breakout sessions, each group would discuss any knowledge they would have of anything that could create a delay, so that when the group came together to discuss schedule risks, because that was a group determination on that weighting, that that could be brought forward and would have been fully considered.

MR. TOYNE: All right. Maybe just quickly going back to Mr. Glasgow.

Sir, if you do have something like delay as one of the factors that's going to be considered in the model, you would agree with me that it shouldn't be considered in multiple criteria; right? Because otherwise it's being double counted, or triple or quadruple counted?

MR. GLASGOW: I think the term delay probably applies to a lengthened schedule. And so I think schedule risk is a place in the model where that is addressed.

MR. TOYNE: All right. So, to the extent that a risk to schedule is going to be considered, it should be confined to that criteria and it shouldn't be considered for a second or a third time in other criteria?

MR. GLASGOW: I think it's up to the users exactly what they consider when they use this model.

MR. TOYNE: So then the model permits certain criteria to be double or triple counted here? Maybe not criteria because criteria is actually being used in a specific sense here. So then the model that we're talking about allows

certain factors to be double or triple counted?

MS. BRATLAND: The schedule risk consideration is the criteria that considered delays in schedule. As I noted, there's a number of considerations that go into that schedule risk, a number of considerations that can have crossover with other considerations from different elements within the model. But the consideration against that criteria, delay was included in that criteria. It was discussed by all of the groups. And the reason it was discussed by all of the groups at the end of the day is because elements from the discussion from different components, like the feedback from communities, the amount of private and Crown land and approvals associated, the amount of forested land that may have timing restrictions was important to understand fully to be able to contextualize the potential schedule risk.

MR. TOYNE: All right. And then as I understand it, there are two types of schedule risk that are included there, what I'll call pre-licensing schedule risk and post-licensing schedule risk. Is that a fair way to look at the different factors that go into that criteria?

MS. BRATLAND: Schedule risk included the consideration of the need for additional approvals, the seasonality of construction, the overall level of complication expected that could result in delays.

MR. TOYNE: Right. Thank you for reading from the slide, but my question was a little bit different. Would you agree with me that schedule risk is taking into account both pre-licensing and post-licensing factors in consideration?

MS. BRATLAND: Yes, it does consider both.

MR. TOYNE: Okay. And the pre-licensing schedule risk, that would include any amount of time that might be required say for the Crown consultation process?

MS. BRATLAND: Sorry, could you repeat the question?

MR. TOYNE: So, Crown consultation and the time that it takes to complete that process, that would be a pre-licensing schedule risk?

MS. BRATLAND: Yes.

MR. TOYNE: Okay. And that would be because, until that constitutional process is

complete, the Provincial Government is actually unable to grant Manitoba Hydro the licence that it's requesting?

MR. MATTHEWSON: That's correct.

MR. TOYNE: Now, in SSC IR 79, Manitoba Hydro indicated that expropriation is not a licensing risk. So it strikes me, if we're using this pre and post-licensing dichotomy, then any delays that might arise say from the expropriation process would be more appropriately considered as post-licensing risk to schedule. Is that a fair way to look at it?

MS. BRATLAND: I'm just going to have to look at the IR.

MR. TOYNE: Sure.

MS. BRATLAND: SSC IR 079, in the response it says that:

No, Manitoba Hydro does not consider the expropriation process a licensing risk, as an Environment Act licence can be issued before all properties are acquired for the project."

MR. TOYNE: Right. So then if we're using this pre and post-licensing dichotomy, expropriation, to the extent it's a schedule risk,

would fall into the post-licensing category?

MS. BRATLAND: When we considered schedule risk, we compared different routes and the different elements of those routes and looked for the things that were different between them. So the group didn't really categorize post and pre-licensing. I understand that it's a way that you can look at that. As this IR indicates and as the group considered, the understanding was that we do need a Crown approval before we can gain an Environment Act licence, and construction cannot begin until we have that licence. With private land acquisition, construction on lands that we already have rights to can begin without the complete acquisition of all private lands on the project. That was the nature of that consideration.

MR. TOYNE: Now, if you can pull up the next Coalition IR, which is number 80?

MS. BRATLAND: We've got it here.

MR. TOYNE: All right. That's the one that indicates that the methodology does not take expropriation objections and inquiries into account, either directly or indirectly. Can I ask why that is?

MS. BRATLAND: Manitoba Hydro, when making determinations on schedule risk and the potential for expropriation on private lands reflected on past experience. We reflected on the experience with Bipole III, understood that process, and considered that this project may have the same experience.

MR. TOYNE: And you used this phrase yesterday "in Manitoba Hydro's experience." And I just want to drill down on that for a minute. When you say in Manitoba Hydro's experience, what you mean is that landowners aren't able to exercise their ability to challenge expropriations because the Provincial Government takes away their ability do that. Is that what you mean when you say Manitoba Hydro's experience, that you can expropriate without landowners being able to object?

MS. BRATLAND: Could I ask you to repeat the question? I was conferring so long with my colleagues, I want to make sure I respond accurately.

MR. TOYNE: Sure, and I'll try to be a little bit clearer when I ask it. You referred to Manitoba Hydro's experience and you pointed to

Bipole III in particular. And I just want to make sure when you are saying in Manitoba Hydro's experience, what you're talking about is Manitoba Hydro being able to expropriate private lands without the owners of those lands being able to object to the expropriation? That's what you mean by Manitoba Hydro's experience?

MS. BRATLAND: I'm going to mostly defer your question to the panel that's coming up, because we do have some Manitoba Hydro staff that can speak more specifically to that. But I do just want to point out that the experience on Bipole, there was a hearing, there was opportunities for private landowners to bring their concerns forward, and the expropriation process itself is an opportunity for those concerns to be brought forward. But I can't really go much deeper than that because I'm not an expert on that element.

MR. TOYNE: Right. So what I'm trying to drill down to is, if Manitoba Hydro's experience drove how the schedule risks are taken into account, and if Manitoba Hydro's experience is that landowners don't have the opportunity to object to expropriations, then I'm going to

suggest to you that if landowners do have the opportunity to object to expropriations, you have wildly underestimated the schedule risk that going over private lands represents.

MS. BRATLAND: I'm sorry, was there a question?

MR. TOYNE: Do you agree?

MS. BRATLAND: No, I don't agree. The reason -- not the reason, the way that we consider schedule risk is always in a relative consideration. And we had extensive discussions around private land acquisition and potential delays, also around Crown land and the potential for Crown land consultation processes to be longer and more complex with the amount of Crown land and the number of interested parties that could have interest in that land. And those two different processes have different implications for schedule, and they can have a different length of an implication for a risk to schedule. So we tried our best, reflecting on our past knowledge and what we can understand about the region, to bring those two concepts to bear in a comparative fashion and consider them both. So I wouldn't say they were wildly underestimated, I would say they

were carefully considered, and considered in a relative framework.

MR. TOYNE: So just to go back to that pre and post-licensing dichotomy I was using earlier. One of the most important post-licensing approvals, at least as I understand it, that Manitoba Hydro needs is the Provincial Government's agreement to take away the rights of landowners to object to expropriations. Because without that approval, the project can't proceed. Do you agree?

MS. BRATLAND: I'm going to have to defer that one to the next panel, as I don't have that level of expertise on that topic.

MR. TOYNE: And I'm going to suggest to you that -- and I don't mean this in the critical sense that it might sound -- I'm going to suggest to you that the reason you are unable to address that question is because Manitoba Hydro hasn't actually considered the impact that not getting that approval from the government will have on this project. Isn't that right?

MS. BRATLAND: Again, I can speak to what was considered by the team and the individuals in the discussions. We did consider

the land acquisition process, private land specifically. We also considered the amount of feedback that we had and the relationships that were being formed with landowners in terms of being able to understand, mitigate their concerns. We have a liaison assigned to every affected landowner, and discussions are under way regarding what additional things can be done to mitigate their concerns.

So the other element that was considered was whether we felt that there would be a high concern around property acquisition, that also came into play. And I really just can't go any deeper on the potential for expropriation post-approval concerns beyond that.

MR. TOYNE: All right. So if I suggested to you that if the Province doesn't give Manitoba Hydro the ability to expropriate, while dispensing with the ability of landowners to object to those expropriations, that this project actually won't be complete by 20/20, you have no way of responding to that suggestion? Or does Manitoba Hydro have a back-up plan if the Province doesn't cooperate on the expropriation front?

MS. BRATLAND: I'm going to refer to

SSC IR 0788, where we indicate:

"Manitoba Hydro has not made any such request as expropriation as a last resort and would only be recommended if a voluntary easement agreement cannot be concluded with impacted landowners. Discussion with landowners are ongoing. Any decision to expropriate would have to be first approved by the Manitoba Hydroelectric Board, and subsequent to that, the Provincial Government."

And our team considered this and other elements in schedule risk.

MR. TOYNE: Right. And I appreciate that the next question I've got might also be answerable by the next panel. But if the board of Manitoba Hydro makes that request and the Province says no, how does that factor into your schedule risks criteria, or does the project just sort of stop dead in its tracks?

MS. BRATLAND: Again, that's a hypothetical question that I can't really comment on, as it's a decision to be taken by another body.

MR. TOYNE: But that's a hypothetical question that necessarily has to be considered in that criteria, though?

MS. BRATLAND: I believe I answered your question.

MR. TOYNE: Okay. So to go back to one of the very first questions that I asked, there was that slide about avoiding effects, trying to mitigate them, and trying to compensate for them. So I'm going to suggest to you that for the purposes of this model, Manitoba Hydro simply assumed that they would have the ability to expropriate private lands without landowners being able to object. Is that true? That your whole model is based on the assumption that you'll be able to expropriate without considerable delay?

MS. BRATLAND: No, I would disagree that our whole model is based on that assumption.

MR. TOYNE: All right. So then explain to me how this model takes into account all of the delays that can arise if the Province does not take away landowners' rights to object to expropriations, keeping in mind that SSC IR 80 says that those are factors that aren't taken into account?

MS. BRATLAND: As I indicated in a previous response, we make best efforts to consider all of those things that are known to us that could potentially affect schedule risk and cause delay. And that would be an element that would be unknown to us and would be a decision made by another body at another time. So we make decisions on what we know and can understand.

MR. TOYNE: I'm going to suggest to you that Manitoba Hydro completely missed that particular schedule risk. Do you agree or disagree?

MS. BRATLAND: I'm going to say that we make decisions on what we know, and that's a decision to be made by another body, and that we considered private land acquisition, Crown land acquisition and a lot of other elements in schedule risk.

MR. TOYNE: How many projects has Manitoba Hydro engaged in over the past -- sorry, how many transmission line projects that Manitoba Hydro has done in the past -- what's a good number -- 20 years, how many of those projects have not had the Province take away the rights of landowners to object to expropriations? Do you

know?

MS. BRATLAND: I'm sorry, I don't know the answer to that question.

MR. TOYNE: If I suggested to you that Manitoba Hydro's experience has always been that the Province will take away the rights of landowners to object to expropriations, would you agree with that statement?

MS. BRATLAND: I cannot comment because I do not know.

MR. TOYNE: If we can just go back to some conceptual questions about the model, just very quickly, and I think these might head back towards Mr. Glasgow. Could you pull up slide 35 -- hang on, on the left side, it's one of the ones that sets out the scores. Yeah, that's the one. All right.

So Mr. Glasgow, I've got what I hope is a relatively brief set of conceptual questions for you.

So you'll see that you've got the natural and the built criteria, and they both have a weight of 7.5 per cent. And it struck me when I was looking at this that there's going to be certain routes that will score very well on the

natural criteria and not as well on the built, and vice versa. And it also struck me that these two criteria had the potential to cancel one another out. And I was just wondering, from a conceptual perspective, if you can explain if, you know, for example, route TC and route DKT, and to some extent EEL, if the very different scores they are receiving on those two criteria are effectively cancelling one another out for the purposes of this model?

MR. GLASGOW: No, I wouldn't use the term cancel out.

MR. TOYNE: Okay.

MR. GLASGOW: It's pretty common for a routing project to consider built and natural perspectives. And it's pretty common for them to be competing perspectives, because usually if you put the line away from people, it's in more natural areas. And if you put it closer to people, it's typically away from natural areas. So it's not surprising that those values are competing.

So the model just seeks to model reality, and the reality is there's different perspectives.

MR. TOYNE: Right. So maybe this is just because I am a layperson looking at this. But when I take a look at say the scores for TC and DKT, because they're pretty much the opposite of one another, it looks to me like they would get cancelled out in this model, thereby magnifying the other criteria.

MR. GLASGOW: No, I don't think they are cancelled out. I think basically they are given their appropriate weight and appropriate ranking. So that's your term that they are cancelling out, but it's not my term. I don't agree with you.

MR. TOYNE: Okay. It's not shown on this particular slide, but the weights are there. So one of the other things, and maybe this is just as a layperson -- well, that's why I'm looking at it this way -- but it strikes me that if you're using the scores of 1, 2, 3, you can actually be masking relatively minor differences between the two routes. Would you agree?

MR. GLASGOW: Could you rephrase that question? What do you mean by masking?

MR. TOYNE: So, you know what, maybe we could use, why don't we use that set of meeting

notes that were distributed yesterday? So we've got the table where SIL is eliminated and the table where it's revived.

So, sir, if you've got a copy of that there. So we'll just be looking at the cost criteria. So on, I think this was the table that Mr. Joyal referred to as the -- was it the operating table -- we've got cost scores of 1 for the four routes, and then we've got a score of 2 for SIL. But then if you turn over the page, you'll see that a different set of scores are attributed. And in some respects, using just the 1, 2, 3 scoring category, it appears to be masking to some extent, you know, relatively minor differences between the routes. Would you agree with that?

MS. BRATLAND: I think I'll take this question because I did address this yesterday at the end of my presentation.

So in assigning the cost scores initially in the working session, the engineers had applied a certain logic and taken the average cost, and then anything within 5 per cent of average was given a 1, greater that was given a 2. And it was determined that this did not accurately

reflect the variability between the routes and overstated it. So that was adjusted to what was in the second table.

MR. TOYNE: Right. So I took your point how the scoring system doesn't always accurately reflect the differences between the routes. But this was a question focused on just one of these inaccuracies. And that was that using the scoring system of 1, 2, 3 can mask minor differences between the routes, as just one of the many ways in which the 1, 2, 3 system is inaccurate.

MS. BRATLAND: I would like to correct the premise of one of your statements. We allocated this costing and very carefully considered whether the differences between the routes were appropriately represented by the scores assigned. So there was much consideration that went into that, and it was represented in the most accurate way possible to reflect the consensus decisions of the team.

MR. TOYNE: And I think a question back towards Mr. Glasgow, but certainly feel free to let the others answer.

By using the 1, 2, 3 scores, using

those scores can actually magnify the impact of relatively minor differences between the routes in this particular model?

MR. GLASGOW: So this model is typically called Expert Judgment Model, it's called a Preference Determination Model in this project. But the reason it's called Expert Judgment Model is it's meant to be a tool to be used by experts. And so based on their expert opinion, the project team ranks the routes relative to one another based on their judgment. And so I think the values very accurately represented the judgment at that time.

MR. TOYNE: Not quite the answer to the question that I asked, but thank you. So just back to the question that I asked. You would agree with me that using the scores of 1, 2 and 3 can magnify the impact of relatively minor differences between the routes? Would you agree?

MR. GLASGOW: I disagree.

MR. TOYNE: All right. This is intended to be a conceptual question but I appreciate what will happen once I ask it.

Sir, you agree with me that one of the ways that the Preference Determination Model can

be, I guess toyed with, is that the scores could be adjusted so that say if a particular preferred route doesn't quite make it all the way through, you could redo the scores until it does. Do you agree or disagree?

MR. GLASGOW: I think you're referring to cost and the two different charts that were distributed yesterday. You know, we had a lot of discussion about the ranking for cost in the routing workshop. I think Maggie explained how, you know, one team presented a certain set of rankings, the rest of the group would challenge its assumptions. And in doing so we discussed how cost is really, out of all these criteria, a quantitative, one thing that we really can describe with numbers. So we used the cost, project cost estimate to help define the relative values of the rankings in the second chart.

And so that basically was, we felt like a better way to refine the methodology we were using to rank costs.

MS. BRATLAND: And just to build on what Mr. Glasgow indicated, I want to reiterate the fact that in those sessions the objective is to carefully reflect the relative differences of

routes by the assignment of scores. The first table is a working table. The working table was challenged by the project team to make sure that those relative differences were reflected in the most representative way.

MR. TOYNE: I think I had called it the operating table earlier, I guess I should have said working table, I'm sorry.

But just to go back to my conceptual question, we'll get into how it actually played out. But, sir, I'm going to suggest to you that one of the ways that a utility can get a preferred route, that's not scoring well in the model, through to the next round is by changing the scores that are attributed to it at this stage of the model. Do you agree or disagree?

MR. GLASGOW: The scores, the ranking in the model -- the model is intended to be used by experts in the project team based on the information they have and the relative ranking of the different routes. And I think that's the best way to use the model.

MR. TOYNE: So this is more of a conceptual question, I think, but we can use this as an example. So Route SIL, by the time we get

to the working table it's already been eliminated once. It then gets eliminated a second time, and then the scores get changed. Conceptually, how many times should a route that's been eliminated be revived only to be eliminated again, to be revived? How many times should a utility bring forward an eliminated route until it gets to the next round?

MR. GLASGOW: There's no limit on the number of times utilities should, you know, use expert judgment. You know, this model is a tool meant to be used by experts to make a business decision. It doesn't prescribe exactly how many times you work through this process. You know, generally speaking, you try to refine the process until you reach consensus and you create the best product you can. And so I would recommend users of this methodology to do that.

MS. BRATLAND: To build on what Mr. Glasgow has said, I would just like to correct the premise of your statement. In the end of my presentation, I believe I explained that Route SIL was never eliminated. It was screened in with the logic that I described and was not eliminated again in that working table. The working table

was part of that discussion, and the final table that reflects the decision at the end of the day indicates the scoring and the decision. So Route SIL, using the judgment of the team, using the preference determination tool, was screened in because it was a statistically strong route that represented some important trade-offs in the area to be evaluated against the rest in that set.

MR. TOYNE: So this is a conceptual question for Mr. Glasgow. Let's say, and I'll use both sort of phrases just so everybody in the room is happy. Let's say SIL was eliminated again, or it wasn't screened forward after the costs scores were adjusted, given your experience with the model, what would have been the next step available to Manitoba Hydro to get SIL through to the next round? Like would they have changed the scores for reliability, schedule, community? Which would have been the one that they should have changed next, if SIL had not been screened forward or eliminated at that point?

MR. GLASGOW: I don't understand your question. Is that a hypothetical question?

MR. TOYNE: I guess so, yes. So maybe here's another way to ask it. So if a utility has

a preferred route that keeps getting eliminated or not screened forward, and changing the cost scores is insufficient to get that preferred route through to the next round, what other options are available within the Preference Determination Model to do that, if any?

MR. GLASGOW: I think key point is there wasn't a preferred route selected until the end of the workshop. And so this was a working table that was produced as a part of the workshop.

MR. TOYNE: So just to go back to something that Ms. Bratland confirmed yesterday, that the engagement panel was unable or unwilling to confirm, and that it was Ms. Johnson that suggested that SIL be screened forward or screened in. Who was the person that suggested that the cost scores be run a second time after SIL was eliminated? Was it Ms. Johnson again?

MS. BRATLAND: As I indicated in my presentation, the cost scores were presented to the project team and the project team had considerable discussion. I actually don't recall which individual in the project team room first challenged that, but it was something that was shared by the project team, and agreed it needed

to be reflected in a different way.

MR. TOYNE: Did anyone, to the best of your recollection, did anyone at this point bring up the various aspects of risk to schedule that Hydro wasn't taking into account and suggest that they should be factored in?

MS. BRATLAND: As I noted, risk to schedule is a group discussion, it's always based on sharing of various factors and discussion about those various factors. So that's how that conversation works, group discussion.

MR. TOYNE: So that would be one of the assumptions that wasn't challenged, that Manitoba Hydro would be able to expropriate over landowner objections about delay?

MS. BRATLAND: As I indicated, through those discussions all facets of risk to schedule that are understood at the time are carefully examined and shared and challenged and discussed by all members of the project team.

MR. TOYNE: And just to build on that, so Manitoba Hydro didn't understand that to be a risk to schedule at the time?

MS. BRATLAND: I believe we already discussed this topic.

MR. TOYNE: So we got a little bit ahead of where I wanted to go. If we could just back up for a second, and this is a question that's directed at something that Mr. Matthewson said yesterday. And I didn't go back and check the transcript, so I might just be paraphrasing here.

So at one point, sir, when we were talking about the border crossing decision, the note I took was -- is that once the border crossing was selected, that the idea was that Manitoba Hydro would back up and seek more input. And what I took from that was that there would be additional studies, engagement, so on and so on that would be done once the border crossing, the preferred border crossing between the two utilities had been selected. Is that a fair statement? And I'm not trying to ask you a trick question yet.

MR. MATTHEWSON: No, that's what occurred in Rounds 2 through 3.

MR. TOYNE: Okay. Here's the question that I've got then, and this sort of goes back to my questions about using the model to pick the border crossing. So the models used to pick the

border crossing, and the route that goes to that border crossing that's preferred is AQS. So at that point Hydro, at least as I understand it, would have had two options. Option 1 is use route AQS as the backbone for the route going forward, or option 2, you would have been able to sort of restart the process without using AQS as sort of the default route. Would you agree with me that those were the two options that Hydro had at that point?

MR. MATTHEWSON: With the feedback that we received in Round 1 on the routes that were presented to the public, it made logical sense to continue to use AQS, with the level of feedback that we received to that, with addition of the mitigative segments that were added from that feedback to form a new set of route segments for discussion and public engagement with First Nations and Metis engagements in Rounds 2 and 3.

MR. TOYNE: Right. And I guess the question I would have after that is, by sort of focusing on AQS and the mitigative segments that can be generated off of that sort of default route, that other viable options to what eventually becomes the modified border crossing

were lost. Would you agree with that statement?

MR. MATTHEWSON: Can you repeat the question, please, so I can answer it.

MR. TOYNE: Sorry, sir, I'll try to ask it a little bit more clearly.

So by using AQS, and the mitigative segments that can be generated off of AQS, by using that as the route that went into Round 2, Manitoba Hydro didn't consider other potentially viable routes that went to the eventually modified border crossing, like a DKT? Do you agree with that? And if I am not asking it in the right technical way, I apologize, but that seems to have been a bit of a theme the past two days.

MR. MATTHEWSON: With the information that we received in the Round 1 public engagement, as well as the evaluation process that selected AQS, Manitoba Hydro proceeded with route options that followed AQS to that border crossing. The reasons for DKT's elimination in the original evaluation of Round 1 still stood, the number of crossings that it crossed, M602F, and the paralleling options.

MR. TOYNE: Okay. And just on that point, and thank you for using the phrase

elimination. So DKT was also a route that was eliminated twice, but it wasn't screened forward or brought forward, to use Ms. Bratland's terminology. So why was DKT treated differently from SIL? Was it simply because that wasn't Ms. Johnson's preferred route?

MS. BRATLAND: DKT was screened forward in the border crossing Preference Determination Model. It was carefully evaluated with the relative differences and all the considerations brought to bear. And then it was eliminated as a route that went to the Piney East crossing, as Piney East was no longer under consideration.

So it was eliminated and it was screened in, both of those things.

MR. TOYNE: Right. So it was eventually eliminated twice and not brought forward for a third consideration?

MS. BRATLAND: We no longer had routes terminating at Piney East as Piney East was no longer a border crossing under consideration.

MR. TOYNE: If Ms. Johnson had preferred DKT as opposed to SIL, I take it that DKT would have formed the backbone of the route

that was ultimately selected by Manitoba Hydro?

MS. BRATLAND: I'd like to correct the premise of your question. SIL was not considered because Ms. Johnson preferred it. Ms. Johnson posed a question about whether there was a route that considered both the Riel/Vivian corridor and the segment to the west of the Watson P. Davidson Management Area. When that question came forward to the project team, the project team screened in the route that had the top simple average statistics that included those two segments, because they felt it was important to represent in the decision-making process.

MR. TOYNE: So the members of the project team that were involved in selecting SIL to go forward to the next round, how many of them directly or indirectly report to Ms. Johnson?

MS. BRATLAND: I can't quite recall off the top of my head. There would have been a few. But the other thing to point out is, when I facilitated that session and when I brought that question forward to the team, I didn't indicate that Ms. Johnson was directing or had a preference or an interest in that route. I had posed it as a question to the team for their consideration.

MR. TOYNE: And Ms. Johnson was a participant in the subsequent discussions?

MS. BRATLAND: Ms. Johnson was in and out of the room during the day.

MR. TOYNE: All right. So at the very least, from the team's perspective, it was something that you thought was important be reintroduced for discussion.

MS. BRATLAND: I believe what I said is that I posed a question to the team, the team considered the question, and the team felt it was important.

MR. TOYNE: Now, if you and Ms. Johnson hadn't reintroduced SIL, do you agree with me that either routes AY or SGZ would have proceeded out of Round 2 and into Round 3?

MS. BRATLAND: Again, Ms. Johnson nor I introduced SIL. We posed a question, and the result of that question was SIL being screened forward by the project team, and the rest of your question is hypothetical.

MR. TOYNE: Just bear with me for a second. Could we put up the slide on the right of the currently blank screen, slide 38?

MS. BRATLAND: We're just getting

hooked back up. One moment, please.

MR. TOYNE: Sure. And just for the benefit of the panel, I'm slowly approaching the end. I appreciate if I take too long, to borrow a phrase from United Airlines, I may get re-accommodated. So I am watching the clock.

And if you can pull it up so that the routes are actually showing up on there, sorry. I didn't realize this one would be a bit of a...

MS. BRATLAND: We just have to wait for the data layer to load. It's coming.

MR. TOYNE: Okay.

All right. So just to go back to the question that I asked, and I thought it might be helpful if we have this up there. All right. And it is a hypothetical and I appreciate that there's certain hypotheticals that the panel is not going to answer. But if SIL, so that's the blue one, if that one had not been put back in or screened forward, reintroduced, whatever terminology people want to use, at the community breakout session, which you were a part of, would you agree with me that Route AY would have been the route that was preferred by the community breakout session?

MS. BRATLAND: One moment, please. If

SIL had not been screened forward, we would have been using a different comparable set for the exercise of preference determination, so it is difficult to project what the project team or the community breakout session might have had as a response, because it is always relative within a comparative set, those discussions.

The feeling of the community team is that no, AY would not have been preferred. But again, without having the specific set under consideration and the specific discussions focused on only that set, it's difficult to say what the outcome would be.

MR. TOYNE: All right. Now, to go back to an earlier line of questions, again, this presumes that SIL is not present. So if the Preference Determination Model accurately took into account the delay that can arise from landowners exercising their rights to object to expropriation, if the Province doesn't take their rights away, you'd agree with me that either routes AY or SGZ would have proceeded into Round 3?

MS. BRATLAND: I'm sorry, could you repeat the question?

MR. TOYNE: Sorry, I'll state it a little more simply. If Manitoba Hydro hadn't ignored the delay that can arise from expropriation objections and similar types of proceedings, routes AY or SGZ would have proceeded to Round 3?

MS. BRATLAND: I do not agree with you.

MR. TOYNE: All right. Another hypothetical, but this time including SIL. So you would agree with me that if Manitoba Hydro hadn't ignored those expropriation related delays that I have talked about, that routes AY or SGZ would have proceeded into Round 3 as opposed to SIL?

MS. BRATLAND: I would not agree with you.

MR. TOYNE: All right. So this next small sequence of questions might be better asked for the next panel, but I'll try with you, and if I'm asking them to the wrong panel, I do apologize.

So we have heard information that there's 126 private landowners along the final preferred route, which is similar to SIL. Are you able to tell me how many of those landowners have

to actually be successful in objecting to expropriation before Hydro's unable to construct the final preferred route?

MS. BRATLAND: No, I'm not able to tell you that.

MR. TOYNE: Is that the next panel?

MS. BRATLAND: You can try with them.

MR. TOYNE: All right. I think Mr. Penner's been here a fair bit watching, so hopefully he knows some of the information I'm interested in.

I'm going to suggest to you that it would only take a couple of landowners to successfully object to expropriation to kill this project. Do you agree or disagree?

MS. BRATLAND: I really can't comment.

MR. TOYNE: And if the routing process had actually taken those types of delays into account, you'd agree with me that you would be able to comment?

MS. BRATLAND: The project team reflected on past experience when they considered schedule risk and the relative difference between different routes with the types of approvals that may be required. There was careful consideration

and I stand by the decisions the project team made.

MR. TOYNE: As a part of the schedule risks criteria, or at any point in the routing process, did Manitoba Hydro consider the likelihood or probability of the Province of Manitoba refusing to take away landowners' rights to object to expropriation?

MS. BRATLAND: No.

MR. TOYNE: Would you agree with me that if Manitoba Hydro would like to have this route constructed before 2020, that route options also AY or SGZ are far more viable options than the final preferred route that's based on Route SIL?

MS. BRATLAND: I would not agree with you.

MR. TOYNE: Mr. Chair, I think I'm almost done. If you could just give me one moment to consult with the representatives of my clients that are here? I realize that may be a little unusual, but it may save a lot of time.

THE CHAIRMAN: That's fine.

MR. TOYNE: Okay, thank you.

(Brief recess)

MR. TOYNE: Mr. Chair, I do have some other questions, but I think they might be more easily answered or perhaps more appropriately asked to the next panel. So given that I have gone just a little bit over my estimate, I will stop for now.

THE CHAIRMAN: Okay. That's good. And we'll hear those questions at the time of the next panel. Thank you.

I would like to move the break to now, and then we'll go onto the next speaker or the next questioning. So we will reconvene at 10:55. Thank you.

(PROCEEDINGS RECESSED AT 10:41 A.M AND RECONVENED AT 10:56 A.M.)

THE CHAIRMAN: Okay, welcome back everyone. We're now going to move on. I'm going carefully do it this time so I get everyone in the right order. I believe we are now moving on to Dakota Plains Wahpeton Oyate, and my apologies if I'm not pronouncing it correctly. And that would be Warren Mills.

MR. MILLS: That was pretty close, Dakota Plains Wahpeton Oyate.

Thank you, Mr. Chairman. Good

morning. We want to start by acknowledging and truly appreciating all the work that you clearly have done, and we don't pretend to have the resources or the years that you have had to prepare this work, to challenge it. And we are going to leave the route discussions to others.

We'd like to look at your work from a much higher level. And I'd like to start by, initially, Dakota Plains' concern was for Mother Earth and the environment. Regrettably, with the recent announcements of possible increase in the residential utility bills, conversations we have had, we've heard concerns as to costs of what we do. So without getting out of scope hopefully, we are going to perhaps touch on some of those.

Dakota Plains community was given the Manitoba-Minnesota Transmission Project summary of the EIS. These documents were circulated in the band office and we encourage the community to review them.

We have a couple of short snappers before we get into our issues. Could you turn to, I believe it's screen 48? I think that's the matrix. I might be wrong. That's it, preference determination criteria.

When you refer to the criteria cost, is cost, cost of the construction, cost of the entire project, or cost of the project over its lifespan?

MS. BRATLAND: When we refer to cost, we are considering high level comparative construction costs. And in this specific instance, it also included those additional elements I discussed in my presentation. So it's not cost of the entire project. This wouldn't consider, for example, costs of the convertor stations when we're comparing, because each of these routes would have those costs the same.

MR. MILLS: Okay. Within the information you give us you make the statement, the estimated cost for the project is $350 million. So when you say let's look at, I'll avoid hypothetical, let's look at URV 1.02 cost, what does that mean relative to the number that you provide us in the EIS? So would 1 be 350 million?

MS. BRATLAND: No, the numbers that are used for the route alternative evaluation exercise are high level representative estimates of costs. They are not meant to be reflective of

the capital cost of the project. They're used for a comparative sense.

MR. MILLS: I appreciate the delicacy of the answer, but with respect, let's talk straight. When you tell us that the estimated cost of the project is $350 million, and you tell us the cost is a criteria, and 40 per cent and 1.02, can you tie that to the information you give us of $350 million?

MS. BRATLAND: So the costs that we reflect on when we're looking at the comparative evaluation of the transmission line route, they use high level estimate of construction cost for relative comparisons, and they only use that portion of costs that's associated with the transmission line. So the estimate of the capital, the overall capital project cost includes a number of additional project components such as the converter stations. So we have estimates within the chapter in different tables for the types of project costs that would have been calculated, but those are bounded by the elements of what we're looking at when we're comparing the transmission lines, and the parts of the alternative transmission lines that are different,

and the difference in cost of those.

MR. MILLS: Okay, thank you. You show us cost, east route the cost is 1. So if the east route is selected, is it safe for us to assume that that means that the estimated cost for the project is $350 million?

MS. BRATLAND: No, that's not what that 1 is intended to indicate. The 1 indicates that of those transmission line route alternatives that are considered, that that was route estimated to have the lowest cost based on the costs that are considered in this exercise.

MR. MILLS: Okay, I give up.

In the high level EIS that you provide us with, you indicate Manitoba Hydro is proposing to build this project to export power and then revenues, improve reliability, and increase the opportunity for new power sales. Of those three reasons to build this project, I would suggest that reliability is the factor which can be most significantly affected by the routing. And it strikes us as odd that the reason for this project is to increase -- improve reliability. And yet you place a weight of 10 per cent on reliability, one-quarter of the weight you attribute to cost.

Why does system reliability, in your preference determination, carry such a low value in the face of your statement that reliability is one of the three significant reasons for building this project?

MS. BRATLAND: The criteria that are used here are meant for comparative exercise, and the cost element is given a relatively high proportion, partly because of the fact that we have a mandate to be a cost effective utility and the cost of project is a very important consideration, as you point out. System reliability is also an important consideration to consider -- I'm saying consideration a lot, I apologize -- an important factor to consider when comparing these route alternatives, because of the import contribution to system reliability of the line, and the weights were assigned appropriately for the comparative exercise.

MR. GLASGOW: If I can add something that might help? There is an absolute comparison, there's a relative comparison. So if you compare building the project to not building the project, obviously reliability is very important. This comparison is just relative among the route

finalist. So it's not an absolute comparison when compared to not building the project.

MR. MILLS: We appreciate all you say. But the argument, as I understand it, that Manitoba Hydro has made as one of the primary most significant selling points of this project, is that it, and we have heard parallel and analogous elements for Bipole, but that this project will provide Manitobans with reliability. And it hangs almost as a veiled threat in some minds. And then we come to the preference determination of the project, and we see you carrying system reliability as such a low value. And it seems, it doesn't add up in our simple minds.

So in plain language, why is system reliability carrying a 10 per cent weighting in your route preference, when improving reliability is the fundamental statement you gave to Manitobans for the reason for this expense and this project?

MS. BRATLAND: In response to your question, I'd like to point out two things. One again is that system reliability is one of the considerations in this preference determination table that was established by the management team.

System reliability is considered throughout when planning and evaluating routes. We have highlighted in our presentation that there are considerations when drawing routes. We talked about how far away from the existing 500 line it is and that consideration and system reliability. And then we evaluate it again in this step.

System reliability is one of the reasons that Manitoba Hydro, one of the benefits that Manitoba Hydro and Manitobans gain from this project, and it is reflected in the preference determination scores we feel appropriately.

MR. MILLS: Could you take us back to the slide which showed these routes on the map of southwestern Manitoba? And if it takes a minute to load that, I can ask some other questions while that happens. I know we'd like to move along.

Some brief comments to the previous presentation. We would agree with that presentation, that with so much information available and so much work having been done, would you agree with me that a simple 1 to 4 weighting of matters in which there are literally thousands of pages of information is, to be polite, immature? And as an example, where a matter may

move in a small increment that might take it from a 1 to a 2, wouldn't you agree with me that the weighting would half or double, possibly driven by a much smaller quantity of decision?

MS. BRATLAND: I would disagree with you that it would be, or that it is immature to use the scoring that we used and the ranks that we used, and would point you to the fact that this is a step in a much larger comprehensive process that involves considerable evaluation, careful analysis, feedback, and the determination and discussion of a large team of professionals when applying these scores.

The fact that it's a number between 1 and 3 is a way to represent a relative difference. And what's important is in the consideration of those relative differences, the fact that careful analysis and discussion informs the assignment of those numbers so that they carefully reflect those relative differences.

MR. MILLS: We do disagree.

The Environment Act 12.02, the reason why we're here, the director must take into account the amount of greenhouse gas and the energy efficiency of this project. We also

understand that line loss, and Mr. Penner isn't here, but we understand that line loss on a project of this length and level can be as much as 10 per cent. And we understand that, from the Public Utility Board information provided, that there may be contracts in place for as much as $6 billion of power sales. We are not engineers or mathematicians, but it seems to us that the potential for line loss in this project equates to $600 million on just that which you hold.

In the face of that, why would you not present us, in the face of the Minister being required to consider the energy efficiency of this project, why would the most direct route, ergo the least line loss, not be one of the final routes under consideration? It seems to us your routing has the potential to save tens, perhaps multiples of tens of millions of dollars in line loss by just quite simply drawing a straight line?

MR. MATTHEWSON: So from a route planning perspective, where we're trying to balance all of the interests on the landscape, drawing a simple diagonal line from Dorsey Converter Station to the Manitoba-Minnesota border location, obviously would place us indirectly

through the City of Winnipeg, as well as likely in a substantial amount of prime agricultural land on a diagonal basis. All of these things are certainly concerns that we've heard from the public about the potential effects of a transmission line. So a simple diagonal line connecting point A to point B does not consider all of the facets that Manitoba Hydro has conducted in the development of this final preferred route, as well as the assessment of that route. There are significant challenges with drawing a straight simple line.

MR. MILLS: Have you weighed, or have you ever heard, have you considered the amount of line loss that Manitoba Hydro would have on this project? And have you considered if it would be feasible to, with a straight line or the shorter distance route, would that line loss be better spent on compensating the affected farmers, compensating the affected Aboriginal indigenous and Metis groups? And have you ever considered just the simplest business model of let's build this as economically as we can, let's build this with the least amount of line loss that we can, and let's take those savings and have a healthy

conversation as to what we could do with those? Has that conversation taken place in any of your routing breakout sessions?

MS. BRATLAND: As we noted in the presentation and in the chapter, transmission line routing and decision-making is a complex iterative process that involves the balancing of many concerns and interests on the landscape. The consideration of length is a driving consideration behind a number of these elements. It's understood that when a line is longer, it has the potential to have a number of effects, to drive up cost, to have more impact on the landscape because it's crossing more potentially affected individuals and land users. It cannot simply be boiled down to one consideration at a time. You must consider all of these potential effects and all of the different trade-offs when planning and evaluating a transmission line in order to make a responsible decision.

MR. MILLS: I understand that, and I appreciate and respect the hard work you have done. That was my opening statement.

My question is, have you drawn a straight line, asked construction what the

construction cost savings would be, asked construction what the reduction in line loss would be? And have you stared at that number and asked yourself, would these monies be better spent, better spent than building lines all over the province? Would these dollars be better spent than evaporating this electricity into the environment? Would these dollars be better spent compensating those people directly affected by this work? Have you ever seen that value, is my first question; and if you have, have you had that discussion?

MR. MATTHEWSON: We have not had the discussion of drawing a transmission line route from Dorsey Converter Station through the City of Winnipeg, through the City of Steinbach, through the Watson P. Davidson Wildlife Management Area. It was simply something that we did not even remotely consider, because it was logically, or likely technically infeasible to do.

Now, with respect to line loss, the difference in length between these routes is relatively minor, so losses are not a factor, line loss is not a factor with respect to the comparisons of the ultimate.

MR. MILLS: What would the percentage savings in length of line be between a straight line and your current preferred route? Have you ever looked at that number?

MR. MATTHEWSON: We have not looked at that number.

MR. MILLS: So it's fair to say that the Environment Act requires the Minister to consider the energy efficiency of this project, and it's fair to say that you have never established a baseline as to the least expensive, most efficient route. Would you agree with me?

MR. MATTHEWSON: As I previously answered, to draw a route from Dorsey Converter Station through those areas is technically unfeasible, so it was not considered.

MR. MILLS: Would it be fair to say that the real reason that the route can't be drawn in a straight line is because of the political effect of Steinbach?

MR. MATTHEWSON: No.

MR. MILLS: Has your routing ever received any advice or direction, support or suggestion from the board or any political forces as to avoid Steinbach?

MS. BRATLAND: No.

MR. MILLS: So the reason all of these routes pass so far around Steinbach are for reasons other than energy efficiency, or reduction in greenhouse gas through reduction in construction length or cost. That's fine. Thank you.

So let's help the Minister. The Minister states, or the Minister is told in the Act that she, or the director, she must consider the greenhouse gas contribution of this project and the energy efficiency of this project. Which route introduces the least amount of greenhouse gas to the environment? I think it's mandatory of what we're doing that we provide the Minister with that information. Do you in fact know which route produces the least greenhouse gas?

MS. BRATLAND: Greenhouse gas production was not a consideration of the routing panel. You'll have to pose that question to another panel.

MR. MILLS: Okay. We understand the Pembina Institute manages and calculates your greenhouse gas life-cycle analysis. Did this panel provide any information to the Pembina

Institute as to the various routes?

MS. BRATLAND: Again, your question will have to be posed to another panel. We conducted an evaluation of route alternatives, and our EIS has an evaluation based on the final preferred route.

MR. MILLS: My question is easily answered. Did your group provide any information to the Pembina Institute?

MS. BRATLAND: The routing panel did not provide any information directly to the Pembina Institute.

MR. MILLS: Thank you. That's great.

Did your panel prepare any assessments as to the energy efficiency, or did you contribute information to other groups within Manitoba Hydro with regards to studying the energy efficiency of these various routes?

MS. BRATLAND: Our group did not consider the energy efficiency in our discussions. We do have engineers, project engineers on our project team that consider line loss and efficiency and design. But as we noted, the difference in length, and it's relatively minor, and losses were not a factor in the comparative

evaluation.

MR. MILLS: Did your group refer to or take into consideration any of the information provided by the Pembina Institute? And if so, could you give me an example of some information that they provided that you would have considered?

MR. MATTHEWSON: My apologies, we didn't get your entire question, sorry. Can you please repeat?

MR. MILLS: I'm sorry, you know what, I'll move on.

Are you familiar with the greenhouse gas life-cycle analysis on this project?

MS. BRATLAND: I am vaguely familiar with it. You will have to have your questions directed to that topic for a panel coming up.

MR. MILLS: I'm going to, but I'm interested in what information you provided to them. I'm going to ask them what information they received, and I'm going to ask you what information you sent, so that there's no misunderstanding.

MS. BRATLAND: I personally sent no information to the Pembina Institute, as I was not the project team member charged with communicating

with that entity.

MR. MILLS: Thank you. It seems to me that the routing decisions require more input than your matrix. The Minister must, not shall or might, there's only a couple of things that she must do, and she must consider the greenhouse gas contribution of this project, and she must consider the energy efficiency.

If you were not providing her with a baseline of the most energy efficient route, and a baseline of the least greenhouse gas producing solution, you are technical analytical people, I'm not, but do you think it's possible for the Minister to reach a fair decision on this project if she doesn't know what the least contributing route potentials are?

MS. BRATLAND: I wouldn't endeavour to say what decision the Minister could take. We have provided a fair bit of analysis and have put forward a comprehensive Environmental Impact Statement. That's a decision for the Minister to take.

MR. MILLS: I just heard you say we haven't provided a fair bit of analysis. Was that misspeak?

MS. BRATLAND: I believe you heard me incorrectly. I said we have provided a fair bit of analysis.

MR. MILLS: I'm sorry, thank you. Give me 30 seconds. I just want to check my notes.

So in summary, is it fair to say that the routing selection includes no specific criteria input for GHG contribution or energy efficiency?

MS. BRATLAND: No, I don't think that would be fair to say. I think there are a number of elements and characteristics of routes, highlighted within the route evaluation and within the route chapter, discussing differences between routes, such as the length or the number of forested areas crossed, that can then be used in an evaluation related to climate change and GHG.

MR. MILLS: Thank you. One last question, two points. Stantec provides us with an air quality assessment of the project, and the Pembina Institute provides us with a GHG life-cycle analysis of the project. Did you provide them with specific routes, or did you provide them with the information as to a

preferred route for them to base their reports on?

MS. BRATLAND: I'm sorry, are you asking about Stantec or about Pembina?

MR. MILLS: Both. Did you provide either of them with information as to which route they should base their reports on?

MS. BRATLAND: As I communicated directly with Stantec, I can confirm that I did provide that to Stantec. As I did not communicate directly with the Pembina Institute, I cannot comment.

MR. MILLS: Which route did you provide to Stantec for their analysis and report?

MS. BRATLAND: In the EIS, Stantec evaluated the final preferred route, but Stantec discipline specialists were present on the project team throughout the process.

MR. MILLS: I understand, but they prepared a report. So it's your information that their report is based on the final preferred route?

MS. BRATLAND: The EIS and the effects assessment is based on the final preferred route.

MR. MILLS: And you don't know which route the Pembina Institute's report is based on?

MS. BRATLAND: I don't want to comment on a report or communication that I was not directly involved in.

MR. MILLS: Okay, I'll ask them. With that I have no further questions. Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you, Mr. Mills. All right. That brings us back up to the top of the order. So we'll hear next questioning from the Consumers' Association of Canada. Ms. Pastora Sala.

MS. PASTORA SALA: Good morning, Mr. Chair, members of the panel. Thank you for your patience as I prepare my documents. And good morning members of the routing panel. For your information, I have already distributed a list of the references for my questions both to the routing panel as well as the CEC panel.

My questions will all be directed this morning to Ms. Bratland. And good morning, Ms. Bratland.

MS. BRATLAND: Good morning.

MS. PASTORA SALA: You are the senior environmental specialist in the Licensing and Environmental Assessment Department of Manitoba

Hydro, correct?

MS. BRATLAND: Correct.

MS. PASTORA SALA: And you have been in that position since 2012?

MS. BRATLAND: Yes.

MS. PASTORA SALA: That's what your CV says. And you lead the coordination of the engagement feedback for the routing process for the MMTP?

MS. BRATLAND: I did.

MS. PASTORA SALA: And would you agree that meaningful public engagement is a key element of any environmental assessment process?

MS. BRATLAND: I would.

MS. PASTORA SALA: And effective public participation can increase transparency and legitimacy in environmental assessment?

MS. BRATLAND: I do agree with that.

MS. PASTORA SALA: Assist in repairing, maintaining and building relationships with participants?

MS. BRATLAND: Yes.

MS. PASTORA SALA: And one of the elements of effective public participation is to provide early and ongoing opportunities for input

into the project?

MS. BRATLAND: Yes.

MS. PASTORA SALA: As indicated at page 5-8 of the EIS, and during your presentation yesterday, the objective of routing is to minimize and mitigate potential overall effects of the project; correct?

MS. BRATLAND: This is correct.

MS. PASTORA SALA: And Manitoba Hydro's goal in their routing methodology was to provide a transparent model for decision-making, which sought to reduce effects of the MMTP on people and the environment, as indicated at page 5-1?

MS. BRATLAND: Yes.

MS. PASTORA SALA: And as indicated during your presentation, for example, at page 50 of the powerpoint, and in the EIS at page 5-1, one of the challenges that came up during the routing selection process was the balancing of competing interests.

MS. BRATLAND: Yes.

MS. PASTORA SALA: And yesterday you referred to balancing of competing values or conflicting perspectives between use of private

lands and Crown lands, correct?

MS. BRATLAND: I did discuss that, yes.

MS. PASTORA SALA: The EPRI-GTC model was selected as the methodology for routing in the MMTP project, because Manitoba Hydro has said that it was previously successfully used across North America, and because of the transparency of the model, correct?

MS. BRATLAND: Those were two of the reasons that I discussed.

MS. PASTORA SALA: That's fair. And that's at page 5-7 as well.

The EPRI-GTC was used to balance multiple perspectives and evaluate and compare route alternatives as indicated at page 5-1, 2, 3; correct?

MS. BRATLAND: Yes.

MS. PASTORA SALA: So my questions today will focus on the pre-planning stage that went into the implementation of the EPRI-GTC methodology. So if we think of the funnel, it's the area at the top of the funnel and before then. And it's my understanding that one of the first steps in the pre-planning process, which began in

February 2012, is to determine what perspectives will be considered in the application of the model. Would that be accurate?

Would you like me to restate the question?

MS. BRATLAND: No, I'm just considering the time line and just making sure I accurately recollect. One moment, please.

MS. PASTORA SALA: Sure. I can also refer you to page 5-5 of the EIS, if it helps. And so I'm referring at the top there where it says, February 2012 preliminary planning.

MS. BRATLAND: Yes, I see now, and why it wasn't jiving in my head.

The preliminary planning around the use of the EPRI-GTC methodology, and the inclusion of the alternate corridors and macro corridors started in May of 2013. So there should have been another date in here. Under February 2012, when we talk about macro corridors and alternate corridors, that should indicate early 2013.

MS. PASTORA SALA: Okay, sorry. So my question was, in the pre-planning process, one of the considerations was to determine the perspectives, so engineering, geographic, natural

environment, and community considerations, what went into the funnel?

MS. BRATLAND: That did happen in preliminary planning.

MS. PASTORA SALA: So thank you to the individual who pulled this image up.

So those initial perspectives we see here, again, are community considerations, natural environment considerations, geographic information and engineering considerations. Can you confirm that for me?

MS. BRATLAND: Yeah, that's what it says.

MS. PASTORA SALA: And those perspectives would have been selected by the project management team; correct?

MR. GLASGOW: So I developed this graphic, so I can comment on it.

MS. PASTORA SALA: Sure, Mr. Glasgow, go ahead.

MR. GLASGOW: This was actually pulled from the EPRI project report. So when we developed this graphic, it's a conceptual diagram that explains how we consider various perspectives that you've listed, and we process them through

the funnel. And so it's really part of the EPRI methodology to consider community or built perspective, as well as natural and engineering.

MS. PASTORA SALA: So another way of saying it would be that this would be kind of like a template that would come with the methodology. Would that be correct?

MR. GLASGOW: I think that's a fair statement.

MS. PASTORA SALA: And so I'd like to refer you -- do you still have page 5-5 in front of you? Okay.

So at some point in the pre-planning process, one of the decisions which had to be made was to take the template and regroup the perspectives, or identified perspectives which would apply for the MMTP project, correct?

MS. BRATLAND: Correct. But that would have happened initially in the development for the St. Vital to Letellier application.

MS. PASTORA SALA: Okay. So still pre-planning or pre pre-planning? Early?

MS. BRATLAND: Yes.

MS. PASTORA SALA: Okay. And so to be clear, one of the perspectives that was dropped

from this template was named or called community considerations; correct?

MR. GLASGOW: Again, I created this diagram, and we use the word community and built sometimes interchangeably in the methodology. And as this document was meant to communicate with laypeople, sometimes built environment doesn't mean the same thing as community. So that's why we used the word community in this graphic.

MS. PASTORA SALA: Okay. So then Manitoba Hydro would have chosen the words built instead of community considerations?

MR. GLASGOW: No, actually the EPRI methodology refers to it as the built environment, and that's meant to represent where people live in community considerations.

MS. PASTORA SALA: And so again, at some point in the pre-planning stage, the decision to drop the name, community consideration was dropped; correct?

MR. GLASGOW: It wasn't dropped. This is just a different way to emphasize the built environment. If you read the EPRI report, it refers to the built environment. So that was the template, the built environment is the template.

It just happens that this graphic uses a different term, rather than built environment, uses community.

MS. PASTORA SALA: Right. So the terms that would be used for this model would have been built, engineer and natural. So the only thing I'm saying is that these four considerations here would have either been regrouped or renamed to be called then built, engineer and natural.

MR. GLASGOW: So it's standard process to use built, engineering and natural in using the EPRI methodology. And so it's also meant to capture community concerns as well.

MS. PASTORA SALA: Okay. And once you provide the template, Mr. Glasgow -- and then I'm going to go back to Ms. Bratland -- so those decisions relating to what the perspectives are going to be called for this particular MMTP project would have been made by the project management team; correct?

MS. BRATLAND: The project team kept those names, maintained those names.

MS. PASTORA SALA: Okay. Thank you.

If I recall correctly, and it's outlined, again, at pages 5-5, that preliminary

planning also included a stakeholder workshop which was held on May 6th to 8th of 2013; correct?

MS. BRATLAND: Correct.

MS. PASTORA SALA: And the stakeholders represented at this workshop are listed in the appendix 5A at page 5A-3?

MS. BRATLAND: Correct.

MS. PASTORA SALA: And if we look at that page, we see that the stakeholders present were grouped into three perspectives. They were grouped into the engineering, natural and built perspectives; correct?

MS. BRATLAND: Correct.

MS. PASTORA SALA: And we heard on the record yesterday about some of the stakeholders represented in these, and these included, so we had government departments, for example, the Manitoba Infrastructure Transportation, Manitoba Aboriginal and Northern Affairs, Fisheries and Oceans, Manitoba Conservation and Waterstewardship, which is now of course Sustainable Development, City of Winnipeg was there, Manitoba Hydro, and some non-governmental organizations such as Ducks Unlimited, Nature Conservancy of Canada and Manitoba Trappers

Association. Would that be correct?

MS. BRATLAND: Those were some of the groups involved.

MS. PASTORA SALA: Okay. Is there anyone that was at this stakeholder workshop that is not in appendix 5A at page 5A-3?

MS. BRATLAND: Sorry, my memory of the question always gets a little cloudy when I start to look at my documents. Could you repeat it for me?

MS. PASTORA SALA: Yes, of course.

Is there anyone that was present at the stakeholder workshop that is not listed on page 5A-3 of appendix 5A?

MS. BRATLAND: I believe they are all listed. I was just crosschecking that with the response to SSC IR 037. And in my quick crosscheck, subject to careful check later, I believe that it has the whole list.

MS. PASTORA SALA: I can also tell you I have checked.

MS. BRATLAND: And you agree with that?

MS. PASTORA SALA: Yes. Recognizing what we heard yesterday about the process for

stakeholder groups, and also the explanation that you have already mentioned which is in SSC IR 037, would it be fair to say that none of the stakeholders invited or present represented the consumer interest?

MS. BRATLAND: Technically, all of the individuals present, as they are Manitobans, are consumers, but no one individual was charged with speaking on behalf of consumer interests.

MS. PASTORA SALA: And so none of the organizations or individuals present were there representing or advocating on behalf of consumers; correct?

MS. BRATLAND: The individuals present at the workshop were there representing the various land uses and land types on the landscape, and the suitability of those land features related to transmission lines.

MS. PASTORA SALA: And so another way of saying that, if I recall Mr. Glasgow's -- Glasgow or Glasgow?

MR. GLASGOW: I'll answer to either.

MS. PASTORA SALA: All right. So you had indicated, I believe, you had termed, you had made the difference between technical expertise

and organizations that either represented a special interest group or special interest perspective; would that be correct?

MR. GLASGOW: Please repeat the question?

MS. PASTORA SALA: So when explaining yesterday who had been invited at the stakeholder workshop, you had made the distinction between groups with technical expertise, and those that Manitoba Hydro or that you had identified to be special interest groups; correct?

MR. GLASGOW: I'm going to get the IR that addresses that. Give me a second.

So I'm reading from the response to SSC IR 37.

"Manitoba Hydro invited stakeholder groups, representatives that were technical knowledge holders that could bring to the discussion their understanding of the features on the landscape and associated values and use, which made possible for them to participate in discussions that examine the relative suitability of routing a transmission line across or

in proximity to these features."

MS. PASTORA SALA: Right. And so I believe we are referring to the same thing, which indicates that groups or individuals with technical expertise were invited, as opposed to those which would have skewed the discussion, or another way of saying that, would be special interest groups; correct?

MR. GLASGOW: The objective of this meeting is to get objective input.

MS. PASTORA SALA: Right. And so at this early stage in the process, Manitoba Hydro was not interested in hearing from those non-skewed or special interest groups; correct?

MS. BRATLAND: Manitoba Hydro sought input from all interested parties throughout the project at various different stages. And at this stage, because it was a regional non-project specific study conducted to evaluate different features on the landscape and relative suitability, it was not sought at that point.

MS. PASTORA SALA: Okay. So just to confirm then, that at this early stage in the process, some of those special interest groups that weren't at the table, or that Manitoba Hydro

was not interested in hearing from, would have been consumers, First Nations, Metis Nation, and Aboriginal organizations. Would that be correct?

MS. BRATLAND: I'd like to correct the premise of your statement. From our perspective, we are very interested in hearing from all interested parties, all potentially affected individuals, and there's different mechanisms and ways that that is brought to bear in a project. Once we have an understanding of where the project is specifically being planned and a better understanding of those interests, they come in to play over and over again throughout the process.

MS. PASTORA SALA: Okay. So it would have just been at this pre-planning early stage that those perspectives were not heard; correct?

MS. BRATLAND: As I responded to you in an earlier response, the understanding from past projects and concerns we have heard from past projects, and all the learnings were brought into the discussion. But you are correct in noting that there was no specific organization representing consumers, and there were no specific First Nations at this meeting.

MS. PASTORA SALA: And was the NEB

invited or present at this workshop?

MS. BRATLAND: No.

MS. PASTORA SALA: Was Environment Canada invited or present at this workshop?

MS. BRATLAND: I don't believe Environment Canada was there.

MS. PASTORA SALA: So the very first time that First Nations, the MMF and Aboriginal organizations were contacted would have been in August 2013; correct?

MS. BRATLAND: Sorry, there's an IR that talks about when the first communications would have gone out on the projects. I want to be able to give you those facts.

So I'm quoting from the response to MMF IR response number 002, which indicates that the First Nation, Metis and Aboriginal engagement began in August 2013. However, in the volume related to public engagement process, it was noted that engagement began in June 2013. So there was some early notification in June 2013.

MS. PASTORA SALA: Okay. So approximately one year after the stakeholder workshop; correct?

MS. BRATLAND: No, months after.

MS. PASTORA SALA: The stakeholder workshop was in May of 2013. And at page 5-11 of the EIS, we learned that this preliminary planning process provided the basis to move forward for the rest of the routing approach. Correct?

MS. BRATLAND: It was a very important piece of information that informed the rest of the routing approach.

MS. PASTORA SALA: I'm quoting directly from the EIS.

MS. BRATLAND: I guess we're saying the same thing in different ways.

MS. PASTORA SALA: So, yes?

MS. BRATLAND: Yes.

MS. PASTORA SALA: So it's fair to say that the entire methodology, or the entire funnel depended on the outcomes of the pre-planning stage; correct?

MS. BRATLAND: No, I don't think it's fair to say that. I think it is a foundational piece of information that informs all the subsequent steps, as well as all of the additional inputs and steps for external stakeholder data, feedback and analysis, studies on the landscape, the ability to talk to numerous experts and

interested parties throughout the process.

MS. PASTORA SALA: I'm sorry, I thought you had just recently indicated and agreed that the preliminary planning provided the basis to move forward. In my mind, a base is an area from which you move forward from. Would that be correct?

MS. BRATLAND: I suppose we should have selected different words if that's the interpretation being made from them. It is a very important piece of information that is used to inform route planning, as described in the presentation by Mr. Matthewson. So the way that it was used is how we contextualized it in the presentation.

MS. PASTORA SALA: And the premise of a funnel is that it gets wider to narrower; correct? That's what a funnel does?

MS. BRATLAND: That's the concept represented by the funnel.

MS. PASTORA SALA: During the stakeholder workshop, the suitability values for each features were scored, correct? That's at page 5-20.

MS. BRATLAND: Yes.

MS. PASTORA SALA: And then at 5-21 it says:

"After the suitability values were assigned to features, stakeholders assigned weights to each factors based on their knowledge and opinion of importance."

Correct?

MS. BRATLAND: I can't see that line.

MS. PASTORA SALA: It's at the top under layer weight, it says the exact quote I just read.

MS. BRATLAND: Correct.

MS. PASTORA SALA: And so again, the project management team took what they heard during the workshop, and they decided to make adjustments to the criteria and the model, which is described at page 5A-26; correct?

MS. BRATLAND: I'm just going to refer to your reference. One moment?

MS. PASTORA SALA: Yes.

MS. BRATLAND: I'm sorry, that page refers to a different model. The page you are referring to is the alternate route evaluation model, which is one of the comparative evaluation

tools.

MS. PASTORA SALA: And when would those adjustments to the criteria have been made?

MS. BRATLAND: Adjustments to the alternate route evaluation model criteria were made after engagement in stakeholder workshops and Round 1 preliminary engagement.

MS. PASTORA SALA: When?

MS. BRATLAND: December 5th of 2013.

MS. PASTORA SALA: And so at that point the pre-engagement had happened; correct?

MS. BRATLAND: We were actually within Round 1 engagement at that point. Round 1 engagement began in October of 2013.

MS. PASTORA SALA: So a couple of months after.

MS. BRATLAND: Right, in December.

MS. PASTORA SALA: But the criteria was changed; correct?

MS. BRATLAND: Yes, the criteria was modified with the benefit of the feedback through stakeholder workshops and input. Sorry, it wasn't modified, it was set for the project with the benefit of that input.

MS. PASTORA SALA: And the adjustments

that were made, I'm just focusing on the additions at this point, would have been the addition to the criteria of potential commercial forest, conservation and designated lands, seasonal construction and maintenance restrictions, and index of proximity to existing 500 kV lines, as well as some criteria that were subdivided into more details aspects; correct? That's outlined at 5A-26.

MS. BRATLAND: So we're just pulling up the IR that compares the changes in the metrics. The discussions we had with stakeholders and the public, and the feedback that we received, resulted in the AREM evaluation model for the project. The intent is to best represent those important landscape features and to calculate them appropriately.

So some of the changes that were made weren't necessarily removals or additions, but were re-characterizations based on feedback. Some of them resulted in certain things being reflected with a higher weight. For example, we have talked about proposed developments, commercial forest I believe was an addition because there are forestry, commercial forest areas in the project

area that we wanted to be able to consider. The intactness and the different natural criteria --

MS. PASTORA SALA: Sorry, before you continue, can I just ask which IR you are referring to so I can --

MS. BRATLAND: I don't have it in front of me either, sorry, let's look at the IR together. The IR is SSC IR 076.

MS. PASTORA SALA: Okay, go ahead.

MS. BRATLAND: So the table that I'm referring to is, I just find, because I'm visual, it helpful to look at, in consideration with the information on page 5A-26.

MS. PASTORA SALA: So can you confirm that the additions that were made would have been the potential commercial forest, the conservation designated lands, seasonal construction and maintenance restrictions, as well as just some criteria subdivided? I'm only looking at the additions and not the weight changes or any other changes.

MS. BRATLAND: Okay. So you said seasonal construction and maintenance, conservation designated lands, potential commercial forest, was there another one? I just

want to make sure I caught them all.

MS. PASTORA SALA: And then you added some into the subdivide, you subdivided.

MS. BRATLAND: Okay.

MS. PASTORA SALA: Would that be correct?

MS. BRATLAND: So based on the consideration of feedback and the application of the project to this project area, I can confirm those things were added and changed in the model.

MS. PASTORA SALA: And at this early stage in the planning, you had only been listening to your -- you were in your -- let me rephrase that. You had undertaken your stakeholder workshop, your pre-engagement process, and you were in, approximately two months into your engagement process. So you had only heard about two months worth of information from consumer advocacy groups; correct? Potentially?

MS. BRATLAND: So from the beginning of our first workshops to the setting of the criteria in December would have been approximately five months.

MS. PASTORA SALA: But the only engagement you had done would have been in your

Round 1 engagement, which began in December; correct?

MS. BRATLAND: So the scope and scale of the engagement process was highlighted by Mr. Joyal, and it began and had broad notification, fairly wide participation. And by the time we reached December, because we were about to apply the model for a decision, we needed to set those criteria, so it included whatever feedback we had heard through that process and through the stakeholder workshops, and that arrived at the final model.

MS. PASTORA SALA: Prior to December, you had only undertaken -- you had undertaken your stakeholder workshop and your pre-engagement; correct?

MS. BRATLAND: No. We had undertaken our early notification, we had undertaken --

MS. PASTORA SALA: Which is your pre-engagement.

MS. BRATLAND: -- Round 1 engagement, we had undertaken the May workshops for the alternate corridor model, and we had undertaken specific stakeholder workshops on routing.

MS. PASTORA SALA: So the

pre-engagement, which was July 2013 to September 2013, focused on sharing of information, identifying stakeholders and understanding their level of interest, and gathering some feedback about how they wanted to be informed; correct?

MS. BRATLAND: Yes.

MS. PASTORA SALA: And so at that point you had done that, and you had done your stakeholder workshop to hear from individuals or stakeholders; correct?

MS. BRATLAND: I think perhaps I'll take a step back, because we're getting tied up in dates, and just put out the timeline here, just so that we can be clear.

There were two processes; one a regional process to inform the alternate corridor model, that stakeholder model; and then the first application of our EPRI framework on St. Vital to Letellier. So that stakeholder workshop was in May of 2013, with the application to that project starting shortly thereafter. Then there were MMTP specific engagement processes that began with the early engagement, that began in August, I believe.

MS. PASTORA SALA: July 2013.

MS. BRATLAND: July, sorry, July 2013.

The CAC, your organization, was contacted in August of 2013, to participate in that process. Then subsequent to that, we had our Round 1 engagement activities, our focused MMTP specific stakeholder workshops that were in November of 2013, I believe. That all came together to inform the criteria used in the alternate route evaluation model that was the model applied on this project, and that was in December of 2013.

MS. PASTORA SALA: At this point, though, you had only heard from consumers -- you had only heard from First Nations, the MMF, Aboriginal organizations, potentially the NEB, and potentially Environment Canada, for a couple of months; correct?

MS. BRATLAND: We had been hearing from and reaching out to and meeting with people since August of 2013. And we invited First Nations and the MMF to partake in those specific routing workshops on MMTP in November of 2013.

MS. PASTORA SALA: By the fall of 2013, prior to your engagement, Manitoba Hydro had already decided the perspectives that were going to be considered. Correct?

MS. BRATLAND: In the EPRI-GTC

methodology, Manitoba Hydro used the terminology of engineering, natural and built perspectives. And throughout the ongoing engagement processes, we invited all interested parties to take part in discussions. So from the perspective of how we grouped information within a decision-making framework, we had titled those things, but the perspectives sought and the inputs sought throughout the project was continuous and open.

MS. PASTORA SALA: The criteria within those perspectives had already been identified by the project management team; correct?

MS. BRATLAND: Sorry, by when?

MS. PASTORA SALA: The fall of 2013.

MS. BRATLAND: Mr. Glasgow wants --

MR. GLASGOW: In this discussion, we're talking about two different models that have different places in the funnel. We started the discussion talking about the alternate corridor model that was informed through a stakeholder workshop. And then we continued the discussion talking about the alternate route evaluation model. So those are two separate models that were calibrated at two separate times with two separate levels of input. So in this discussion I think

we're kind of using them interchangeably and it may be confusing.

MS. PASTORA SALA: I'm looking at page 5-5, where it says that the public engagement began in the fall of 2013. Do you see that?

MS. BRATLAND: I do.

MS. PASTORA SALA: And so when I refer to the fall of 2013, what I'm asking you to confirm is whether at that point Manitoba Hydro had already considered, or had already decided the perspectives, so the three perspectives that were going to be considered?

MS. BRATLAND: The three perspectives that were used in the alternate corridor evaluation model and the alternate route evaluation model, and the terminology for those perspectives, was decided prior to the fall of 2013. But the perspectives and interests that considered an informed decision-making were open and sought often.

MS. PASTORA SALA: And the criteria within those perspectives, so Table 5-3, I'm referring to like what is in the yellow as the criteria, I don't know if you have a better word for me?

MS. BRATLAND: Sorry, what word is it?
MS. PASTORA SALA: Criteria, under the perspectives?
MS. BRATLAND: Okay. We can use criteria.
MS. PASTORA SALA: Those had already been determined prior to the fall of 2013; correct?
MS. BRATLAND: Yes.
MS. PASTORA SALA: And the weights given to each of those criteria which were determined by the project management team had also already been decided?
MS. BRATLAND: The weights given to these criteria were not determined by the project management team. They were determined in a stakeholder workshop by the stakeholders participating. And yes, they had been determined prior to the fall of 2013.
MS. PASTORA SALA: And when you refer to stakeholder workshop, you're referring to the handpicked group of stakeholders that were there from May 6th to May 8th?
MS. BRATLAND: I'm referring to the regional technical data holders and

representatives that participated in that workshop in May 2013.

MS. PASTORA SALA: Which excluded consumer interest advocacy groups?

MS. BRATLAND: The CAC was not a participant.

MS. PASTORA SALA: Or any other consumer advocacy group?

MS. BRATLAND: I believe we established that already.

MS. PASTORA SALA: Okay. Those are my questions. Thank you.

THE CHAIRMAN: Thank you.

All right. That brings us to the Southern Chiefs' Organization represented by James Beddome.

MR. BEDDOME: Thank you very much, Mr. Chair, and your patience is appreciated as I got set up there. And thank you very much to our panel for being here today. And I'm looking forward to asking you some questions. I'm sure you're happy to know that I'm the last one to ask you questions. I think so, I don't know, I believe I'm the last one anyway.

So I also want to thank all the other

participants in the room, as I'll be following up on a lot of their questions. So you'll get a lot of agree and disagree questions from me.

One perhaps question I'd asked of the panel, and any of you can answer but I'll get into the -- I may for personal reasons grab one person here or there with some questions that I'll address. But first question is, would the panel agree that indigenous people have a strong connection to the land, that's not only about hunting and harvesting rights, but also about their identity and their culture?

MR. MATTHEWSON: Yes, the panel agrees strongly.

MR. BEDDOME: And you were aware of that well before the start of this process?

MR. MATTHEWSON: Yes.

MR. BEDDOME: And you would agree that indigenous people have expert knowledge with respect to those lands?

MR. MATTHEWSON: Yes, we would.

MR. BEDDOME: Thank you.

Mr. Glasgow, I'm going to pick on you a couple times, not only because of your expertise but also I got to admit, I love your accent.

You're from Alabama originally.

MR. GLASGOW: I am originally from Alabama.

MR. BEDDOME: I just got to say, it's soothing about this Manitoban's ears, it's a little bit like thinking about a warm sunny day on our minus 40 winter days there. But one of the things that I was kind of thinking is, why I appreciate it is it's unique, right? We're in Manitoba, we don't hear an Alabama accent every day. Just like if I went down to Alabama, you wouldn't hear a Manitoban accent. And it made me think, when you think about Southern Manitoba, what's unique, and this is clearly outlined in the EIS, it is over a hundred years of development. What's unique is intact land, undisturbed land, land where indigenous people can exercise their traditional rights, and connect with their identity and culture. Do you guys see the connection of how I'm saying that, particularly in Southern Manitoba, much like our wonderful expert's accent, it's a unique thing that we have less and less of? Do you see that connection? No?

MS. BRATLAND: It's an interesting

analogy.

MR. BEDDOME: It's an interesting analogy, but you don't follow me, right? Let me make this really easy. Over the past hundred years, Southern Manitoba has developed more and more, and there's less and less intact natural lands. Agree or disagree?

MR. GLASGOW: Agree.

MR. BEDDOME: So that would mean intact natural lands would be relatively more unique than developed lands. Agree or disagree?

MR. MATTHEWSON: Agree.

MR. BEDDOME: So there would be special reasons to protect those intact lands then. Agree or disagree?

MR. MATTHEWSON: Yes, I think that's why there are so many protected areas designated by Manitoba Sustainable Development, and why Manitoba Hydro used intactness as a criteria in its evaluation of routes.

MR. BEDDOME: And there's lots of talk, right, about the competing interests, right? We sort of have what you guys called the built environment versus the natural environment. And you were trying to balance those interests to a

certain extent; true or not true, or agree or disagree?

MS. BRATLAND: We take all of those considerations and perspectives into account when evaluating and planning alternatives.

MR. BEDDOME: Just bear with me. Thank you.

Now, you might want to go to, it's Slide 17 of the routing, not the screen presentation. You talk a little bit about the need to avoid, mitigate and compensate, but it's at the very bottom, you've got to avoid effects that are difficult to mitigate or compensate. So would you agree that we have already established the connection of indigenous people with the land, it's not only about traditional interests but is also about their culture and identity. So would you agree or disagree that those types of impacts can't be mitigated, loss of culture, loss of identity is not something that can be mitigated, whereas impacts to land or business interests can usually be mitigated by compensation. Would you agree or disagree, that's not what that slide more or less is a take-away point from it?

Did you need me to repeat the

question?

MR. MATTHEWSON: Yes, please.

MR. BEDDOME: Sure. I'm just looking at Slide 17, and I think we've already established that impacts to indigenous people's sense of identity and culture, in terms of impacts to lands, is something that can't really be compensated. Would you agree or disagree with that?

MR. MATTHEWSON: I can't agree or disagree with that. It would be up to the individual communities to determine that.

MR. BEDDOME: Would you agree that strictly economic interests are easier to compensate than more identity or culturally focused interests? Given that, I think there was a comment by Mr. Glasgow about what's directly quantitative and what's not.

MR. MATTHEWSON: Can you rephrase your question, please?

MR. BEDDOME: I'll try to give you an example. We harm someone's business, it's certainly going to be impacted and there's even going to be, I would acknowledge, a connection towards them, but it's something that we can

usually put a dollar figure on, we can put a number on and, therefore, it's easier to compensate. However, if we do something that impacts someone's culture or their sense of identity, that's not something that money can necessarily fix. That's not something that we can just put a dollar figure on. That's something that's about broader interests that aren't easily quantifiable. Would you agree or disagree with that?

MR. MATTHEWSON: I agree that it's hard to quantify.

MR. BEDDOME: But you don't agree that that makes it harder to compensate for?

MR. MATTHEWSON: It would be hard to quantify, so it may be hard to determine a level of compensation. But, again, I would leave it up to the individual or community that felt there was an effect that required compensation for them to determine that.

MR. BEDDOME: Okay, thank you. Moving along a little bit here.

Mr. Glasgow, you talked a little bit about the model, and let's see if I can find your exact comment. But I believe there was a comment

that natural and built and engineering is commonly one of three features that are taken a look at when you are applying the EPRI GTC model, I hope I got that right?

MR. GLASGOW: Actually, it's not three features, it's three perspectives that are considered.

MR. BEDDOME: Three perspectives, thank you, much appreciated. I'll try my best, and feel free to correct my language if I misuse the inappropriate terminology.

How many projects have you personally applied this model to, would you estimate, roughly?

MR. GLASGOW: Several. I'm not sure off the top of my head, I would say a couple hundred.

MR. BEDDOME: A couple hundred. And out of your experience, do they always use those same three -- sorry, what did you call it again, I don't want to use features again, that's not the word?

MR. GLASGOW: Perspectives.

MR. BEDDOME: Perspectives, do you always use those three perspectives, what you

called -- I think on your model had community, but you called it the built environment, the natural and engineering. Are those generally the three perspectives, out of the hundreds of projects you have done, do they always use those three perspectives?

MR. GLASGOW: Yes, I think built, natural and engineering are pretty common. There has been application to add additional perspectives such as, I think one was added in Georgia called co-location.

MR. BEDDOME: Co-location? Can you explain more what co-location means?

MR. GLASGOW: It was intended to have the model consider co-location as a perspective, co-locating with linear infrastructure. In this case that's a part of the engineering model. But other than that deviation, I would say most every project that I can recall used built, natural and engineering.

MR. BEDDOME: And any others, in addition to co-location, like has it always just been those three? Is it sometimes four or five perspectives taken into account?

MR. GLASGOW: Other than what I have

just described, it's typically built, natural and engineering.

MR. BEDDOME: And I believe this was already established by Mr. Toyne, but Manitoba Hydro decided to implement this model before the Bipole III Commission final report was issued; correct.

MS. BRATLAND: We decided to use this model before the report was issued. A number of us were present and participated in those hearings, and understood the nature of the concerns, prior to the report being finalized.

MR. BEDDOME: And so the first time this model was used in Canada and in Manitoba was for St. Vital to Letellier; correct?

MS. BRATLAND: No, I believe there was a previous application of this model on the Montana-Alberta transmission line.

MR. BEDDOME: Montana-Alberta, okay. But it was used in St. Vital to Letellier here in Manitoba?

MS. BRATLAND: Correct.

MR. BEDDOME: Now, one thing that would be different about the St. Vital to Letellier project would be that you wouldn't be

considered a designated project and you wouldn't require approval under the Canadian Environmental Assessment Act. Is that not correct?

MS. BRATLAND: We did not require that approval on that project.

MR. BEDDOME: But you do require approval for this project because it's an international power line; correct?

MS. BRATLAND: We require an NEB authorization, yes.

MR. BEDDOME: Okay. And it's also a designated project under section 5 of CEAA, a designated project under CEAA, right, the Canadian Environmental Assessment Act of 2012?

MS. BRATLAND: Yes, CEAA 2012 does apply.

MR. BEDDOME: And it was filed as an exhibit with the Consumers Association. I'm wondering if you'd be able to turn to section 5 of CEAA?

I apologize, it looks like it's not actually in the Consumers Association one, but I assume you're familiar with section 5(c) of the Canadian Environmental Assessment Act?

MS. BRATLAND: We're just going to

pull it up on the computer so we can make sure we can --

MR. BEDDOME: Seems only fair enough.

MS. BRATLAND: -- see the exact words.

MR. BEDDOME: Sure.

MS. BRATLAND: Okay, we have it here.

MR. BEDDOME: And just really quickly, that section is specific to impacts with respect to Aboriginal peoples, and it would be an effect from a designated project that either impacts health and socio-economic conditions of Aboriginal peoples, physical and cultural heritage, the current use of the land and resources for commercial purposes, and any structure, site or thing that is of historical, archeological, paleontological -- I haven't seen that one -- and/or architectural significance. So you see that there.

The reason I'm asking that is, don't you think that perhaps a fourth perspective should have been added with respect to the concerns of Aboriginal peoples, when this was a CEAA project that required that to be taken into account, which is, in fact, a legal requirement?

MS. BRATLAND: On the MMTP project and

the EIS that we filed, we did take those things into account. At the corridor workshops and the alternate corridor model, we are seeking regional level knowledge. Those providing input into the corridor model stage, which is a regional stage, before application on a specific project, needed to have data sources of currently existing geo-spatial data.

Feedback Manitoba Hydro has received in the past suggests that there may be a reluctance for communities to share sensitive geo-spatial locational information that could be used on multiple projects over a broad period of time.

Manitoba Hydro invited communities to conduct project specific, self-directed studies, that informed routing decisions and the EIS. Specific preferences were shared through ATK studies and preliminary mapping, as well as through the participation in all of the formal rounds of engagement throughout the project.

MR. BEDDOME: Okay. I'm going to return to that, and I just want to make it clear that certainly, and thank you for noting that, I acknowledge that ownership of ATK, it is really

important that First Nations maintain the ownership and that they control the use of it so that it isn't misused. So I understand that those concerns are out there.

But I guess returning to the earlier part and, I mean, many of my colleagues before -- and I thank Ms. Pastora -- directly before me was getting right into that community meeting where you indicated we were looking for regional specific data.

I think, Mr. Glasgow, you used the term -- bear with me, I'm trying to remember what term you used -- you said sometimes it's referred to as Expert Judgment Model. Would that be correct, Mr. Glasgow? You said it's referred to as Expert Judgment Model?

MR. GLASGOW: No. Sorry, the terminology is a little different. Expert Judgment Model is another name for the Preference Determination Model. So I think you're referring to the Alternate Corridor Model at this point in time, but I'm not sure.

MR. BEDDOME: I don't think I am. But you'll have to bear with us laypeople, these different levels, sometimes we have to go through

it and make sure we're crystal clear.

I'm looking at your funnel, and I guess that's at slide 3 if you want to go back to the funnel. And just help me understand this, Mr. Glasgow. I do apologize, but it's much appreciated. So the expert judgment model is at the perspective level; right?

MR. GLASGOW: No, that's not correct. We consider perspectives throughout the entire siting process, through the whole funnel. So there is no perspective phase. So the Alternate Corridor Model is used at the Alternate Corridor Phase. The Alternate Route Evaluation Model is used at the Alternate Route Stage. And the Preference Determination Model, also known as the Expert Judgment Model, is used to select from the route finalists, to select the preferred route.

MR. BEDDOME: I see it now, sorry. I apologize. Thank you for clarifying that, Mr. Glasgow.

So what we're looking at is alternate corridors where the external stakeholder data came in, and there was some, you were looking for regional technical data; correct?

MS. BRATLAND: Correct. And that

occurred prior to application on the specific project.

MR. BEDDOME: Um-hum. Now, if I can refer you to pages 5A-20 and 5A-21 of the EIS. So first thing I just want to confirm I'm not mistaking your words, Mr. Glasgow. Once again, I'd love to hear it coming from you. You have made some great comments and I appreciate the accent.

You made a comment, I think it was during the MMF cross-examination, where you said you do not have the dataset to apply that criteria to the model and you cannot run a GIS model if you don't have any data. I'm paraphrasing, but is that a fair statement of what you said, a fair summation of what my notes are? Did I get it right?

MR. GLASGOW: We do need data to run a GIS model, if that's what you're asking me.

MR. BEDDOME: Fair enough. Thank you.

Now, as I look at this 5A-20, I look at, sort of moving down the list, it says here there's a number of them, waterfall habitat, waterfall density, waterfall hot spots, Grouse Lake area, rare species habitat, all of them say

no data available. Do you see that at the top of the page at 5A-20?

MR. GLASGOW: Yeah, I see some of the features that we collected from the stakeholder workshop. When we went to apply that model on MMTP there were no datasets available to model some of the features. So if that's a list you are reading from --

MR. BEDDOME: Yes.

MR. GLASGOW: Of course, there are other datasets that are available.

MR. BEDDOME: There is, and thank you for that, but I'm going to go through some of them I'm interested in specifically, I guess, and what isn't available. So you can confirm to me that you didn't have all of this data that you wanted. All of these seemed to relate specifically to waterfowl and other bird species there, and you didn't have any of that data on that; would that be correct, at least at that point in the process?

MR. GLASGOW: At the alternate corridor phase, the data that's highlighted in the report, of course, you'll notice that there are other datasets that are available for habitat, but that data was obviously not available at the

corridor phase. However, it was probably made available later on in the process, I would assume.

MR. BEDDOME: You would assume. Can you confirm that?

MR. MATTHEWSON: Some of the information was made available through government agencies further on into the routing process.

MR. BEDDOME: So you didn't have the benefit of that data when you were doing the alternate corridor process?

MR. MATTHEWSON: Correct.

THE CHAIRMAN: Okay. This is Serge Scrafield and I'm going to interrupt here. It's a little past 12:30, so we're going to break for lunch and continue the questioning after lunch before we move onto the next panel. Thanks.

(RECESSED AT 12:33 P.M. TO 1:30 P.M.)

THE CHAIRMAN: Okay. Welcome back, everyone. It is 1:30. Thanks for being timely. And we will continue the questioning of the panel by Mr. Beddome. Thank you.

MR. BEDDOME: Thank you very much, Mr. Chair. Thank you again, panelists. So before the break, we established that all of the waterfowl data and the grouse lek and the rare

species habitat -- there wasn't data available for that, and therefore it wasn't incorporated at the -- in the alternate corridors part, portion of your model; that would be correct?

MR. MATTHEWSON: Yes, that's correct.

MR. BEDDOME: Thank you. Just trying to jump back off where we left, so it is clear.

Before I move on, there is a couple of other data that we didn't have, but you mentioned there was some data that you did have. I was just looking at it; you -- important bird areas, you indicated doesn't occur in the route planning area. You see that? That's the page before, 5819.

MR. MATTHEWSON: Yes.

MR. BEDDOME: And flyways; I'm assuming that's referring to bird flyways?

MR. MATTHEWSON: That's correct.

MR. BEDDOME: And there was no data available for that. Correct me if I'm wrong, but I see very little data that was available at all with respect to birds. Would that be accurate?

MR. MATTHEWSON: Yes, for birds, there were some of the data sets, or the features in the model, such as important bird areas, those

aren't -- is a special designation, IBA. And those just did not exist in the study area, so that's why that data set didn't exist.

The waterfowl habitat, the waterfowl pair density, waterfowl hot spots, all of those data sets were felt to be important to include in the model when we were talking about Southern Manitoba. That particular data did not exist at the time, and some of it may still not exist at the time of the actual alternate corridor route evaluation model. However, some data sets, such as grouse lek areas, that information was subsequently provided by the Province of Manitoba and included in alternate route planning.

MR. BEDDOME: That wasn't -- the grouse data wasn't included until alternate route planning; and you said some of the other waterfowl data might now be available. Are you able to confirm whether that data is now available, and if so, who collected it, when was it collected, when did it become available?

MR. MATTHEWSON: The two data sets, waterfowl pair density and waterfowl hot spots, those are data sets that were collected and created by Ducks Unlimited for other parts of the

province and they had not been created or collected for this study area.

Waterfowl habitat didn't exist, but Manitoba Hydro had since, as part of its environmental impact field studies, done extensive visual surveys and bird migration surveys to map the locations of important bird breeding areas and use areas.

MR. BEDDOME: And that would be important, because routing is probably the biggest mitigation measure that you can take in a project like this; correct?

MR. MATTHEWSON: Avoidance of features is a primary consideration in routing.

MR. BEDDOME: My point being, once the route is selected and the line is built, it's built; and that, to a certain extent, limits what can be done to mitigate --

MR. MATTHEWSON: That's correct.

MR. BEDDOME: And the flyways area, was that data also subsequently collected as part of the EPP? I notice there was no data available on the flyways.

MR. MATTHEWSON: I think that question, I'll have to defer to my experts that

are appearing on the biophysical panel to talk about the field studies that they conducted for the purposes of the environmental assessment and aiding in their discussions when it came to route selection and scoring.

MR. BEDDOME: But that wouldn't have come until route selection, so in terms of the ultimate corridors, you wouldn't have been -- effectively, you had no data, so you would not have been aware of the major flightpaths of birds; would that not be accurate to say?

MR. MATTHEWSON: We have a general understanding of flightpaths of migratory birds from Canada, or throughout North America; that information certainly exists, but it didn't exist in a spatial data set in order to model.

MR. BEDDOME: So that information exists; where does it exist? Where would you be obtaining that information from?

MR. MATTHEWSON: I can't give you exact references of where those flyways and which textbooks or biological books you would discover that information right now.

MR. BEDDOME: Okay.

MR. MATTHEWSON: Certainly the field

studies that were conducted to understand bird movement patterns and the use of the area by birds through their migration pattern is described in the environmental assessment.

MR. BEDDOME: Sure. But just to be clear, those bird studies weren't done at the alternate corridor process; they weren't done at that point. Correct?

MR. MATTHEWSON: Correct.

MR. BEDDOME: So you didn't have that information to incorporate into the -- at least that part of alternate corridor planning part of the process?

MR. MATTHEWSON: That information wasn't incorporated into the alternate corridor model process, as you described it. It was -- the general migratory nature of birds along the rivers, the Red River, the Seine River, certainly that is a piece of information that was known to route planners when designing the route segments.

MR. BEDDOME: But you are not sure -- it was known to route planners, but you are not sure where that information comes from at this point in time?

MR. MATTHEWSON: The knowledge of the

route planners is more a general nature about the migratory patterns of birds, and they follow the river systems and wetland areas.

MR. BEDDOME: Okay. I think --

MR. MATTHEWSON: Professional knowledge of that experience.

MR. BEDDOME: I think we will be returning to that.

You also didn't have -- the one thing I find weird is I look at the natural -- I'm on page 5A-19 -- I'm just trying to understand, you've got data on non-fish-bearing streams but not on fish-bearing streams. Just trying to understand that. If you can provide some context or verification.

MR. MATTHEWSON: So the ephemeral streams, in brackets, fish-bearing swamps, ephemeral streams, (CRA fish-bearing and riparian floodplain) were data sets that didn't occur, or no data was available to identify those specific types of streams that were fish-bearing. So that information about any streams that appeared in the data sets, fish-bearing and non fish-bearing, are captured in the ephemeral streams, non-fish-bearing, and the permanent stream, which

are your CRA fish-bearing and permanent stream.

MR. BEDDOME: Where does that data come from?

MR. MATTHEWSON: That data comes from -- let me just double-check.

It comes from the Department of Fisheries and Oceans.

MR. BEDDOME: And this is what I'm -- I'm assuming on a lot of these other ones -- I don't want to be too, too repetitive, but you know, we go through other identifications here, so fens, marsh, types of land -- I'm assuming a lot of that data is coming from the Province of Manitoba?

MR. MATTHEWSON: Yes, it would come from some -- either a Provincial land cover data set or a Federal one.

MR. BEDDOME: And just tell me, is there anywhere in the EIS or anywhere -- maybe I missed it -- any of the information request responses where we can kind of go through -- you know, I appreciate that you outline where you have data available and where you don't have data available; but the one challenge I have is -- so where did the data for fens or marsh come from?

Where did the one from grasslands come from?

I'm not going to go through each and every one and read out the chart to you; I think that wouldn't be an efficient use of our time. But are you able to indicate where all these data sets came from, what their origins were?

MR. MATTHEWSON: Certainly we have knowledge of where all of the data sets came from in the model. They came from authoritative data bases, either supplied by government agencies or other non-profit agencies, such as Ducks Unlimited or Nature Conservancy Canada.

MR. BEDDOME: Would it be too much to ask by way of an undertaking to indicate where those data sets came from in this table?

MR. MATTHEWSON: No, Manitoba Hydro can endeavor to take an undertaking to identify the data sets used in Table 5A-6.

MR. BEDDOME: If I could be a little bit broader -- and I very much appreciate the work that will be required in this, actually -- I would say, with matter for Table 5A-5 -- I know I was questioning on 5A-6, and I was about to move to 5A-7, all of those, and I guess it even moves over into 5A-8.

It's just curious to me where all this data comes from, because it is obviously an important part of the route planning process.

THE CHAIRMAN: Yes, we have a question from Hydro.

MS. MAYOR: Not a question, but I guess a comment. I'm not sure the relevance of this at this stage. There were two rounds of information requests where this information could have been requested. At this stage, to create a tremendous pile of work for the panel, I'm not sure if there is relevance to it at this juncture. Or perhaps Mr. Beddome can narrow his inquiry to something that's more manageable.

THE CHAIRMAN: Sorry. Serge Scrafield, Chair.

Just before you respond, Mr. Beddome, I would like to ask a follow-up question to that comment: Do you have any estimate or does the team have any estimate on how much work would be involved?

So these references aren't readily available, I take it?

MR. MATTHEWSON: The data that was used to create these data sets are dozens, or --

you know, in the 50-to-60 feature classes, different data sets that we used. And we certainly have all that information in our data set; it would just be a matter of combing through them and aligning them to each one of the rows, which, as illustrated in the tables, there is many rows to do that.

MR. BEDDOME: And I appreciate that -- yes, Mr. Chair; thank you.

I appreciate the work. Perhaps the easiest way to do it, just by way of an undertaking, would be just to give an indication of what data sets you were provided with during -- and specifically at the alternative corridors part of it.

So I can see here in these tables that obviously you had some data available and didn't have some data also available. So perhaps the easiest way would just be, say -- you've indicated, you know, we have 50, roughly, data sets; it would just be a list of -- "These were the 50 data sets that we had available at this part in the process."

Would that be doable without too much work?

MR. MATTHEWSON: No, the data sets are all incorporated into what we call our environment protection management system, which has over four or five hundred data sets in it. So we still have to comb through it to know the exact data sets used on each one of these features.

MR. BEDDOME: It is just that -- as you can appreciate, Mr. Chair, you look, and you would expect to see a citation or a source for where the data is coming from. So that's the reason why I'm asking for it.

Certainly, if they want to only undertake to do 5A-6, I may only have one point in 5A-7, I could live with that. I was just trying to get transparency in terms of the data.

THE CHAIRMAN: Just so I understand correctly, Mr. Beddome, you are in fact asking, then, for the data sets to be related to each specific table entry, if I can call them that? You are not just asking for a list of the data sets?

MR. BEDDOME: No, I actually refined to say I could accept a list of the data sets.

THE CHAIRMAN: Oh. Okay.

MR. BEDDOME: That would be

appropriate to me, and that would save Manitoba Hydro the work of trying to match up each data set with each -- sorry, "feature", I suppose; I'm trying to think of the right word they refer to, but for each -- to correspond with the table.

So if they are able to provide a list of the data sets, then I suspect I would be able to roughly match them up myself. But it sounds maybe -- you know, there may be some technical challenges that maybe I'm not aware of.

MS. MAYOR: Manitoba Hydro is not prepared to make that undertaking at this time. If Mr. Beddome has a particular concern about one particular of the items in the line -- but to make a general undertaking for every single area, all of the data sets, we are talking dozens of hours, while the panels are in the middle of all of their presentations and we're in the middle of the hearing, something that could have been requested a number of months ago.

And we are not prepared to spend the time on doing this right now. If he wants to narrow his focus to one or two of those areas which are of particular concern to his client, as opposed to a general curiosity about every single

item on that table, which was also dealt with at the routing workshop, then we might be prepared to do that.

But right now, we are not prepared to make that undertaking.

MR. BEDDOME: Would the data sets just with 5A-6 -- did it seem like Mr. Matthewson was able to do 5A-6, would that be acceptable, Ms. Mayor?

MS. MAYOR: It is still a tremendous amount of work at this stage of the hearing that we are not prepared to undertake to do.

THE CHAIRMAN: I wonder, given we have a difference of view here, Mr. Beddome, could you perhaps explain a bit more for the panel what the purpose of having that information would be to your line of reasoning?

MR. BEDDOME: Sure. I'm trying to get an understanding of where Manitoba -- and this will come out further in my questions, but where Manitoba Hydro obtained its data to -- I mean, Mr. Glasgow commented that if they don't have the data, they can't GIS-map it, and it can't be incorporated into their analysis.

So I'm trying to get a sense of what

data they had to incorporate in their analysis and what data they didn't have. And specifically, it seems like some of this data wasn't available during the alternative corridors portion of the stage, but then was available later on.

And so I'm just trying to get an understanding of what data they had when they were making these decisions.

MR. MATTHEWSON: The data that we had when making the -- on the alternate corridor model decisions, it's I think articulated in the table.

MR. BEDDOME: I would agree, but the sources are not articulated. You would think there would be a list of footnotes that would indicate those sources, but --

THE CHAIRMAN: Okay. I think we understand the thinking here on both sides, and we will take that under advisement, and then once we've concluded, we will get back to both parties.

MR. BEDDOME: And not to be a bother, Mr. Chair, I just want a sense of the timelines on that, or when I might want to politely follow up with you, or just -- just to understand the process, Ms. Johnson, I should say.

THE CHAIRMAN: We will try and do it

today, but it might be tomorrow.

MR. BEDDOME: Okay. No, that's perfectly fine; I just wanted a sense of timelines. Thank you.

THE CHAIRMAN: Sorry, I've been reminded, tomorrow is not a session. So that would be Monday.

MR. BEDDOME: Thank you, Mr. Chair.

MR. MATTHEWSON: Actually, I would just like to add some information to that.

Table 5A-3, the alternate corridor model criteria definitions, does provide information where the data sets came from. As an example, fens and marsh came from wetlands classifications, based on the forest resource inventory; stream crossings comes from Fisheries and Oceans Canada.

So there is substantial information about the sources of the data in that table.

MR. BEDDOME: Well, thank you. That may actually assist me, so it's maybe something that I overlooked, and I apologize. I do thank you for that, although I would say I did ask for a reference, if there was a reference in the EIS; but I -- looks like I overlooked that, so I will

actually review that and maybe will endeavor to respond accordingly, if that's okay with yourself, Mr. Chair.

THE CHAIRMAN: Yes. What I would suggest, then, is once you've reviewed that, if you could advise the panel secretary of --

MR. BEDDOME: Most certainly. I appreciate --

THE CHAIRMAN: -- any manner that might change your request. Thanks.

MR. BEDDOME: Moving along to 5A-21, I notice there is no data set available for hunting and trapping locations. That would be correct?

MR. MATTHEWSON: That's correct. There is no designated registered traplines in the area. So -- which is one of the data sets that could have been used to fulfill that line. So it is an open trapping area.

MR. BEDDOME: I see. That's one data set you could use, but because there was none registered in that area, you didn't see a need to use it, basically?

MR. MATTHEWSON: There was no other sources of information that we knew of at the time.

MR. BEDDOME: There was no other sources of information that you knew at the time? Is that correct?

MR. MATTHEWSON: Available, currently available data sets at the time.

MR. BEDDOME: Yesterday I heard Mr. Valdron comment on behalf of Peguis First Nation that they did have regional data available. Were you aware of that at the time?

MR. MATTHEWSON: When we strive to fulfill these data sets, we need data sets that cover the entire study area and focus, and while Mr. -- while Peguis First Nations' information would have been useful for that information, it would've only been one community's perspective on hunting and trapping locations, so we would have preferably wanted, as we do with all these data sets, wanted a complete understanding of hunting and trapping locations that covered the geographic area.

MR. BEDDOME: I hear you on wanting multiple community perspectives, and we will touch on that momentarily. But I would note that it is my understanding that Peguis has a very large traditional territory that encompasses a large

portion of the region. I'm just curious how you determined that their data set wasn't appropriate for your uses, or if you asked them, or if you inquired.

I mean -- you seem to be making a conclusion; I'm not sure where the basis of that conclusion came from.

MR. MATTHEWSON: We didn't inquire with Peguis First Nation at the time. We are aware of their information. When the alternate corridor model was created, that information became subsequent through the ATK studies that were conducted with a variety of communities. That's when the prior -- most of the information that was collected pertaining to hunting and trapping locations was acquired and utilized in later steps of the route planning process.

MR. BEDDOME: Okay.

And so you were speaking about how you didn't want a single community perspective, and I think when Mr. Toyne was talking, you said, "We didn't invite individual RMs, either," right? You gave that example. That would be correct, right?

MR. MATTHEWSON: That's correct.

MR. BEDDOME: But the Association of

Manitoba Municipalities was invited, as a regional organization, correct?

MR. MATTHEWSON: Yes.

MR. BEDDOME: Although they weren't subsequently able to attend. That would also be correct?

MR. MATTHEWSON: That's correct.

MR. BEDDOME: Now, I would note that my client, the Southern Chiefs' Organization, represents nearly half the First Nations in the province, and is itself a regional organization. So why was an invitation not offered to the Southern Chiefs' Organization?

MR. MATTHEWSON: We did not ask the Southern Chiefs' Organization to participate in the stakeholders workshops. You are correct.

MR. BEDDOME: I am aware of that. My question was why.

MR. MATTHEWSON: So we didn't believe -- at the time, we didn't believe that the Southern Chiefs' Organization had spatial data to share that covered the entire study area. We also didn't want to exclude other organizations from that, because they as well may not have had spatial technical data that encompassed the entire

area of Southern Manitoba.

MR. BEDDOME: So you didn't believe they had spatial data, but you didn't inquire with them to find out whether they had it or not, whether they had ownership, whether they were willing to share it? None of those inquiries were made; you just assumed that was the case?

MR. MATTHEWSON: So feedback Manitoba Hydro had received in the past was just that the reluctance of communities of sharing this sensitive information on broad scale -- geospatial information on a broad-scale project of Southern Manitoba like this. And really, that information is much -- of higher value in the routing process when it is collected through self- -- the self-directed ATK studies that Manitoba Hydro funded for the purposes of the MMTP project.

MR. BEDDOME: And we will get to that, and I will return to that.

But -- so you were looking for large spatial sets of data, and so you invited the Manitoba Lodges and Outfitters Association;correct?

MR. MATTHEWSON: I will have to check on that. There is a very large list of --

MR. BEDDOME: Sure. If you go to 5A-3, they are listed both in natural perspective -- sorry, yeah, 5A-3, there is a list of them I would refer you to. I think I can read, so I can read "Manitoba Lodges and Outfitters Association"; I'm pretty sure it is there in both natural perspective and built perspective, but feel free to -- no, I apologize; it is only there in natural perspective.

MR. MATTHEWSON: Yes, they are on that list.

MR. BEDDOME: So Manitoba Lodges and Outfitters Association was invited?

MR. MATTHEWSON: Yes, that's correct.

MR. BEDDOME: Did they have a large spatial data set for the regional area?

MR. MATTHEWSON: The -- Manitoba Lodges and Outfitters does have information with respect to the allocations and locations of their activities, and allocated areas as per the various licences each one of those types of outfitters have. So they contain that information.

MR. BEDDOME: So their data was acceptable to you, but any data that my client might have was not? Would that be correct to say?

MR. MATTHEWSON: No.

MR. BEDDOME: And the Manitoba Trappers Association: They were also invited, right, to both comment on the natural and the built perspective?

MR. MATTHEWSON: Yes. They were invited to participate in the perspectives, yes.

MR. BEDDOME: Although the other information is clearly coming from largely Provincial, but also Federal government data; that be would be correct?

On 5A-3. I mean, it's just a general comment that a lot of these are coming from Provincial and Federal government departments and other government sources. You would agree with that statement?

MR. MATTHEWSON: Yes. These organizations are -- some of which are included in Provincial governments, Federal governments, environmental non-government organizations, agricultural producers, universities, local government planning districts, City of Winnipeg.

MR. BEDDOME: Now, the people that were going to make this final decision on the alternate corridor area, they were going to be the

project management team, right? They were the ones that were going to have the final decision-making authority?

MS. BRATLAND: You are referring to the alternate corridors?

MR. BEDDOME: Yes, I am.

MS. BRATLAND: So the alternate corridors are what help us in terms of route planning. So the function that they serve in the transmission line routing process is to help the route planners in looking at how those values map onto the landscape.

MR. BEDDOME: Okay.

It is kind of returning earlier to Mr. Toyne this morning; he was talking about how the project management team -- the real decision-makers were three engineers, and there was only kind of that one perspective to that. Do you recall that conversation?

MS. BRATLAND: I recall indicating that there was a management team that functioned on the transmission line routing process, and that their purpose was to serve to set the criteria for the preference determination model and the associated definitions.

MR. BEDDOME: And they set the preference criteria decision, and basically that's because, as I recall Mr. Glasgow said, it made sense for high-level people in the company to be making these broad, high-level decisions, that they should be made to reflect the corporate values of the corporation. That would be correct?

MS. BRATLAND: That's basically what Mr. Glasgow said.

MR. BEDDOME: And I put it to you that in something like this meeting that's outlined in 5A-3, Manitoba Hydro effectively made -- you know, chose who they wanted in the room and who they did not want in the room. They invited the Provincial and the Federal government to give data, but not First Nation government, saying they are too local; their concerns are too local. They invited certain organizations that might have information on trapping and hunting, once again, not First Nations or even regional organizations.

MS. BRATLAND: When Manitoba Hydro started the process of inviting participants to the stakeholder workshop, we spent a fair bit of time deliberating over the types of land uses that generally play into transmission line routing, the

types of concerns we hear through these types of processes in past projects, and with consideration of the role that this tool plays in the model, and deliberated at length over an approach to how to get people into the room who had the scale of regional knowledge and data available to inform the decision at this step.

It was not at all intended to minimize or reduce the value of any data or any perspective that could be supplied at any point in our planning process. It was focused on that objective.

The invitation process happened at a high organizational level with any of these groups, and the question was also asked if there was others that they knew of that should participate in this process.

So it wasn't really a -- who do we want to hand-pick to be in the room; it was a reflective exercise, and one where we asked people who had been involved, who we knew to have land-use information and interest, and to tried to cast the net broadly, but at the appropriate scale and level of technical knowledge.

So we absolutely respect the value and

importance of input received from First Nations knowledge holders, and tried very hard to work those into our process. We funded self-directed studies, because we understand that that's often the way they prefer to provide that information.

MR. BEDDOME: But determining what data was important or not was a high-level decision that was made?

MS. BRATLAND: No. It was not made by the management team, the business unit management team, as you were referring to, that made the preference determination model.

MR. BEDDOME: No, I was -- I thought you said the invitation to attend was decided at a high level in Manitoba Hydro, you were indicating.

MS. BRATLAND: Sorry, I didn't mean to infer that; I apologize if that's what I said.

I said there was considerable discussion with members of the project team at that time, and the invitations were offered. So if we went to a government agency, say, for example, a branch of government, we didn't go to the one person involved in this one small facet; we went at a higher level of that organization and indicated the purpose of the workshop and said,

"Would you please identify who you would like to participate in this exercise, who has the appropriate regional knowledge and expertise."

MR. BEDDOME: But who on the project team, then, made the ultimate decision about what invitations to send and what not to send?

MS. BRATLAND: It was a group decision made by the project team.

MR. BEDDOME: Group decision, and -- sorry, the IR -- I have to look it up; I believe there was three people that were considered the top management team that would make the decisions, if there was a situation --

MS. BRATLAND: Right. And what I meant by my previous comment was the transmission business unit management team, Mr. Mailey and his colleagues, were not involved in that decision; that was made at the project management team level in the Licensing and Environmental Assessment Department.

MR. BEDDOME: I just want to confirm -- it is a tiny thing, so it should be easy. I just want to go to SSC IR Number 37.

And in that, they added, on this table in 5A-3, they ask for a list of all of those that

attended and all those that were invited.

It just looks to me like it is cut off at the end, but I think there is a line 16 on the end. I just want to confirm that this is in fact the entire list of those that were invited and those that attended.

It looks like it is cut off, in my printing, so I just want to quickly confirm that.

MS. BRATLAND: I believe it is complete, subject to check.

MR. BEDDOME: Fair enough. I think it is to 16. And I just note on that that although you indicated individual municipalities and communities weren't invited, the Winnipeg Planning Department was invited.

MS. BRATLAND: They were invited, and they did attend.

MR. BEDDOME: So that's a one individual community, with that one perspective; would you not agree?

MS. BRATLAND: Their attendance was more in the same vein as the regional planners from the Provincial scale, with considerations from that large urban centre and what might be relevant to them in the same context as those

regional planners.

MR. BEDDOME: So an exception was made for Winnipeg?

MS. BRATLAND: It was a different context.

MR. BEDDOME: Now, yourself, Ms. Bratland, during your presentation, you mentioned, I think, that there was 25 to 40 discipline specialists that were involved, and they were the ones that were once again doing the alternate corridor part. That would be correct?

I think it is at Slide 14, if you want to go to your presentation. That's where I made notes when you were presenting it.

MS. BRATLAND: When I was speaking about the numbers 25 to 40, it wasn't specifically with reference to the alternate corridors.

MR. BEDDOME: Oh, okay. So that wasn't specific to the alternate corridors; that was more on the project as a whole?

MS. BRATLAND: On the project as a whole, at any given point, and specifically 25 to 40 on the project team in routing decisions.

MR. BEDDOME: 25 to 40 on the project team in routing decisions; okay. Thank you. And

so the more than 100 was the project as a whole; 25 to 40 was the discipline specialists on the project routing.

Maybe I missed it; entirely possible. But is there an information request or anywhere in the EIS where you are able to determine who these 25 to 40 specialists were?

MS. BRATLAND: Anyone who participated in the routing workshops were listed in the EIS and in the IR, multiple IRs. And the key personnel on the entire project and the disciplines that they represent broadly are listed under key personnel in the EIS.

MR. BEDDOME: Thank you very much. I appreciate that.

So, in terms of these discipline specialists, 25 to 40 discipline specialists that you had for routing, did any of them have expertise in indigenous and First Nations issues?

MS. BRATLAND: Yes.

MR. BEDDOME: How many?

MS. BRATLAND: I will say approximately four to five, subject to check.

MR. BEDDOME: Four to five. Just in terms of diversity, were any of the people on the

routing team of indigenous descent themselves?

MS. BRATLAND: This routing team?

MR. BEDDOME: You said there was 25 to 40 people, 25 to 40 specialists. I just want to know if there was some -- I'm curious if there was diversity in representation there with respect to indigenous representation.

MS. BRATLAND: Our project team was a fairly diverse team. We did have indigenous and Metis individuals.

MR. BEDDOME: Thank you.

Let's go back even further. There was no public engagement whatsoever when trying to decide -- First Nation or otherwise -- when trying to decide what border crossing should be chosen; is that not correct?

MS. BRATLAND: I'm sorry, I didn't catch the first part of your question.

MR. BEDDOME: I'm just saying that the engagement process hadn't started; there was no engagement taken, either First Nation or otherwise, with respect to determining -- you were looking at the four border crossing locations in determining which border location to examine. Would that not be correct?

MS. BRATLAND: The objective of Round 1 engagement was to select a border crossing, and I believe Ms. Thompson outlined that there was indigenous -- First Nations-Metis engagement underway prior to that determination. And the feedback we would have received prior to taking that decision is outlined in chapter 4.

MR. BEDDOME: Maybe I misunderstood. I understood there was Round 1, where you chose the border crossing, and that that was more of an internal Hydro decision that had to do with what routes worked for Minnesota Power, which ones didn't, and that ultimately the border crossings were narrowed down internally. So there was actually a public engagement process before those border crossings were chosen?

MS. BRATLAND: Before the border crossing was selected for the project, Round 1 occurred. So all of the engagement feedback heard up to that point would have been incorporated into that decision.

MR. BEDDOME: Okay. Thank you.

I wonder if you guys can provide any comment or background context. At page 87 of 190 -- I'm going off the digital PDF of the

January 19, 2017, routing workshop.

Ms. Riel, on behalf of the Manitoba Metis Federation, I thought asked some pretty interesting questions that I wanted to return to.

Her question, if I can quickly paraphrase it, was -- you may want to even look back at Table 5A-21 -- was effectively that when you take a look at what was incorporated into the routing model at this stage, golf courses were included, but the Metis harvesting area wasn't.

And the response was, "Well, neither were the other harvesting areas of other First Nations", was the response of Mr. Block. That would be my quick summation of it.

You see the page there: Is that a relatively accurate summation?

MR. MATTHEWSON: The transcript is in error; it was myself that responded to that question.

However, the comment was, area golf courses were included in the areas of least preference. The Metis harvesting area, as Ms. Riel was pointing out, covers most of Southern Manitoba. The indigenous traditional use areas, as Manitoba Hydro is aware, does cover a large

portion, or all of Manitoba. And so having those data sets available would not inform the criteria of selecting a route, because all of the routes would have appeared within those boundaries.

MS. BRATLAND: And the transcript -- just to clarify, they say "Mr. Block" here, but it was in fact Mr. Matthewson speaking.

MR. BEDDOME: Yes, he just clarified that. Thank you. So that was my mistake. It said "Mr. Block," so I thought it was ...

Now, Mr. Glasgow, you commented you thought this was a very transparent project, and one of the reasons was that the meeting notes were included in the EIS. And they are not numbered, but they are at the very end of chapter 5.

My question to you is, you said you have done hundreds of projects; in your past experience, have meeting notes been shared in any other project?

MR. GLASGOW: I can't recall a project where the working -- intermediate working papers were shared. More of a final meeting summary, maybe, was shared.

MR. BEDDOME: Thank you.

The one thing that is interesting me

as I go through is the names -- sometimes there is -- you know, a lot of the same names appear as you go through the meetings, and sometimes they change. I'm just wondering what was behind that. Was it just an issue of who was available and availability, or was there -- at different meetings, you were calling different people for different expertise?

MS. BRATLAND: We attempted to have the same expertise represented at all of the meetings. But as this process took place over a number of years, occasionally people moved on to different positions; other people moved into that responsibility.

MR. BEDDOME: Okay.

MS. BRATLAND: And some people's names changed.

MR. BEDDOME: That happens sometimes.

Now, although you chose to adopt this routing model before the Bipole III report came out, in June of 2013, you indicated you were certainly watching the process and were paying attention to what was coming forward, and that was partly how you were looking towards this model. Would that be a fair statement, Ms. Bratland?

MS. BRATLAND: It would be a fair statement, but I would say we were more than watching. The Licensing and Environmental Assessment Department staff were intimately involved in that hearing and in the Bipole III project.

MR. BEDDOME: And I would expect that. So you were already aware that likely -- would it be fair to say you were already aware that likely the CEC was going to make some recommendations that you needed to find a more -- I think, as you called it, quantitative routing method or process; would that be fair to say?

MR. MATTHEWSON: I don't think we presumed what the CEC was going to come up with a finding. I started investigating the use of different technologies for routing as my role in the department had changed in the midst of that hearing, so I started investigating different approaches that utilize more geospatial data in analysis, and there was a growing field of study at that time on the use of geospatial technologies in planning in general, and I was investigating it for the purposes of transmission route planning.

MR. BEDDOME: Were there any other

models that caught your eyes that you almost adopted, rather than this model? Any other close runner-ups?

MR. MATTHEWSON: There were other approaches that were identified through our RFP process, when we did do an RFP process, looking for different routing approaches. And in our discussions with other utilities, we also were made aware of different approaches, certainly. None of them were as formalized as the EPRI-GTC methodology.

MR. BEDDOME: Okay. And is Minnesota Power using the -- what do you call it -- I call it the EPRI-GTC, but your routing methodology: Is Minnesota Power using the same methodology?

MR. MATTHEWSON: No, Minnesota Power did not use the same methodology.

MR. BEDDOME: Do you know what methodology they are using?

MR. MATTHEWSON: Broadly speaking -- I'm not sure if they had a term for it -- they used a quarter-line analysis type of technology, where they were using a process of elimination, of eliminating quarter-line segments on the basis of proximity to residences and other values on the

landscape. They would eliminate segments, and eventually result in -- segments that were left behind, they joined together to form routes, as part of that process -- at a very high level -- of how they did that.

MR. BEDDOME: Now, I referenced yesterday, and I will reference them again -- I'm assuming you are both aware with recommendation 6.1 and 6.2 from the Bipole III report of June 2013?

MS. BRATLAND: We are just going to look that up.

MR. BEDDOME: So you are not familiar with it off the top of your heads then?

MR. MATTHEWSON: There are numerous recommendations. We don't know them all.

MR. BEDDOME: Fair enough. There is a lot of stuff to go through, so I can appreciate that.

MR. MATTHEWSON: Yes, we have those in front of us now.

MR. BEDDOME: And what is also clear, if you look across from those recommendations, there is a paragraph directly across from it, and I will just quickly read it -- actually, no, I

will summarize it.

It talked -- and it talks before, but it talks about the importance of incorporating ATK knowledge earlier in the process. Is that a fair summation? I mean, I could read the whole paragraph, but I'm also trying to be mindful of time here.

Is that a fair summation of one of the things that certainly was clearly reflected in this -- the recommendations, particularly this part 6 of the Bipole III Clean Environment Commission report? Would you agree with that?

MR. MATTHEWSON: Yes.

MR. BEDDOME: Now, you mentioned that Manitoba Hydro did fund a number of self-directed ATK studies, and that -- you know, certainly that's reflected in the EIS, and I think it should be in the record that Manitoba Hydro deserves -- and you get not enough praise here; there is a certain degree of praise that you were already doing that, that you were going out and you were funding these self-directed ATK studies.

That said, I also want to put on the record that there is more to be done; it doesn't mean that things are perfect. But I do want to

acknowledge that certainly that is something that Manitoba Hydro was doing.

But these ATK studies weren't really started, in many cases, until roughly 2014?

MR. MATTHEWSON: So discussions started with Roseau Anishinabe First Nation in August 2013 about conducting an ATK.

MR. BEDDOME: Okay. So it started in August of 2013, that would have been after the alternative corridors had been selected. Correct?

MR. MATTHEWSON: Yes, that was after the alternate corridors were developed, on August 8, 2013.

MR. BEDDOME: Okay. Now, by the time the ATK report was completed, in August -- well, I guess it was submitted -- I see here July 8, 2015, although it is dated August 2015 -- you already would have been at the preferred route portion of the funnel, wouldn't you? The preferred route portion, by that point?

MR. MATTHEWSON: While it is true the final ATK report was filed at that time, Manitoba Hydro had ongoing engagements with Roseau River Anishinabe First Nation starting in August 2013, and up till -- as recent -- continuous until

today.

So we were gathering feedback on routes and alternatives from that August 2013 point moving forward, even though their final report had not been published until much later. They shared with us their concerns and information.

MR. BEDDOME: And one of your concerns was that it has been Manitoba Hydro's experience that the focus always tends to work better if it is project-specific focus; would that not be correct?

MR. MATTHEWSON: That's been the preference shared by communities, is that they want to work with us on a specific project, not in generalities.

MR. BEDDOME: However, in a number of the ATK reports, when there were routing changes, it effectively limited their analysis, because they didn't have any ability to do any further field studies; would that not be a fair statement?

MR. MATTHEWSON: They did express concerns that they wanted to do further field studies, and as we are engaging with communities on an ongoing basis, we are still developing

methods by which we can engage with those communities to gather that further information on the final preferred route.

MR. BEDDOME: Investigating methods and trying to find ways that you can work with communities to get a broader range of field studies that you could utilize to access for routing purposes; that's a fair statement?

MR. MATTHEWSON: No, those are specific to the final preferred route.

MR. BEDDOME: So only specific. So Manitoba Hydro's focus would be they are only going to fund ATK studies specifically focused to a route; they are not looking to find anything at a broader level?

MR. MATTHEWSON: When we approached communities to discuss them conducting self-directed ATK studies, we let those communities determine the scope of their studies.

MR. BEDDOME: Just bear with me a moment.

I keep going back to this table, probably too much, but I wanted to go back to Table 5-3 again. You're probably sick of me going to that table, but ...

Let me find my reference. Just bear with me. Your patience is much appreciated.

Sorry, it is at 5-17 of the EIS. 5-17. It is a long pull-out table.

MR. MATTHEWSON: Yes, I have it in front. Go ahead.

MR. BEDDOME: I'm just looking for it.

So I notice, in areas of least preference, you have got religious and worship site parcels; that would be correct?

MR. MATTHEWSON: Yes.

MR. BEDDOME: Would I be correct in assuming that those wouldn't include indigenous religious and worship site practices; that that would include churches and other religious institutions that are more common to the settler population, notwithstanding that many indigenous people are also of that belief?

I guess what I'm saying is the religious and worship sites, that would be churches, maybe cemeteries; would I be correct in that? Right? But it wouldn't include, say, a sacred spot, a sacred rock, or somewhere that's symbolically or culturally or religiously important to First Nations people, from a

spiritual sense?

MR. MATTHEWSON: Yeah, the -- yes, the religious worship site parcels typically included churches. There is a separate section for cemeteries in the areas of least preference.

But if and when any of those sites were identified through the TK studies, they were treated as areas of least preference from a route planning perspective, as they were identified. If there were routes identified that did cross over a particular sacred parcel, that was accounted for in the discussions of -- during the workshop where route evaluation took place.

MR. BEDDOME: Were there any subsequent sacred parcels that were identified that you would be able to identify to me?

MS. BRATLAND: I believe I covered in my presentation that there was a high potential for those sites in certain areas. The specific locations, we cannot release.

MR. BEDDOME: That makes sense. I recognize that those sites have to be protected.

And it would also be fair to say that they are harder for you to identify -- and this was noted in the Bipole III report -- because they

don't always stand out in the same way that we might recognize them, like a church, right, which we would see in a satellite flyover or a Google map; would that be a fair comment?

MR. MATTHEWSON: Yes, that's fair. There are certain characteristics or certain types of sacred sites that are identifiable and others that are not, and we do rely on the communities to inform us of those locations, in addition to our own field studies.

MR. BEDDOME: One of the recommendations of the Bipole III report was to look at Alberta's model and to work with the Government of Manitoba and First Nation governments -- and once again, I respect that the confidentiality of the information needs to be shared -- but to help create a broad data set, would that be an accurate summation of Section 6, basically, of the recommendations of the Bipole III report from June of 2013?

MR. MATTHEWSON: The non-licensing recommendation, as described in 6.2, is the Manitoba Government, with Manitoba Hydro, investigate the feasibility of developing an Aboriginal traditional knowledge data base that

can be used for future projects.

MR. BEDDOME: Okay. Did I say something different?

MR. MATTHEWSON: The Manitoba Government, to the best of our knowledge, has not approached Manitoba Hydro to investigate the feasibility of developing this.

MR. BEDDOME: Has Manitoba Hydro approached the Manitoba Government to investigate the feasibility of doing that?

MR. MATTHEWSON: We have not had any specific discussions about the development of an Aboriginal traditional knowledge data base. We have had discussions with Manitoba Cultural and Heritage Resources Branch to discuss storage of heritage resource information and the sharing of that information back and forth, some of which is Aboriginal traditional knowledge locations that are stored as archaeological and heritage sites as designated under the Heritage Act.

MR. BEDDOME: And perhaps most importantly, have you been in discussions with First Nation governments, and First Nations organizations like my client, about potentially trying to work with, in a way that's culturally

sensitive, that respects the privacy and the sensitive -- as you can imagine, harvesting areas are people's honeypots, quite literally, and so it is important that those are protected.

But have you tried to reach out to any First Nation government? Have you tried to reach out to any First Nation organizations to try to fulfill this non-licensing recommendation?

MR. MATTHEWSON: We have had discussions with indigenous communities, in the development of the MMTP project as well as Bipole III, that those communities prefer to not share their information in a large managed data base. So we have had those discussions with some communities.

MR. BEDDOME: And I recognize they don't want to share it in a large data base, but could there not be a way of working with First Nations to help them have that large managed data base, and then you could get the site-specific information when you needed it? Would that be something that you think might be able to work?

MR. MATTHEWSON: I think I'm certainly reaching, with respect to my experience and knowledge on this topic of Aboriginal traditional

as being part of the routing panel here, so I don't think I can provide any further information in that respect.

MR. BEDDOME: Fair enough. I appreciate your answers.

Ms. Bratland, you talked about how there was vigorous debate surrounding the SIL decision. And I note that the minutes are there, but you didn't really elaborate; you just -- you kept saying there was this vigorous debate. So what was the vigorous debate? Who was debating what, and where were people positioned?

MS. BRATLAND: Just so I can accurately paint the picture for you, would you like me to outline the vigorous debate in terms of the routing workshop, when we deliberated the preference determination on the set of finalists in Round 2?

MR. BEDDOME: I think -- yes, that's it. When SIL was recommended -- I could look at my notes to correspond to your slide, but I believe that would be correct.

MS. BRATLAND: Okay. One moment. I'm going to pull an IR.

MR. BEDDOME: Sure.

MS. BRATLAND: Okay. Taking us back to November 2014, November 17.

MR. BEDDOME: What were you doing then?

MS. BRATLAND: I was facilitating a routing workshop with my colleague Mr. Glasgow and my team of 37 project team members, who are listed in the response to SSC IR 129.

MR. BEDDOME: If you don't mind, I'm just going to pull that IR. 129, did you say?

MS. BRATLAND: 129.

MR. BEDDOME: Thank you. I've got her. Thank you very much for that.

Now, this gives me the list of the participants and their titles; fair enough. Tell me a little bit about what was being debated. And -- you know what, it goes back to my question, so I'm looking at this response here, and this gives me the list of attendees and their titles, but it doesn't tell me what the vigorous debate was all about. It doesn't tell me what was being debated. I assume there was two or more sides in terms of different ways to go, maybe --

MS. BRATLAND: I highlighted some of the corridor issues that were debated in my

presentation. Are you wanting me to go broader than that? Or is there a specific topic you want me to focus on? I just -- it is a long couple of days, with considerable discussion. We've tried our best to summarize, in the chapter and in the presentation, what the key points of difference were in discussions that led to a different selection of a route.

The dynamic in the room, in terms of how the process works, is that each team -- we come together as a team in the morning, and we review and go through the screening process, and then we go into breakout sessions, and each team discusses their perspective on the criteria that they have, sort of a first proposal, and what the ranking is.

Then we come back into the room, and we have our broader team discussions. And that's where the further rationale and underpinnings of logic behind determinations are presented and challenged and discussed.

MR. BEDDOME: So that's where the debate occurs, right? You comment a little bit about the debate, often, between the built and the natural --

MS. BRATLAND: Sometimes the debate occurs in the breakout rooms as well. The community team, when they talk about community perspectives, there is a vigorous discussion about the difference in those perspectives, where those perspectives concur, what different types of regions and land parcels and land features have different perspectives about them.

So the healthy discussion is continuous, and in many facets.

MR. BEDDOME: And I certainly haven't looked through the meeting notes, and that would be the best recollection of those discussions and those debates, then, in the meeting notes that you can find at the end of chapter 5?

MS. BRATLAND: The best summary of the outcome of those discussions is in the chapter itself.

MR. BEDDOME: Sure. Less looking for the outcome, more trying to get a sense of the different perspectives and how they were competing.

MS. BRATLAND: Again, if you can help me focus on one specific issue, I would certainly be willing to recollect for you -- to my

knowledge, and my memory from two and a half years ago -- the conversations and key points that go beyond what was produced in the document.

MR. BEDDOME: No, fair enough. I mean, it is there in the minutes. I think that that adds enough. I was more -- when I was watching your presentation, it was sort of something that I guess piqued my interest, and I was trying to get a better understanding.

I guess -- what I would say to you is, am I correct in assuming -- it is a little bit like the joke that lawyers use, that the best negotiation is one where everyone leaves a little bit unhappy; would it be fair to say that no one got exactly what they wanted, and all the project team had to --

MS. BRATLAND: That's a line from land use planning as well.

MR. BEDDOME: Fair enough. It probably has a relevance across, but ...

In terms of schedule delay, certainly I looked at the minutes; I think it is clear that working with First Nations was key to avoid schedule delay, that there was a schedule delay risk to not working with First Nations. That

would be correct; right?

MS. BRATLAND: I think that's a bit of a hypothetical, because Manitoba Hydro would never consider not working with First Nations --

MR. BEDDOME: Okay, but --

MS. BRATLAND: -- and the Manitoba Metis Federation.

MR. BEDDOME: Fair enough. But -- so I can refer you to -- it is actually the page before appendix 5E, from -- notes from Round 3. Because there is not page numbers on this, it is difficult for me to find it, but I got one quote here -- Mr. Chairman, may I approach, and provide the panel with this page out of my EIS?

THE CHAIRMAN: Yes, sure.

MS. BRATLAND: I think I have it here.

MR. BEDDOME: Do you have it there?

MS. BRATLAND: It is in a table with "Meeting adjourned at 3:30 p.m." at the bottom?

No?

MR. BEDDOME: That's at the back of it, yeah, "Meeting adjourned", on the flip side of it. And then you go right above "Expert judgment table scores routes were as follows."

It says:

"Shannon Johnson indicated that Section 35 consultations were likely more of an issue with respect to risk to schedule than expropriation. Manitoba Hydro has defined processes in place to manage expropriation. Section 35 consultations are less well defined."

MS. BRATLAND: That's what it says.

MR. BEDDOME: Okay. And I put it to you that it is more important to protect indigenous rights, and that's what that comment is reflecting, than it is to protect private landowners' rights; would you --

MS. BRATLAND: Absolutely not. I disagree with you.

MR. BEDDOME: So when the two conflict, how do you decide?

MS. BRATLAND: We have an IR on this topic.

MR. BEDDOME: Could you just refer me to the IR? And I will address it later.

MS. BRATLAND: SSC IR 102. And there is also SSC IR 116, which is related. This IR states:

"Generally indigenous communities require more time and must engage more

broadly with our own members where projects will involve more Crown land. Manitoba Hydro's understanding is that Crown consultation occurs on a spectrum, with the length, intensity, and the scope of the consultation undertaking changing, depending on the specific circumstance of the matter being consulted upon."

MR. BEDDOME: So it is Manitoba Hydro's experience that indigenous communities require more time, generally speaking?

MS. BRATLAND: Manitoba Hydro's understanding is what I just read to you.

MR. BEDDOME: Yeah. No, I'm just confirming. So that's accurate?

MS. BRATLAND: What I read to you is accurate.

MR. BEDDOME: Okay. But that was in that statement, correct? That that --

MS. BRATLAND: Can you please repeat your statement, so that I can understand what you're trying to get me to --

MR. BEDDOME: Manitoba Hydro's experience is that indigenous communities often

require more time. I could re-read your --

MS. BRATLAND: They require more time and must engage more broadly with their own members when projects involve more Crown land. That's our experience.

MR. BEDDOME: When projects involve more Crown land. But this project involves a substantial amount of Crown land?

MS. BRATLAND: On the new right-of-way, there's approximately 30 per cent Crown land, 70 per cent private land.

MR. BEDDOME: But still, a substantial amount?

MS. BRATLAND: That's your definition of "substantial".

MR. BEDDOME: Okay.

MS. BRATLAND: I'm just telling you the number: 30 per cent.

MR. BEDDOME: 30 per cent is Crown land, so --

MS. BRATLAND: Yeah.

MR. BEDDOME: Okay. I would say 30 per cent is a significant number; I recognize 70 per cent would be private land.

If they need more time, though -- the

engagement process with respect to First Nations started at exactly the same time as it did with the public?

MS. BRATLAND: We started those processes at approximately the same time, but as Ms. Zebrowski outlined, we have ongoing relationships that we have with various communities, all the communities that we engage with that we strive to build over time, over projects, with the corporation and those communities.

MR. BEDDOME: But those ongoing relationships don't appear to start in the earlier part of the routing decisions; would you agree?

MS. BRATLAND: No, those ongoing relationships are ongoing. They don't start and stop based on projects. They are a continuum. And the information is shared, and the knowledge is gained over years and years, as we learn about each other and work together.

MR. BEDDOME: You will be happy to know I only have a few more questions. I won't say how many, because then I will catch myself in a lie.

Just one quick question. Certainly --

I recognize that TLE selections were indicated as an area of least preference, and that's great. Certainly Manitoba Hydro would have also been aware, though, that TLE selections can also be made on private lands?

MR. MATTHEWSON: Yes, we were aware.

MR. BEDDOME: Okay. Bear with me; I'm just reviewing my notes, making sure I didn't forget anything.

Yes, that's all of the questions that I have. I thank you very much for your time.

Thank you very much, Mr. Chair.

MS. BRATLAND: Thank you.

THE CHAIRMAN: Thank you, Mr. Beddome.

Do members of the panel have questions? All right, Mr. Gillies, why don't you start.

MR. GILLIES: I have two questions for the panel -- it is Ian Gillies.

The first one is to Mr. Glasgow. And based on your -- I think you said hundreds of experiences in applying the EPRI model to the routing decisions, can you give us a sense of whether Manitoba Hydro employs more or less geospatial data than what you see in other

jurisdictions where you use the model? And are there geospatial data layers that are missing in Manitoba that you might expect to find in other jurisdictions?

Background, where we are coming from, is just to get a relative sense of how Manitoba and Manitoba Hydro is doing in terms of having data available to populate the screens that you use.

MR. GLASGOW: Generally speaking, I would say it is pretty typical, on average. I think one data set -- James, you correct me if I'm wrong -- that what was not readily available was current aerial photography; is that right?

MR. MATTHEWSON: The photography was a couple of years old.

MR. GLASGOW: Oh, okay. A couple of years is not too bad. Sorry; some of these projects run together over time.

But yeah, I would say, on average, it was consistent with projects we've done in other areas. You know, Manitoba Hydro actually created several data sets for use on this project, such as mapping buildings, and probably some other features.

So I think, where necessary, the data was enhanced for the specific project. But, you know, GIS people always want more data, for sure. So in these areas where stakeholders had identified criteria for us to analyze and no data was available, I would suggest that those are opportunities to build those data bases.

MR. GILLIES: Thank you.

One other question, and this would be for Ms. Bratland and Mr. Matthewson.

During the beginning of your presentation yesterday, there was a slide titled "Siting Principles". I think it was Slide 18.

Is this slide sort of foundational for work that you do on all transmission routing projects, or is it -- or was it specifically developed for this project?

MR. MATTHEWSON: No, these principles apply to all transmission siting projects that I have done in recent history.

MR. GILLIES: Okay, so a follow-up question to that is, in light of your experience in MMTP, and maybe with reference to Mr. Bedford's comments at the outset of this hearing, would you -- would Manitoba Hydro consider adding an

eighth principle, that has to do with respecting First Nations and Metis interests in the land affected by transmission projects?

Once again, if you want to think about that and get back to us, that would be fine.

MR. MATTHEWSON: When we develop routes, especially on Crown lands, where we are very well aware of indigenous use and practices on those lands, it is certainly something that is foremost in our minds, because of the intensive engagement with First Nations and Metis peoples on all the projects, all the recent projects in my seven years of doing this, it certainly has a lot.

How I would put it as a bullet point, as a siting principle, I would have to ponder that, on exactly how I would characterize that as a siting principle in the appropriate context. So we can get back to you with that.

MR. GILLIES: Thank you.

THE CHAIRMAN: This is the Chair again.

Mr. Nepinak.

MR. NEPINAK: Mr. Glasgow. Like Mr. Beddome, I like listening to your voice, so I'm going to ask you a question.

You indicated yesterday that the EPRI model represented one of the most transparent transmission routing processes you have utilized. In your experience, what particular aspects of the MMTP routing process have been more transparent or open to the public than in any other jurisdictions that you've been a part of?

MR. GLASGOW: I think, number one, the level of -- multiple rounds of engagement. I think it was three rounds of public engagement at different phases in the project. I think that was more engagement than I have seen on other projects. Typically it would maybe be one, or even two rounds. So at every decision point, I think, you know, the public and the community was -- other communities were consulted.

Also the level of the documentation that's in the EIS. For example, working papers, meeting minutes, and -- sometimes it can get kind of messy, you know, but just kind of putting it all out there I thought was very transparent. And that's something that I haven't seen in other projects.

So there is a couple of examples.

MR. NEPINAK: Thank you.

THE CHAIRMAN: Ms. Streich, any questions?

MS. STREICH: Yes, I have a -- kind of a two-part question, primarily for Mr. Matthewson and Ms. Bratland.

So I just want to know, based on your experience in using the EPRI-GTC methodology, would Manitoba Hydro consider using it again for transmission routing?

MS. BRATLAND: Yes, we would. We found it a very helpful application. It helped to, as I noted in the presentation, bring together a lot of information in a structured process, and gave a forum for the discussions to be had in a consistent way, with those transparent weightings put forward. I think we will continue to use it on future projects.

MS. STREICH: Okay. And another part of this question: Would you consider that there might be certain applications or geographies where this methodology may be more or less suitable than a traditional siting approach?

MR. MATTHEWSON: I think there are certain siting of transmission lines that are smaller in scale, in size, where there are less

conflicting or -- sorry, not "conflicting", but there are much more varied type of land uses.

Say in Northern Manitoba, where predominantly it is Crown land, there isn't a lot of options with respect to the built perspective and the natural perspective there, where there is a lot less populace. So with having only a lot of information from one of the perspectives, it starts to weigh most of your information towards that perspective.

The general length of a transmission line, as well, the length of -- complexity of the line, whether it be a five-kilometre transmission line, it is fairly simple to just parallel an existing linear feature. I think Manitoba Hydro would look to just following that and our siting principles to guide us in development of that type of transmission facility, if one is of that smaller scale.

MS. BRATLAND: Okay. To build on what Mr. Matthewson said, we haven't had a northern transmission line project to consider, to apply this to, but we have had a fair bit of debate about how would that work, and would it have the same benefits as in the southern landscape, where

you have the more varied mix of uses in sort of a developed and undeveloped context.

And one of the reasons the alternate corridor model is called the Southern Manitoba alternate corridor model is because we felt that that was the appropriate regional scale to apply it to, and if we look to apply it in different landscapes, we would want to back up to that step and reconsider whether those perspectives and categories and features were the appropriate ones for application in that area.

MS. STREICH: Okay. Thank you very much.

MS. BRATLAND: I would like to return to Mr. Gillies's question about indigenous incorporation into the siting principles.

I think on Slide 63, where I went into the discussion, when I reviewed back on to the same principles, I talked about the three pillars that I felt are required for route planning, and one of those key pillars being that First Nations and Metis engagement process be conducted for a siting principle to even be applied. Without that pillar, just like a three-legged stool, if you take any one of those pillars away, if you take

away the expertise, or you take away the First Nations and Metis and public engagement, or you take away the geospatial data, if you take any one of those away, the stool is going to fall over. You need all three of them to really come up with sound routing processes and siting principles.

THE CHAIRMAN: I do have a couple of questions, and they are a lot more specific than pillars or principles, so I hope you don't mind.

The first is for Ms. Bratland. Questioning by Mr. Toyne, I believe that was yesterday, we thought we heard that Gardenton West was eliminated prior to the application of the EPRI-GTC methodology, yet Map 53 and other maps and our general understanding prior to that comment was the opposite.

It might be our understanding, but I wonder if you could clarify that.

MS. BRATLAND: I'm just looking at a time line here that helps me keep all these things straight.

The removal of Gardenton West occurred October 2013. So that would have been after the alternative corridors were developed, but prior to stepping further down the funnel in the process.

THE CHAIRMAN: Prior to ... ?

MS. BRATLAND: Prior to alternative route evaluation.

THE CHAIRMAN: Okay. So between alternative corridor evaluation --

MS. BRATLAND: Generation. Um-hum.

THE CHAIRMAN: -- and alternative route evaluation; would that be fair?

MS. BRATLAND: Yes.

THE CHAIRMAN: Okay, good. Thank you.

The second question concerns Map 5-9. Is that something you can put up, or not? Or you don't have that available to put up on the screen?

MS. BRATLAND: We will pull that up.

We are just trying to see if the projector over there is working.

THE CHAIRMAN: It is the map that shows alternative corridors to multiple border crossings, Map 5-9. I'm having trouble with the number, but I think that's 5-9. Anyway, just looking at, it is the one that we are looking for.

So just visually looking at it, there appear to be no corridors that -- or I will reverse that: All corridors begin at either the Riel end -- okay, we can work off this one.

I realize that the corridors here are not exactly starting from the Riel-to-Vivian end points, or that corridor, but -- or that right-of-way. However, it looks like they are beginning from close to the end points of that right-of-way, either the Riel end or the Vivian end. Is that an accurate observation?

MR. MATTHEWSON: Yes. So the Riel/Vivian corridor goes from the orange diamond to where this transmission line, existing 500 kV transmission line turns south. So the corridors are started at the end of the -- the alternate corridors start at the end of the Riel/Vivian corridor, and near the start in the south loop.

THE CHAIRMAN: Okay. And the reason we are raising this is because there was considerable discussion about the SIL option during the course of the last day and a half. There appears to be no corridor, or no thought to an end -- a corridor end point anywhere else along that right-of-way, at this point in the planning. Is that accurate?

MR. MATTHEWSON: We started it at these two points. They are representative of the area. We could have started the corridors at any

point along the Riel/Vivian corridor, but we did need a defined start point, so that's why we chose the start of it. And the end of it, because the Riel/Vivian corridor allowed us to bypass a lot of residential and agricultural areas there, that's why we chose to use the end of it as the starting point.

THE CHAIRMAN: Is it a fair conclusion, then, to say that prior to the development of the SIL route, you were looking for a route that could accommodate the -- I think there were two -- "assumptions" is the wrong word, but there were two segments that you wanted to accommodate in a route, so SIL was developed to accommodate those two segments. But prior to that, was there any consideration to starting the route or the corridors in the stage before, at a point along that line, along the Riel/Vivian line?

MR. MATTHEWSON: We are just going to bring up the Round 1 alternative routes, which would illustrate --

THE CHAIRMAN: That would help, yes.

MR. MATTHEWSON: So as you can see, this line right here is the Riel -- one of the segments within the Riel/Vivian corridor, past the

end of it, actually. And then we have various points that we came outside of the Riel/Vivian corridor, along its length.

And then in Round 2, we introduced other options that started exiting where SIL was.

Keep in mind, we also had a Bipole III 500 kV transmission line that was coming up through this area as well, which we had concerns with, proximate to it, as well.

THE CHAIRMAN: Then it is fair to say that at the -- once you began to look at alternative routes, there were spots along that Riel-to-Vivian corridor were examined as a starting point -- that's what you're showing here -- but at the stage of the corridors, only the two end points were considered. Is that a fair conclusion?

MR. MATTHEWSON: Yes.

THE CHAIRMAN: For the reasons that you've given.

MR. GLASGOW: If I could address that.

So the corridors were meant to be representative corridors. In this situation, we could have started anywhere along that Riel/Vivian line. And if we would have started a corridor,

say, every -- you know, 1,000 metres, it would literally cover up the entire study area. So we didn't want to lose resolution there.

So that was one of the things that made this project more interesting, in that we could start anywhere along that line, and then we could finish anywhere along the four end points. So we choose to use representative corridors at either extreme end of that line to help develop routes within it.

THE CHAIRMAN: All right. So in order to limit the permutations or the combinations, you had to pick some spots, so you picked the two ends. That did not, in itself, mean that you had eliminated from consideration routes that could start in between, and in fact, in the end, you did look at routes that started in between. Would that be a fair way to ... ?

MR. GLASGOW: That is correct.

THE CHAIRMAN: Okay. That's good, thanks.

Okay, I've run past my own time, so it kind of puts me in a difficult position to address others. It is 5 after 3. We will take 15 minutes; we will be back here at 3:20. Thank you.

(Recessed at 3:05 to 3:20 p.m)

THE CHAIRMAN: All right. Welcome back, everyone. And that will bring us to the construction, operations, and property panel. Have I got the name right?

Okay. So we will leave it to you to start your presentation. Thank you.

MS. JOHNSON: They have to be sworn in first.

Gentlemen, could you please state your names for the record.

MR. PENNER: Glenn Penner.

MR. MATTHEWSON: James Matthewson.

MR. STUART: Alec Stuart.

MR. IRELAND: Brad Ireland.

(Panel members sworn)

MR. PENNER: Thank you, and good afternoon. I will give a presentation on the construction process for the MMTP. Again, my name is Glenn Penner, Director of Transmission Construction at Manitoba Hydro.

So just quickly, the project schedule, as we see it from a construction perspective, is to start construction in January of 2018 and to complete the construction March of 2020. We see

two sections, Dorsey to Anola, and I think it has been referred to here as the Dorsey-Vivian portion, and then from Anola to the border.

So I see -- by giving you an understanding of the construction methods, I think we can break it down into kind of five areas. So access, clearing, construction of the foundations, tower assembly, and stringing.

So, firstly, access. Access and clearing.

So access trails are required to get to the right-of-way and to get the right equipment to the each tower location to put up the towers and string the conductor. Access, for the most part, is typically found either off municipal roads, or with approved approaches, or where we can't find specific existing access points, we will have to construct additional access.

This is a picture -- I believe it is from Bipole III, and it is an access trail that was repurposed to access to the Bipole III construction line. So in a Crown land area, this would be a typical type of access trail to the right-of-way.

This photograph shows essentially the

right-of-way at a river crossing, and you will see that there is actually an access trail along the right-of-way, and that's how equipment and vehicles will get from tower location to tower location.

This is some of the equipment that's used to access areas that pickup trucks and others won't be able to access initially once -- when the construction begins.

So moving on to clearing, this is what is known as a feller buncher. So clearing can be done in a variety of methods. We have shear blading, mulching, feller bunching, and hand cutting.

The goal of clearing a transmission line right-of-way to is to remove the tree growth while not disturbing the root mass and the understory of low-growing shrubs. Land that is grubbed, or removed right down to the root mass, is only at the access trail locations and at the tower.

So again, this is a picture of a feller buncher. And what it does is it reaches out with its arm and has a circular saw blade on the bottom that cuts the tree -- sorry, grabs the

tree, cuts the tree, and then goes on and grabs a series of trees before laying them down.

This is a dozer with a shear blade on the front. So the way shear blading works is in frozen ground conditions, the root mass is frozen into the ground, and this machine will push the tree, and it actually shears it off above the root mass.

If the ground isn't frozen, this operation doesn't work very well; it ends up pushing and uprooting the trees, and so other methods need to be used if the ground isn't frozen, but does a fairly good job when there is frozen ground.

This is a picture of a mulcher. So mulching can be done once the trees have been shear-bladed or feller-bunched and laid down. This mulcher can go over the trees and essentially turn it into a mulch to be spread on the right-of-way. Or there is other equipment that will also mulch directly from trees standing, but this piece of equipment would do it after the tree has been cut down.

And then of course hand cutting, with chain saws, in sensitive areas and areas where

there is lesser-dense trees.

Here is a shot of a cleared right-of-way. And you can see that there is a river crossing, and you can see that narrowed portion where there is a buffer zone, an environmentally sensitive zone, and it shows clearly the access trail along the right-of-way as well as that buffer zone that we referred to.

This is also a shot from Bipole III. This is a picture of the cleared right-of-way at the Assiniboine River crossing. And you can clearly see some of the understory that's been left after this was hand-cut.

So after it has all been cleared, we will start by doing a geotech investigation to determine what kinds of foundations are required at each tower site. So depending on the tower location and subsurface conditions, there are a variety of solutions to putting in foundations. There could be steel screw piles, cast-in-place concrete, or pre-cast footings may be used.

So mat footings and anchors, rock footings and anchors, screw piles, micropiles, and the cast-in-place concrete. Again, it all depends on what we find in a geotech investigation.

This is a typical picture of the installation of a concrete mat anchor. So for a guyed structure, there is one foundation in the middle, and then there is four guys for the tower. This would be a typical good soil condition situation, where we would essentially dig a hole, place in a pre-cast concrete mat with a steel anchor rod on it, and then backfill that site, and then that's what we attach the guys to.

Again, this is another picture of an excavator digging a mat foundation.

And yet another picture of an anchor installation. And again, these would be mat foundations.

So that on a guyed structure, again, we would have a single point in the middle; this would be a typical pre-cast foundation. So it is a concrete pad that's been cast in place, or -- sorry, it has been cast in an -- inside a warm environment, and then bolted to the steel column, and that will be placed in a hole and then backfilled. So that becomes the centre foundation.

This is a typical picture of what it looks like to install a screw pile. So steel

screw pile can range in diameter -- essentially it can be 20 or 40 feet long, and there will be flights at the end of it, and the idea is that this excavator has a torque head on it, and this anchor is essentially screwed into the ground. And if it needs to have a longer distance, it is extended with another pipe, and turned until it reaches its loading capacity.

Guyed structure. So this would be a typical cast-in-place situation, where we would have multiple pieces of equipment. There would be a piece of equipment to drill the hole, a piece of equipment to hold up the anchor, the rebar cage and the anchor that would go in there, and then we would bring in the concrete truck and cast the concrete right at location.

And this would be a situation if we encountered rock, and had suitable rock location shallow enough, we would drill a hole to rock and pour in a grout solution to anchor that steel rod right into the rock, as opposed to digging and placing a mat foundation.

This is an example of a pre-cast concrete foundation for a self-supporting structure, for an angle structure. And again,

that block is poured in a controlled environment, put on a truck, brought out to site, and then placed in the hole with a crane.

So once the foundations are well under way, we begin with tower assembly. So this project is using steel lattice towers, and they are made up of many pieces, with lots of bolts. And there is many hours of labour required to put these towers together.

So there is two families. There is self-supporting structures, and there are guyed structures, and both certainly have their place in construction. Guyed towers are a very good solution when there is not farming required around them, and self-supporting structures have a much smaller footprint, and allows for that -- for farmland activities.

This is a picture of a self-supporting structure. It looks like it's probably a corner structure, and it's traditionally erected with a crane. We refer to this as a panelling method. The panels are assembled on the ground and then lifted with a crane, and then the pieces are tied together as they go up, usually with several cranes.

And this would be a picture, again, of the -- that same tower being panel-assembled, and then the tower top would be lifted on and bolted into place.

So we would also have situations where it makes more sense to utilize helicopters to do the very same thing. And in that case, typically, the towers would be assembled in an assembly yard and then flown to the tower location.

And in this case, this is a picture of Bipole III, in Southern Manitoba, where the towers were flown in two pieces. So the lower portion was brought out to the foundations, which were already installed, and the tower was placed, and then the helicopter would come back with the top portion, and they would place the top portion on this base section.

And so once the towers -- there is a substantial -- enough substantial towers in place, then we start the stringing operations. And stringing is essentially running the conductor from one tower to another. We can string from dead end to a dead end; typically conductor reels are in the order of about three kilometres long.

And it requires having a tensioner on

one side and a puller on the other. So essentially what we do is put wheels, or dollies, on every tower, and we start with a lighter line than the conductor, and we pull that out, and then we pull the conductor back.

And it is known as tension stringing, because the conductor stays in the air all the time, and stays under tension or under load as we're pulling it across.

And then once we reach that point that where we've pulled the three kilometres out, we will tie the conductor off and turn the equipment around and pull the other direction.

So we try to minimize the amount of times that this equipment is moving along. And essentially, then the conductor gets joined together.

So there is a number of splicing methods. On most of our recent projects, we have been using something known as an Implo sleeve. And what that is is an implosive device that you put the conductor into, and it's a bit like a shotgun blast when a series of these goes off, but it essentially crimps the conductor with an implosion, and does a very good job of bonding one

conductor to the next reel.

So along the way, as we are preparing the foundations, many times the contractors will require yards to store their material, as they assemble towers, or they need to place their equipment. So they will have storage or marshalling yards along the right-of-way.

So what they will typically do is look for places along the right-of-way that's accessible. And if they don't have that, they will also look for suitable locations that are close to major roadways, that are maybe on private land, and typically our contractors will arrange for those kind of yards on their own.

So of course many times, when we are building transmission lines of any length, the contractor needs to have a place to stay. Typically they will look for hotels or facilities within local areas. If those don't exist, the next stage would be is to provide mobile camps along the right-of-way. And they -- again, typically, camps would be located in areas that are close to the roadways, maybe along the right-of-way, or maybe in other developed areas, typically, where we can access power readily.

So I want to talk a little bit about contracting strategies. So Section 1 is minimal clearing. It is on our own corridor. So we are looking to public-tender a construction contract at this point; it will be one contract for this section.

And the second section, and that's from Anola to the international border, there is some clearing required; I understand it is about 480 hectares. It is new right-of-way, and we will also be public-tendering this contract.

We learned a lot of things over the last number of years on Bipole, and one of the ways that we involved indigenous communities, First Nations and Metis, on Bipole III was through some of the contracting strategies.

And our last three major contracts that went out, we used a contracting method that set minimum mandatory First Nations and Metis content targets. So what that means is that the contract documents had a minimum target set for Metis and First Nation content. And that was around employment, subcontracting as well as training and other opportunities.

So the latest strategies with

Bipole III were developed -- these were developed with the Metis and First Nation groups in the area of these contracts. And at the end of March 2017, this year, our employment tracking showed for this winter, on those specific contracts, that we were at 70 per cent indigenous employment. And that sort of summarizes January, February, and March for these contracts.

Now, we have to keep in mind that that 70 per cent was at one point in time, and it was primarily due to that a lot of the labour force that went into this winter was in tower assembly.

But I think it is a fantastic number. I think that we are certainly on the right track, and I think that these are really good ways to engage First Nations and Metis on these contracts.

I believe that we went through a process of tower assembly training over the last couple of years, across the province, for Bipole III; and out of that, we had 87 hires, and they worked for an average of 98 days on Bipole III.

So we are going to utilize some of the -- some similar approaches in our publicly tendered contracts for MMTP that mirror what we

did on Bipole III with regards to minimum standards -- sorry, minimum mandatories, in First Nations and Metis content.

And this is just a slide on the kinds of content that we are talking about. So direct employment, so we are talking about working right on the job, whether it is tower assembly or working on installing foundations. There will be training opportunities, as well as subcontracting and services such as fuel accommodations, trucking, and equipment rental.

So the way that these minimums are -- I should just -- that's the last slide.

So the way these mandatory minimums are incorporated is that they are part of the evaluation matrix, when we evaluate contractors. So we see what they are proposing for indigenous content, and that factors in to how we evaluate their tenders.

And that's the end of my presentation.

MR. MATTHEWSON: Good afternoon, participants and Commissioners. I would like to apologize that I will be presenting a couple more times in this hearing, and I do not have an Alabamian accent, so I apologize.

So you just heard from Glenn about the construction process for the project. In this presentation, I'm going to discuss how Manitoba Hydro is incorporating into this project the various mechanisms to reduce some of the potential effects through routing avoidance, design, construction, and operation mitigation measures.

So, as you may have heard from me yesterday, the routing is our primary means to avoid effects on the people in the environment, and we included a lot of different criteria, as we discussed over the last two days.

We considered those sensitive sites, those locations which are locations or features or areas, activities or facilities that were identified by either those field specialists, the discipline specialists, as we talked about previously, or First Nations, Metis, and the public, through their respective engagement processes.

A sensitive site, it is kind of a term that we use, could include any valued and protected vegetation, wildlife habitats, cultural sites, which are considered heritage or archeological or spiritual sites, any type of

unique terrain that may be on the project, and any other important locations where route avoidance would be an effective means of mitigating those sensitive sites.

And then, as Mr. Beddome pointed out, if we can't avoid something, then we move to the next step, which is mitigation.

So Manitoba Hydro starts mitigation not at the construction phase; it starts mitigation at the design stage. So starting with transmission line routing, of course, and then engineering details, such as tower type, foundations, span, and tower locations, not only serve as a design criteria for engineering purposes, but also play a key role in the overall mitigation of effects.

So, as an example, for tower type, in the more intensively developed agricultural and rural residential areas, those tangent, self-supporting towers, an example of which is here, a tangent one. It is in line; also pointed out in the slide, these are inline ones, and in the corner one, there is the angle tower.

They will be used to limit the potential effects on farming activities and

adjacent residential properties by reducing that tower footprint to a much smaller footprint than a guyed structure-type structure.

The horizontal configuration of the conductors -- so we have one vertical and two horizontal planes there for -- where the conductors are, is chosen from a design criteria perspective, for -- as Mr. Swatek mentioned, separation for live-line maintenance work, and those types of things; but it also plays a role in bird-wire collisions.

Through various research -- if you had a tower structure that was more of a vertical configuration, where you had these conductors all stacked on top of each other, in a vertical sense, that is a less desirable structure type, from a bird-wire collision mitigation perspective, than the one that Manitoba Hydro has chosen here.

The tower foundations, as you saw from Mr. Penner's presentation, there is a wide variety of tower foundations that are chosen from engineering perspective, but also from an environmental perspective. Those are obviously a key component to keeping the tower standing, and are primarily chosen by the underlying

geotechnical, the ground conditions that exist. But there is environmental considerations, such as the wetlands, and biosecurity, and the proximity to borrow sources, to get some of those materials to build some of those cast-in-place foundations.

Also the screw piles, as illustrated in this picture, I've got another picture of a screw pile installation. You see it is a very low-impact type of installation, with one piece of equipment, and a screw pile, and a few staff. Some of the other cast-in-place type foundations Mr. Penner had a picture of, where he had multiple cranes and concrete and cement trucks coming in, so the foundation types are tried to match and take into consideration some of the environmental considerations as well.

So a screw-pile-type foundation used in a wetland is certainly a mitigative solution, to mitigating effects on the wetland, as well as keeping the tower standing in that type of environment.

Also in design mitigation we look at tower location, so tower spotting, I referred to it previously as. It is the placement of the final location of the tower. While there is --

numerous engineering factors are considered, from the span length, the topography, the clearance standards that exist that transmission design engineers have to follow.

They also have in their design software, so while they are working in their CAD engineering environments, laying out where these towers go, the construction and environmental protection plan has developed environmentally sensitive sites, through the various forms of feedback that I mentioned before, where the discipline specialists have identified something, or it has been identified through First Nations-Metis or public engagement processes, all that data that is housed and collected through the public engagement process and the environmental assessment development is transferred directly into those computers of those design engineers.

They know exactly where the wetlands are; they know exactly where the heritage site is. And they take that into account when designing and tower spotting.

Other sensitive sites, such as the plant species of conservation concern, the streams, the river crossings, snake hibernaculum

that may be found on the right-of-way; all those things can be impacted by the tower foundation site itself.

So they try, through the design stage, to try to mitigate through tower spotting to avoid those effects. While we've tried to use the routing of the line to avoid as many as possible, now we are going to a finer scale, and using the actual placement of the tower location, and the foundations for that tower, we are using an avoidance technique in that process as well.

So on the lower left screen here, we have got an example of transmission lines where -- when we have wetlands in Manitoba, they are very large; their expanse is huge. The environmental and design team work together to spot the towers with as little impact as possible, so trying to find the best place for placing that tower, to have as minimal impact on the wetland as possible, even though knowing that from a design perspective, they can only stretch the spans as far as they can. We work with the design engineers, one on one, to determine where the best place, from an environmental perspective, that tower spotting should be.

Another example of tower spotting in another one of Manitoba Hydro's projects is in agricultural areas, through the landowner engagement, there's opportunities to adjust towers in line of the tower to avoid and accommodate field access, or unproductive portions of a field, moving a tower into that portion of a field, if we can, by adjusting our spans.

In this example of a project, we were able to spot the towers on each one of the different parcels between the agricultural fields. So instead of placing the tower in the middle of the field, the way these farm management units were split up on this particular project, we were able to effectively avoid putting a tower right in the middle of any farming obstruction by aligning with those different farm management units.

Span length. While span length of the area between the towers is driven by, again, a large variety of those engineering factors, such as the structure type, and the electricity load, and clearance above the ground, a project design that utilizes longer spans has some mitigative effects. There is less structures on the ground, which means less ground disturbance, fewer

obstacles to navigate around, and reduced biosecurity risks.

In this slide here you will see an example of a wood pole structure, and you can see how many wood poles it takes with the shorter span lengths. It does have a narrower right-of-way, but there are shorter span lengths, versus a picture like this, where we are taking across -- clearly spanning across the field with a big steel lattice structure.

So there are advantages to the different type of structures we chose, and we try to choose the proper structure type to match the characteristics, electrical engineering characteristics of the project, as well as the environmental considerations that come to play along the landscape of the final preferred route.

Accidents and malfunctions. There are a variety of potential accidents and malfunctions during the construction or operations of a transmission line, so spill response is something that Manitoba Hydro is -- become very skilled at doing, just due to the nature of the type of activities that it takes to construct a transmission line, with the large amounts of heavy

equipment required, that contain the various types of hydraulic fuels and fuel.

So Manitoba Hydro has an extensive spill response plan in place for both its construction and operations, as well as each contractor develops a specific spill response plan, which identifies hazards, identifies all the protective equipment, spill response equipment that must be on site during construction and operations, when using this equipment.

All the explanations about how to contain the release and secure the site and notify spill response coordinators that plan the cleanup, sample the site, all the sampling that occurs, the disposal of the waste, and the restoration of the site when a spill does occur.

At the stations, there is more spill kits and spill containment plans, when you are talking about a larger-type spill, with -- some of the heavy transformers in our stations contain thousands of litters of insulating oil to protect and cool the equipment.

There are various strategies within the station to contain that, if there is a spill, contain that release, both at the point where the

transformer is located and around and within the perimeter of the station itself, so that if there is anything that were to spill, there are several mechanisms in place to contain and minimize the impact of that spill on the environment.

Tower collapse. So we talked a little bit about the weather study. This is an example of a tower on our S1/S2 transmission lines that was taken out by a tornado, so this is the result. This is a photo of the next morning. So these are the line maintenance crews that would have responded to that, if possible, during the night, if it happened then, or the next day, they would have come out and started their -- they would have initiated their emergency response plan.

It is possible for a transmission tower to collapse during construction or operation, as a result of that extreme weather that the weather study was trying to characterize, or mechanical failure, or intentional or unintentional human interaction with the tower.

The transmission line maintenance department patrols Manitoba Hydro's transmission infrastructure on an annual basis to look for deficiencies in the structures, or issues with

foundations, to mitigate any type of tower collapse. And to date, there has been no tower collapse on an operating transmission line as a result of a deficiency of the tower structure or its foundation.

Fire. There are a variety of different mechanisms by which fire can be started or caused by a transmission line. It can be caused by the line itself, if there is a vegetation management -- or, sorry, a vegetation contact with the transmission line itself, a tree were to fall on the line, it has the potential to start a fire. There could be fires started potentially by equipment that is operating to construct the transmission line, or to -- in the operation or maintenance of the transmission line.

So Manitoba Hydro has an extensive fire manual that outlines the different fire response procedures in the event of these activities occurring. Manitoba Hydro's system control centre, which manages and oversees the transmission line network on a 365-day 24/7 basis, is made aware of different types of trips or faults on the transmission line by which crews are dispatched to investigate the cause of those

faults, and if the cause is a fire, then appropriate emergency response measures and plans are enacted, as per Manitoba Hydro's corporate emergency management plan. And they include involving additional resources from municipalities and local fire departments on an as-required basis.

Collisions. There are potential for collisions with transmission towers. This can happen in a variety of forms. In an agricultural setting, there is the potential for an agricultural piece of equipment to collide with the tower. There is a potential for aircraft doing low-level flying operations to have a collision with the conductors.

So Manitoba Hydro uses a variety of different mechanisms to mitigate those. We use awareness programs with our farming operators to make them aware of the -- how to operate around transmission facilities, transmission lines, and the guy wires, for those facilities that have guy wires, in agricultural operations, from our historic transmission lines, so all of our new lines, we've of course talked about using self-supporting structures.

For aerial -- potential for collisions, we use aerial marker buoys on the transmission wires in close proximity to airports and aircraft landing areas. We also use -- on the guy wires of the structures that use guy wires, there is guy wire shields, that are a high-visibility guy-wire shield, to make sure that those guy wires are visible to the public, whether they are transporting in trucks or snowmobiles and that sort of thing, as a way to mitigate the potential for collision.

Of course all of these accidents, malfunctions, that involve the transmission system itself, as I mentioned before, there's a system control centre that is monitoring those transmission facilities at all times, looking for any types of anomalies or trips to the system, and implementing the emergency response plan as required.

For constructions operations mitigation, there are numerous environmental mitigation measures in place that are applicable to both Manitoba Hydro staff and to the contractors that are hired to construct and maintain the infrastructure. We categorize these

into a couple of different types of plans, and there will be a presentation later on -- unfortunately by me again -- that will talk about the environmental protection program at a later date, but I will just give you a brief overview.

We have construction environmental protection plans that are driven and designed to address the construction of a transmission line. And then there are operational environmental protection plans that address the operations and maintenance of those transmission lines. As you can imagine, there are different types of equipment and different types of activities being conducted in those two different environments.

Environmental management plans. We have a wide variety of management plans, and some examples include the access management plan, as Glenn had talked about, with those access trails. All those access trails and access routes to get to the transmission line are planned in advance, to the extent we can. There are certainly scenarios where a particular wetland does not freeze solid, and we may need to create a new access trail to bypass an area that isn't freezing, to allow access for the construction or

the maintenance of it.

We have an integrated vegetation management plan that I will be talking about a little bit later this afternoon, as well as rehabilitation and invasive species management plans, all to deal with rehabilitation of the construction sites, and management of invasive species. Those are just some examples of the variety of management plans that I will talk about in the environmental protection program presentation.

I'm just going to go through some key mitigation measures that we have for the variety of different valued components that you will hear about in the next few days, in the biophysical and socio-economic panels.

Proposed and existing protected areas. Large tracts of boreal forest and wetland have been avoided through routing. However, there are wildlife and wildlife habitats potentially affected by the project, and Manitoba Hydro utilizes a variety of measures to mitigate these potential effects.

So, as Ms. Bratland talked about with migratory bird breeding windows, we use reduced

risk timing windows to consider our works when designing and scheduling our activities during the period when wildlife species are sensitive to destruction, because of the sensitive life cycle, such as the bird breeding season, or calving for moose or deer.

Bird diverters will be installed on sky wires in areas of high collision risk potential. So Manitoba Hydro has done studies on the final preferred route where these high collision risk potential areas are for bird-wire collisions. As I was asked previously about flyways, we have done research with respect to the FPR on where the high collision risk exists, and we have a strategy in place to mitigate those potential effects.

We also have a wide variety of pre-construction surveys for wildlife features along the FPR, such as mineral licks, or stick nests, or snake hibernaculums, that will identify and mitigate -- will implement mitigation measures such as the tower spotting, or applying buffers to those features.

So some of those activities are ongoing and are occurring as I speak today, and

collecting that pre-construction information on the exact final preferred route.

Fish and fish habitat. In Manitoba, it is virtually impossible to route a transmission line to avoid a stream or river crossing. We are blessed with a wide variety of riparian and wetland habitats. So Manitoba Hydro, as we have implemented -- seen in some of the pictures that Glenn showed, these riparian buffers will be applied to these riparian habitats, which include those streams and rivers and lakes and wetland areas within the project development area, in which those shrubs and herbaceous vegetation will be retained.

So an example of that is -- while Glenn had some nice pictures, on a smaller scale, this example illustrates some of those mitigation measures. We have this -- what's called a seven-metre no-machine zone, which is directly adjacent to a wetland or a river or a stream, where a piece of equipment such as the feller buncher can reach in -- and that's where the seven metres come from; it is the distance by which the feller buncher can reach in to cut a tree, pick it up, turn the equipment around, and place it out of

the way. So no machine actually has to enter the zone; it reaches in and cuts the tree.

Sometimes those machine zones are handled by hand cutting, in areas of steep slopes. Outside of the seven-metre no-machine -- machine-free zone, we have another 23 metres of management zone, by which we use a different clearing technique to clear the right-of-way. That could be something simply like a feller buncher or a hand cutting, something that has a lower disturbance, versus a shear-blade type of application, where there is a risk of disturbing the soil. We really want to be sensitive to these type of environments.

This is an example of the river crossing at the Assiniboine River.

The other crossing here -- so another thing that we take into consideration is erosion and sediment control along some of these wetland areas. This is an example of a wetland area in the wintertime, and these are erosion control sedimentation blankets, as well as branch debris, in order to stabilize the bank, to make sure there is -- minimize any potential for soil erosion during the spring runoff.

Vegetation of wetlands. So with those large expanses of wetlands in Manitoba, we've timed our works in those wetlands to occur under frozen ground conditions, or when there is other mitigative measures, such as construction matting can be put in place.

Again, in the wetlands and around vegetation, we can apply those riparian buffers around those wetlands, that I talked about.

We also have in this picture -- this is another example of a buffer on a stream crossing. You can see that there is a centre-line trail that did need to pass through the riparian area; we do have to get across, to string those conductors. But you can see the different vegetation that's retained within the -- the low-growing vegetation that's retained.

This picture here is an example of a buffer that's been left behind, around a site of species of conservation concern. So they've used a different type of clearing. Eventually these taller trees will be hand-felled out of the way, but the smaller plant that was being protected is protected throughout construction and operations.

Also from vegetation, as Mr. Stuart

will be talking about, about biosecurity, one of the things that we do for vegetation and wetlands in more natural environments is cleaning of the equipment before it arrives on the construction site, making sure that we are not bringing any noxious and invasive weeds into more undisturbed natural areas.

Land and traditional resource use. Maintaining access during construction for resource users is an important thing that we hear a lot through the First Nations and Metis and public engagement processes: We know there is construction activity happening, but we still want to carry out our traditional practice; how are you going to accommodate that, so that we can still go and do our hunting activities and use trails that Manitoba Hydro may be using as access routes for the construction?

So this is an example of an access trail that had -- a trappers' snowmobile trail that they used for access to trapping areas. So those are signed, and the debris is made sure to be kept clear of those areas, so that we aren't introducing any type of safety hazard or infringing at all on the use of that access trail.

Existing access roads and trails is used as much as possible in the development of this project. We have developed an access management plan that has less than, I believe, 500 metres of new access to be developed for the construction of the project. We use a lot of existing access trails and roads, due to the nature of where the final preferred route is routed.

Some of these examples -- these are some of the signs that are used to warn contractors about entering an environmentally sensitive site area. This one is about no equipment being allowed, other than what is on the trail.

One of the things that we constrain in the right-of-way in certain areas where there is vegetation, or traditional use areas, we constrain the equipment to ensure they stay only on the trail. After the area is cleared, the equipment can't just drive anywhere they want along the right-of-way; they are constrained to that one centre-line trail.

As we go through, as the traditional knowledge studies come into Hydro's possession,

and the information and the knowledge of the specific sites that come with that information, we can start to implement some of those site-specific mitigation measures, such as maintaining the buffer of trees between a trail and a site, a trail and the transmission right-of-way, to kind of keep the line of sight reduced as much as we can, using those existing access trails.

This is a photo of an area around the Bipole III project, where we have been working with community members to map and understand the effects of the transmission line clearing process on blueberries. And prior to the clearing of this area, we actually met with the community members, talked about the different clearing methods that we could potentially use in this area, and discussed with them the benefits and drawbacks of the different methods. And they were interested in increasing blueberry production, so we accommodated by doing a particular clearing method in that area that helped -- we hope helped increase the blueberry production along the right-of-way.

And that's some of the ongoing monitoring that we're doing with communities, to

go back to that site on an annual basis, to measure that -- that experiment.

Cultural and heritage resources. So a cultural and heritage resource protection plan is an integral part of Manitoba Hydro's environmental protection program. We have filed the draft plan for the Commission to review, as well as other indigenous communities, and get feedback on that draft.

Manitoba Hydro respects that intrinsic value of those cultural and heritage resources to all the peoples in Manitoba, and the plan sets out Manitoba Hydro's commitments to safeguard cultural and heritage resources, as it has a protocol and a component to the document. So the document outlines all the different steps by which construction will stop work if they identify any type of heritage resource; we'll talk about the types of mitigation measures -- or, sorry, the monitoring that goes into investigating these potential sites, that has been done as part of the environmental impact statement, as well as stuff that will happen -- investigations that will happen along the FPR as part of pre-construction.

We have a protocol document in place

to work with each community to determine key contact people, the areas of -- if they have any areas of specific interest, and any further information about cultural heritage resources.

So it is important to have a protocol, and sometimes we've -- many communities have filled out, on the Bipole III project, this protocol, and some of them are inherently part of our community liaison process, where we communicate with the local communities about a heritage -- a previously undiscovered heritage resource, so that appropriate measures can be put in place from obligations under the Manitoba Heritage Resources Act, as well as respecting the cultures and traditions of indigenous peoples.

So whenever we discover something like that, we try to have a process in place so that we have a quick access to people that can come to the site from the communities, and discuss the find, and what is there, that works with our project archeologist, to assess what the potential site is and determine some of the mitigation measures that could be implemented along that site to protect it from further disturbance.

Through construction, and all the way

through operations, these are maintained in that operational environmental protection plan.

Agriculture was one of those key VCs. As you are aware, the final preferred route does go across numerous acres of agricultural land, and Manitoba Hydro has developed a very extensive agricultural biosecurity policy to prevent the introduction and spread of diseases, pests, and plants, and Mr. Stuart is going to go into much greater detail than that in the next presentation.

Some of the other things we do is, again, restricting the travel of vehicles to the access -- the centre-line route, where feasible. And then, as Mr. Ireland will talk about, is some of the compensation programs that Manitoba Hydro has in place for damage to infrastructure such as tile drainage or crops from the construction or maintenance activities. And so there will be more information on that.

That's kind of a high-level overview of some of those key mitigation measures. You will hear about some more of them throughout the various panels coming over the next few weeks, and there is certainly great details in the environmental protection program that I will

discuss as well.

So I will pass it to Mr. Stuart.

MR. STUART: Thank you, Mr. Matthewson.

Commissioners, participants, thank you very much for your attention this afternoon. My name is Alec Stuart, and I'm the manager of the Property and Corporate Environment Department in Manitoba Hydro. And one of my responsibilities is for agricultural biosecurity, so this is the topic of my presentation this afternoon.

What I would like to talk to you about is to start off with a little bit, if you will, of a sense of where this emerged from, how Manitoba Hydro has managed biosecurity and how we developed our procedures and our approach to managing agricultural biosecurity.

I will talk a little bit about our specific construction procedures, so how we take that higher-level commitment and operationalize it, if you will, or put it into action on the field.

I would like to introduce you to the monitoring program that we use on the Bipole III project, and I will conclude by talking a little

bit about some of the lessons that we've learned from past experience, again, largely from the Bipole III project.

So, briefly, agricultural biosecurity was first raised as a concern in the context of the Bipole III project by, in some cases, individual landowners; other cases, stakeholder groups.

So Manitoba Hydro made a commitment to developing a policy and procedures to actually manage this risk. So we have a corporate policy which essentially states that any group within Manitoba Hydro that's working on agricultural land has to develop procedures to both identify and to manage potential biosecurity risk.

We developed our procedures in a number of ways. We looked at industry best practices. You know, we are not the only utility that works in agricultural lands, so we did reach out to others in our industry to see how they managed these issues.

We also spoke to stakeholders. Manitoba is fortunate to have a number of good stakeholder groups for the agricultural industry, and we spent a fair bit of time with them, looking

at specific concerns for their industry, what their members and stakeholders felt, and reviewing our procedures with them. Have we met what we needed to do? Have we addressed the concerns that are out there?

We also took essentially a risk-based approach to this, so we take a number of factors into consideration. This being Manitoba, obviously the time of year can have a significant impact. Middle of January, with three or four feet of snow, is a much lower risk, for example, than, say, late April or early May, when the fields are muddy.

We look at soil conditions. We look at, for example, the type of work being done. Is this a large construction project, like the Manitoba-Minnesota Transmission Project, or is it simply a meter-reader entering a property to read a meter? So we have to consider that type of work being done as well. And we look for the presence of known pathogens, or pests: Is there a disease such as clubroot confirmed on the property or not?

So we look at all those kinds of issues through our procedures. At the end of the day, the goal is to prevent the movement of soil,

manure, pathogens, invasive species, what have you, between properties. If it is on a property, it should stay on a property, and not be taken to the neighbours'.

We also tried to build in flexibility, to address perhaps producer-specific or very site-specific concerns as well. And we have to be flexible to adapt to changing conditions. I think as we saw in the last winter, we had days in even January and February where the temperature would vary greatly within a few days. One day you have nice frozen-solid conditions; the next day it is muddy and wet out there.

So, again, our procedures have to be flexible and able to adapt to these conditions.

So, to look at the construction procedures, I will take us back to the Bipole III project. And one of the ways of managing agricultural biosecurity risk on Bipole III was to look at the properties, the agricultural properties, before construction begins, to essentially determine what that risk level is of the property.

One of the ways that we did this was that we sampled each quarter-section, as an

example, for the presence of clubroot. So we could say, with a great deal of certainty, that there was or was not clubroot present on any individual property.

We also spoke to producers and discussed their individual concerns, such as, for example, the presence of livestock; application of manure on their fields. Even more specific concerns, that some specialty producers, such as, for example, a pedigreed seed producer might have.

At the end of the day, though, the basic procedure is to ensure that vehicles enter and exit sites clean and are disinfected. And the same would apply to equipment and to footwear as well.

We also, on Bipole, brought in the third-party monitoring program, to help track compliance and to give our stakeholders assurance that we were managing biosecurity in an appropriate way, and I will speak to that in greater detail over the next few slides.

Then, as I touched on a little earlier, we had to ensure that our construction procedures are flexible enough to deal with changing conditions. Our procedures are designed

for use in frozen conditions and in wet conditions. Both of those, you have the same goal; you just have different methods of reaching it. And again, you have to be flexible, with our conditions here, to be able to adapt very, very quickly.

I do want to touch on a couple of points that Mr. Matthewson raised in his presentation as well, and that -- although we have construction procedures to manage that risk, we can also do our best to reduce the risk, through perhaps engineering or design procedures as well.

We spoke a little bit about the different kinds of foundations, in Mr. Penner's presentation. As an example, a screw pile foundation would present less agricultural biosecurity risk than, say, a cast-in-place foundation would. A cast-in-place foundation may require multiple trips onto site by a number of concrete trucks; it may require more workers over a period of time, whereas installing a helical screw pile will result in fewer trips on the field, and therefore less chance of spreading soil. So we can build additional mitigation measures such as this into our work on sites.

So I want to take you now to talk a little bit about the monitoring program on the Bipole III project. And this is something that we introduced in the fall of 2016 as a response, largely, to stakeholder concerns about biosecurity.

So Manitoba Hydro has committed to agricultural biosecurity and to managing the risk of it. We have developed a set of procedures for use on projects, and on other work, that manages the risk. In addition, on Bipole III, we also took an additional step of retaining an independent third party to essentially monitor our compliance. Are we doing what we say we're doing? We have these procedures; are they being followed? If not, what are the issues? What are the corrective actions to address that?

So we worked with our monitors to come up with appropriate methods of sort of managing and ensuring compliance. One of the first things they did was they suggested a series of essentially grades of cleanliness, if you will, starting at Grade 1, which would be considered a failure -- or in biosecurity, noncompliance -- all the way to Grade 4, which would be a pass.

So Grade 1 and 2, Grade 1 would essentially be you've made virtually no effort to clean. You've entered a site, or tried to enter a site, covered in mud.

Grade 2, you've made an effort. You're partway there, but you've not fully managed the risk, and further cleaning is required. You might still have some mud, you might have some plant material present, and you need to take additional steps to address this.

A Grade 3 is the first grade of a pass, where you've cleaned it; you've done your best; you've mechanically cleaned it, potentially, and anything left has been disinfected thoroughly, with products such as Virkon or Synergize, which we use on sites where livestock may be present or where manure has been spread.

And then Grade 4 is a pass. Again, your vehicle, your footwear, your equipment, it's clean; there is nothing present on there. That's the expectation when you enter the site.

One of the challenges, though, on this one, is that we all may have different definitions of what constitutes "clean". I think anyone who has got children would agree that their definition

of "clean", and yours as a parent, may be very, very different; at least that's been my experience.

I'm sorry, I've skipped a slide here, so I will touch on the cleaning in a second.

As a part of the monitoring work, one of the key pieces of this is the reporting. And we do have weekly biosecurity monitoring reports posted on our website. So we keep about two months' worth on there; we have additional ones available. If you'd like to reach those, certainly just contact us, and we'll be happy to share them.

And what this does is this tells people, this is how many trips we had on and off sites, and these are the number of non-compliances, or failures, if you will.

So you can see on the chart, here, the monitors have identified, again, Grades 1 through 4. Grade 1 and 2 two are in red, and Grade 3 or 4 are in green.

Out of the total trips on and off site, you had 28 pedestrians entering and 32 exiting. At first glance, it may seem a little strange, but some pedestrians may have entered

through a vehicle and then gotten out of the vehicle and walked off, so the numbers don't always add up exactly.

And this demonstrates that they entered -- you had 28 pedestrians who fully complied. They are all Grade 3. Their footwear was clean, disinfected, and it passed muster.

Leaving, out of the 32 who left, you had 31 who again passed muster, had clean and disinfected footwear, and one individual who was assigned Grade 1 upon exiting, which could mean that they made no effort at all, or potentially that they decided to walk around the access point and leave through the field, which would be automatically assigned a Grade 1 at that point right there.

This is the level of detail, again, that we post on the website from the monitors.

So to touch again on the issue of cleanliness, which I seem to have skipped through earlier, the monitors also developed a series of essentially graphic aids to help us determine -- "You know what? We all agree this is a Grade 1", or "We all agree this is a Grade 4."

They went and found pictures of what

they considered to be a Grade 1 failure, and these are the criteria that they use when they're working with our staff and contractors on sites.

So again, this is understood to be a Grade 1; essentially, you've made no effort, and clearly it shows on the picture here. The vehicles in question all have considerable amounts of mud or soil, plant material on them, and would constitute a Grade 1 fail.

At the same time, they also developed pictographs for the higher grades as well. So this would be considered clean. Again, this is the expectation, when you come on the site, you should be clean like this; you shouldn't have signs of soil or seeds or debris present on surfaces, as much as possible, keeping in mind that -- you know, sometimes as you're traveling to site, there are issues such as road dirt. But for the most part, this is the expectation as you enter the site right here.

So to conclude here, I do want to talk a little bit about some of the lessons that we learned on our past project, and from our experience, that we do intend to apply on the Manitoba-Minnesota Transmission Project.

I think one of the key ones here is to implement the project directly from the start. On Bipole III, we learned a lot; we learned an awful lot about how to manage biosecurity risk and to manage it appropriately. But we learned so through the course of the project. So in some cases, such as the monitoring program, some elements were brought in after work had started, as a response to concerns that had been raised.

Obviously we want to maintain flexibility and adaptability, but at the same time, we do intend to bring these in right from the start of the project. So biosecurity is brought in, for example, as a concern in the landowner liaison program. The liaison work is our first opportunity to engage with landowners, and one of the questions raised as a discussion of biosecurity risks, right from that first point, we can begin to identify those specific risks and work to mitigate them.

We also learned the value of carrying out this pre-construction sampling. Again, on the Bipole III project, Manitoba Agriculture recommended clubroot sampling. And this was also done partly to help them build up their knowledge

and their understanding of the spread of pathogens too. So we carried out the sampling in all the quarter-sections, and we shared the data with the Province and with landowners as well.

Again, the value in that is that it told us exactly where clubroot was or wasn't present, and allowed us to manage the risk appropriately.

We can also ensure on MMTP that biosecurity is fully built into the construction contracts. Again, with Bipole, by the time we implemented the procedures, the construction contracts had been let. And we were lucky enough to work with some good contractors, who were flexible, and were able to build this in very appropriately. But again, it is always easier right from the beginning. So this provides us with a good opportunity to do so.

And again, to have third-party monitoring right from the start of construction, so right when those first shovels hit the ground, the monitors should be there, watching and observing, and ensuring compliance as well.

Again, that's an effort to help manage potential landowner concerns about biosecurity,

and has been proved to be quite effective in Bipole III.

Thank you very much for your time.

THE CHAIRMAN: I notice -- is there one more presentation as part of this component? Two more.

I think, then, we are going to call it, because that's going to take significantly more time than the last one. So I think we will call it there.

Yes, we have one question.

MS. PASTORA SALA: Thank you, Mr. Chair. It's Joelle Pastora Sala, for the record.

I just wanted to ask, and just to clarify, I see that there are of course overlaps with the environmental protection plan discussion, which will be next Thursday, as I understand it. I just -- in terms of preparing for Monday, I wanted to know -- I know, Mr. Matthewson, you will be back on Thursday for the presentation; are we expected to bring all the questions on the issues that you bring forward in this discussion on Monday? Or will it also be available for questions on next Thursday?

MR. MATTHEWSON: I think, depending on the nature of the questions, I think maybe some of those would be answered by my presentation next Thursday. So it may -- you can certainly ask some questions about the material I presented today, on Monday; but there will be more details about the environmental protection program as a whole, and all the other mitigation measures and plans and things in much greater detail on the Thursday presentation. I may have to defer some of your questions until the Thursday.

MS. PASTORA SALA: Thank you.

THE CHAIRMAN: Okay. Well, thank you. Thank you for the presentations, and we will see you all Monday morning at 9:30. Are there any documents to file?

MS. JOHNSON: Yes, there are. MR 032 is the first part of this presentation; 33, the second part; and 34, the third part.

I will just remind you to take all your things with you, because we no longer have this room, and we will be at the Pan Am Room in the old part of the Convention Centre on Monday.

(EXHIBIT MH-32: First part of presentation by Construction operation

and property panel)
(EXHIBIT MH-33: Second part of presentation by Construction operation and property panel)
(EXHIBIT MH-34: Third part of presentation by Construction operation and property panel)
THE CHAIRMAN: All right. Thanks for that Cathy.
Thank you all.
(Adjourned at 4:30 p.m.)

OFFICIAL EXAMINER'S CERTIFICATE

Cecelia Reid and Debra Kot, duly appointed Official Examiners in the Province of Manitoba, do hereby certify the foregoing pages are a true and correct transcript of our Stenotype notes as taken by us at the time and place hereinbefore stated to the best of our skill and ability.

Cecelia Reid

Official Examiner, Q.B.

Debra Kot

Official Examiner Q.B.