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APPEARANCES

CLEAN ENVIRONMENT COMMISSION
Terry Sargeant - Chairman
Pat MacKay - Member
Brian Kaplan - Member
Ken Gibbons - Member
Wayne Motheral - Member
Michael Green - Counsel to the Board
Cathy Johnson - Commission Secretary

MANITOBA CONSERVATION AND WATER STEWARDSHIP
Bruce Webb
Elise Dagdick

MANITOBA HYDRO
Douglas Bedford - Counsel
Janet Mayor - Counsel
Shannon Johnson

BIPOLE III COALITION
Brian Meronek - Counsel
Karen Friesen
Garland Laliberte

CONSUMERS ASSOCIATION OF CANADA
Byron Williams - Counsel
Gloria Desorcey
Aimee Craft - Counsel

MANITOBA METIS FEDERATION
Jason Madden - Counsel

MANITOBA WILDLANDS and SAPOTAWEYAK CREE NATION
Gaile Whelan Enns

GREEN PARTY OF MANITOBA
James Beddome

PEGUIS FIRST NATION
Robert Dawson - Counsel

TATASKWEYAK CREE NATION
Ian Cluny
Shaun Keating

APPEARANCES CONTINUED:

PINE CREEK FIRST NATION
Charlie Boucher
Warren Mills
John Stockwell

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Monday, November 19, 2012

Upon commencing at 9:00 a.m.

THE CHAIRMAN: Good morning. Welcome back to the last week of our first term. I believe Mr. Meronek is going to have a full and interesting and varied day for us, so I won't hold us up any longer, I'll turn it over to Mr. Meronek.

MR. MERONEK: Thank you, good morning panel.

I have a bit of a hybrid presentation today. By that I mean three of the panel members are farming practitioners and not accustomed to public speaking, so it will be more of a question and answer.

THE CHAIRMAN: That's fine.

MR. MERONEK: Back and forth. And with respect to Messrs. Collinson and Berrien, they will make their own presentations.

We do have one outline that we have disseminated, that's Mr. Collinson's. We will have for your viewing pleasure a couple of short videos. The videos are free, the concessions are extra. So we'll be interspersing the short videos as we go along.

And if I can just introduce the panel. On my extreme left there's Jim Collinson. And next to Mr. Collinson is Mr. Bertrand De Rocquigny. On his left is Robert Berrien. In the middle in the bright pink shirt is Rick Nychuk. To his left is Reg Friesen, and Karen Friesen is on the extreme left, she just got her degree in information technology and she will assist in this.

Perhaps, Ms. Johnson, you can do your thing.

Jim Collinson: Sworn

Bertrand De Rocquigny: Sworn

Robert Berrien: Sworn

Richard Nychuk: Sworn.

Reg Friesen: Sworn.

MR. MERONEK: I believe Mr. Friesen can speak on behalf of everybody. We'll start with Mr. Friesen.

Mr. Friesen, I understand that you are an aerial sprayer by profession?

MR. FRIESEN: Yes, I am.

MR. MERONEK: And a farmer/landowner in Southern Manitoba?

MR. FRIESEN: Yes.

MR. MERONEK: And you have been an aerial sprayer for how long?

MR. FRIESEN: I have been aerial spraying for 20 plus years.

MR. MERONEK: And I understand that you own and operate Prairie Sky Crop Solutions?

MR. FRIESEN: Yes.

MR. MERONEK: And how long has that company been in operation?

MR. FRIESEN: That company has been in operation for 20 plus years also.

MR. MERONEK: And how many airplanes does the company own?

MR. FRIESEN: Right now we're operating two aircraft. They would both be considered in the large category.

MR. MERONEK: And how many employees does Prairie Sky employ?

MR. FRIESEN: In winter, we employ five and in summer, we employ anywhere from 10 to 12, depending on what we're doing.

MR. MERONEK: And I know this is difficult to pin down, but on an annual basis, what kind of aerial spraying coverage would your company be involved in?

MR. FRIESEN: Because of mother nature, our acreage and coverage goes up and down but we would be 100,000 plus company. We're considered that.

MR. MERONEK: 100,000 plus acres?

MR. FRIESEN: Yes.

MR. MERONEK: And could you tell the Commission what your coverage area is?

MR. FRIESEN: We operate in a 25-mile circle around our location, which is 2 miles south of Niverville. That brings us about as far west as Brunkild, south, maybe St. Jean east to east of Steinbach, and on the north side of us to roughly around the Oakbank area, and those are approximations.

MR. MERONEK: And where is Bipole III expected to be in relationship to your business?

MR. FRIESEN: Right now, from what I can tell of where they are routing Bipole, it will be about three miles south of our location.

MR. MERONEK: But in terms of your business coverage area, where would Bipole III be located?

MR. FRIESEN: Dead centre, coming through from the west to the east right through

it.

MR. MERONEK: And in your estimation, how many farmers use or will use aerial spraying from time to time?

MR. FRIESEN: In my opinion, 100 percent of them along that entire route.

MR. MERONEK: And why is that, sir?

MR. FRIESEN: Because of the intensive farming operations that happen in that area, it is a very important tool in the tool box for the farmers to use. And whether they would consider using it every year would be to each individual farmer's discretion, but certainly would be needing aerial spraying at any given time.

MR. MERONEK: There's been some discussion about the provincial trunk highway 16 being the kind of Maginot line. What is your experience north of PTH 16 from an aerial spraying perspective?

MR. FRIESEN: I myself have not operated north of 16, but as far as aerial spraying goes, the largest operator in Manitoba and probably Western Canada is located north of the 16, which would indicate that there is plenty of farmland that is used up there. Another

operation that is north of the 16 is operating three aircraft about the size of my largest.

MR. MERONEK: In addition to aerial spraying, you have a ground spray equipment operation?

MR. FRIESEN: Yes, we do. We offer services in both air and ground. We operate a one year old, right now, Rogator 1194, it holds about 1,200 gallons. It has a boom width of about 120 feet.

And if you can display that ground sprayer for them, that would be great.

It is a different configuration of a machine like this, but it is a machine of that kind of type.

MR. MERONEK: Thank you. And do you provide the service, or at least does your company provide the services or do you rent the equipment out?

MR. FRIESEN: No, the sheer cost of this equipment, we don't rent it out. We provide the services with trained personnel. Farmers hire us on a per acre basis for either air or ground.

MR. MERONEK: And your company also has a seed operation?

MR. FRIESEN: Roughly about 10 years ago, we diversified into seed sales with canola, soybeans, corn, products like that. Since then, I would comfortably say that not gross, our gross numbers are different, but our net numbers, seed sales would provide more of an income to our company than aerial spraying, which is a complete shift of where we have been in the last 10 years.

MR. MERONEK: What do you attribute that to, sir?

MR. FRIESEN: I attribute that to the shift in agriculture that is happening as we go forward.

MR. MERONEK: Now, you also have farming operations, correct?

MR. FRIESEN: I do.

MR. MERONEK: How much acreage do you have?

MR. FRIESEN: We farm a thousand acres spreading from the border of Niverville on the south side to one mile north of St. Pierre. That's a stretch of approximately 13 miles where our land base is captured.

MR. MERONEK: And what kind of crops are grown?

MR. FRIESEN: On our farm, we have grown feed wheat, hard spring wheat, winter wheat barley, oats six row and two row, oats flax, peas, lentils, both yellow and brown, fava beans, canola. As far as row crops go, we have grown sunflowers, both oil and confectionary, sugar beets, navy beans, which are edible beans, corn and soybeans. Just to add a footnote to that, I don't find our farm any different than any other farm in that area. All farms have grown that type of cropping.

MR. MERONEK: There's been some discussion in the hearings about dominant crops from a compensation perspective. We'll get into that a little while later. But is there such a thing as a dominant crop these days in that area?

MR. FRIESEN: Dominant crops move. Canola certainly could have been called a dominant crop. Taking a look in our area right now, its numbers are going down substantially and they are giving it up to crops such as soybeans and corn, where soybeans 10 years ago weren't grown in Manitoba period, they were considered a mid U.S.A. crop.

MR. MERONEK: Can you explain rotation

of crops, what you mean by that and how prevalent is that in your operations?

MR. FRIESEN: Sorry, I didn't hear that?

MR. MERONEK: Can you explain to the panel what is meant by rotation of crops and how prevalent that is in your area?

MR. FRIESEN: Crop rotation has to happen. If a farmer picks the highest paying crop every year and grows that crop every year, he will eventually subject himself to disease, insect pressure, and possibly weed pressure, that will give him an inability to grow that crop properly. Those crops have to be rotated between cereals such as wheat, oats and barley, corn, and oil seeds such as sunflowers, soybeans, canola, things like that. Good agronomic practices have to include a decent rotation at some point.

MR. MERONEK: Now, there are several topics you are going to cover in your presentation, sir, and perhaps you can just commence?

MR. FRIESEN: Sure. I would like to start with what Hydro perceives as the affected area of a given field. Because of aerial

spraying, I believe that the affected area around that line is one mile on either side of that line. The argument can be made that you can turn and fly parallel with a line kind of thing, and you can get much, much closer than the mile that I'm talking about. What happens is that if that field is not seeded in a parallel direction with that line, it becomes increasingly difficult to use an airplane to do that job. The illustration of that that I'd like to refer to is that a quarter section, when you're taking a look at a section township map, is a half mile by a half mile typically.

It can also be, depending how the farmer has purchased that land, a quarter mile wide by one mile would also make that 160 in that section.

The problem with this is, is that at least 50 percent of these fields are going to be perpendicular to the line. When doing that, you cannot operate an airplane safely around those lines. You cannot pull up properly to clear a 150-foot tower. Now, there will be droop in that line, so the argument could be that you're only running into that problem with the tower, but

there, I believe, is also a guyed wire at the top of that line. And I don't think that you want to assume that it will have any more of a droop. Your highest point as a pilot, or anybody in aviation, is the point that you need to clear at any given time. Okay.

So when taking a look at the map that is up on the screen right now, I picked just a portion of a line that was to the east of me. That is where that line turns north/south. I'm not picking on that particular line, I can go to literally any way along this line in my trading area and come up exactly with the same scenario.

When taking a look, if you take a look at these fields over here, these fields outlined in red over here, they are going to be sprayed perpendicular to that line. The aircraft --

MR. MOTHERAL: Where is the line there? Oh, I see, okay.

MR. FRIESEN: The line is the green line right there. Okay. But anywhere along that line where you run into an 80-acre field, where plenty of the fields are cut up into 80-acre increments in that area, when moving at a T like that, you cannot fly at that line. And the field

is too narrow to operate the aircraft at 230 to 260 kilometres when in the opposite direction. What ends up happening is you dip into that field. There may be a tree route, there may be a hydro line, a rural hydro line, much smaller, where you are dipping in and out of that field, and you're going to cross that field at any given time at no more than probably five to seven seconds, and you're going to be pulling back out again. You're going to spend your whole you time in that field trying to do end rows, which you can't actually do because the hydro line is at one end, the Bipole line. The Bipole line and a regular hydro line are completely different on what I have to deal with as an aerial sprayer. One is acceptable, one we can work with, the other one we can't.

When going back, and I say a mile, now I take a field that is a half mile further back. The field that is a half mile further back, people will say, well, what is the issue with this? The issue with that is that when we pull that airplane up at the end of the field, we exhaust the airspeed. This is a safety issue of what we're doing, not a coverage issue on the field. And the safety issue is that we use up our airspeed. And

airspeed for aircraft is everything. It is everything. Without it, you cannot control the machine.

When we pull up at the end and we start into our turn, we are at the most delicate part of our safety zone. Should you have any type of a mechanical issue at any given point in that turn, the only option you have is to turn your wings level and point your nose down. If you are pointing your nose down, you've got one option with that line in front of you. And that is to try to push it hard enough to get under that line, because you don't have any more momentum to carry yourself over.

When pulling up at a field that is a half mile back, if you try to push your nose down and get under that line, you will not be able to because you cannot physically push the airplane down that hard, and recover it to get back under. Those lines, I don't know exactly, to be perfectly honest, how far they are going to be off the ground. But considering any other cropping, considering roads, considering vehicles driving down those roads, it doesn't matter, it can't be done safely.

This is why the impending part is a mile on either side of those lines for any fields that are seeded perpendicular to that line.

Now, the cost factor of doing that and compensating for that is huge, because we're not talking about an affected area around a tower that has nothing to do with it.

Now, the next issue is moving that line 42 metres, 37 metres, whatever they propose, on the inside of a border from that field. What that effectively does is it removes the ability of the airplane to work in between that border and the tower. That is now removing that entire area of a field that may be seeded parallel, that you may be able to work within 500 feet of the tower on the large part of the field side, but you are still leaving out everything from the tower to the border of that field. Okay. So this is another thing that Hydro has not considered when taking a look at what they are doing and how they are placing that line.

I don't believe that they have considered that they have completely removed the aerial spraying ability with that line safely within a one mile area on what I believe is no

less than 50 percent of the fields.

Now if that line, again, isn't put exactly on the border in between the properties, you have now removed the ability on the remaining 50 percent on anything from the line to the border.

Lots of the fields in our areas have got tree rows on them, lots of them. And I think it is unreasonable, again, between 230 and 260 kilometres an hour, to expect an airplane to dip in, in beside a tree row and a tower that is 154 feet tall, with its widest point being at the top of the tower is what I believe, I understand that that's the widest part of the tower anyway. That means that that is now over your head.

Again, from an aerial perspective, I don't think that that can work.

We have got a couple of short videos, two of them are of myself spraying, and one is something that I actually found on the Internet. And I guess we're going to show just maybe about a two minute blurb of that video. And that video is to illustrate that, yes, airplanes and pilots in those seats can do many different things, but I'm going to illustrate on that video the danger that

he is putting himself and the general public in by making the choices that he's doing.

Karen, if you can start with the video going over the barn and buildings?

Now, bear with me, because I'm going to get Karen over here to stop that picture every once in a while just so we can illustrate some things. Go ahead.

(Video shown)

This is myself and this is the smallest aircraft that I operate at the time, I'm not sure, I believe that's actually me in there. We just cleared that barn by about 15 feet.

Could you stop there, Karen?

If you take a look at that aircraft right now, the boom height of that aircraft -- and that is the boom. The boom is the mechanism that that spray is coming out of right now. That boom height is running roughly about 10 feet above that crop. That crop from two years ago, in my estimation, is probably somewhere between five and six feet tall.

THE CHAIRMAN: So you are about 15 to 20 feet off the ground?

MR. FRIESEN: The boom height is about

10 feet off the ground. My wheels will vary anywhere from probably between six and 10 feet off the ground.

MR. MOTHERAL: Off the top of the crop.

MR. FRIESEN: Off the top of the crop I'm sorry.

THE CHAIRMAN: So if it's a five foot crop, then it's about 15 feet off the ground?

MR. FRIESEN: If it is a five foot crop, my boom height would be 15 feet off the actual ground, 10 feet off the top of the crop that I am spraying, yes. The taller the crop, the higher I am actually off the ground. But to illustrate that right now, one thing I do want to point out, and that is a little bit unclear, but the tail of that airplane is sitting approximately two feet above the canopy right in front of it. The canopy is the cab that I am sitting in, okay. And I'm pointing that out because I want to illustrate that later of what we are doing.

You can continue on, Karen.

We get to the end of the field right here and we pull up, stop. That tree row right there is roughly about 30 feet. Okay. So what

I'm talking about dealing with a Bipole coming through, the Bipole would roughly be about five times the height of those trees right now, and that's how we are managing with those trees right now.

Can you go to the next video?

When coming back into the field, you see the plane coming down, it levels off, spray on. Stop. Again, take a look at the height of the tail. The tail is by far the highest part of that airplane.

Number two, if you watched how I came in, I had to get in and get the tail level, turn spray on and then continue. At the end of that field, I will put in end rows to cover the area that I have had to come in and level off. We're not spraying it whole, and to do this properly, the aircraft has to be level so all the air currents and everything else are a standard. As soon as you shift any angle of the airplane, you change the width and you change the application pattern you are going in. It's not about flying the airplane, it's about doing the job properly. Okay. The airplane, as long as it stays in the air, can do all kinds of wonderful things. But it

can't, it can't make a good job of application kind of thing if it is dealing with too many obstructions.

Continue on.

Again, you take a look at the boom height, you take a look at the wheel height, roughly it's staying about the same all the way through. We get to a building and trees on the far side. And if you take a look -- unfortunately, we missed that. But what I was doing that we were going to capture on that film is that plane exhausting its airspeed when it got up to roughly about 300 to 350 feet, which would be half of what we could actually count on with a Bipole line being there a half mile out. My typical turn, if we're having a good day with good environmental conditions, with a plane that is roughly half loaded, is a half mile. When we are in the heat of a day with a plane that isn't working in the best environmental conditions that it can fly in, we are turning anywhere from three-quarters to one mile is the area that we need. Again, when we get into that turn, that becomes our most dangerous area to go with.

One last video to illustrate this, and

you're going to have to really work with me on this one a little bit, but I'm going to show you Hydro lines that this aircraft are actually flying under.

Stop. Well, we missed that. There was a taller version of a rural line right there that that aircraft is going over. And if you notice, he is spraying this field again, as it has been seeded. As it has been seeded, he has to deal with hydro lines kind of thing, one at the very end of this field that we will get to. And he has chosen to do that because he is spraying up the seeding row. We can do a much more effective job. If you take a look at this bar right here, this is our GPS bar. This is what gives us the guidance down the field. Should we fixate on that bar as we are flying, it becomes incredibly dangerous. The technique that all pilots use in this is, is that that gives them the line down the field. And then we start looking out there. And that's how we keep our aircraft straight. And we keep that light bar in our bottom vision. When that light bar is in our bottom vision, we can see that, we call it the ball, but it is a light that is moving back and forth and we want to keep that

centred. But it's always in the bottom of our vision. Once we have lined up and we follow that seeding pass, typically we are on a straight and a true course.

If you turn and go the other way, it can be done, it takes longer. You have to be much more careful. But there is a big safety problem with this because you have to make sure that your pilots are trained that they do not fixate on that light bar six feet out of the cabin, trying to chase that light back and forth because they have no reference point to actually keep them straight. This is another issue about the one mile.

Continue, please.

That was a half mile.

Stop please.

If you take a look at these Hydro lines over here, they are much bigger than a normal rural line. If we would advance, Karen, if you can advance just a little bit. Stop. They just went out.

What I was trying to illustrate is, can any of you show me the hydro lines in this picture? They are there. And when we go further into this, how I know that they are there is

because the insulators on those poles are taut, holding a wire, they are hanging there. If you take a look at the windshield, and this camera is mounted inside the cockpit. This windshield is clean, very clean kind of thing. The time of day is what is hiding that wire right now.

The reason I bring this up is because at one point dealing with a consultant with hydro kind of thing, he did ask the question, why can't you just fly under the lines, they are going to be pretty high? Does Hydro really want aerial operators flying under this line, between 230 and 260 kilometres, without a visual reference? Do they want to leave that up to the pilot for their safety?

As we go on, you can see when he goes under that line and pulls up, there's also a road right under him where he's doing that where traffic could be coming from either direction.

I picked this video, again, to show how bad decisions could make a really, really big issue kind of thing as we go forward. The footprint of this line will cause some of these issues to happen.

Continue, please.

Now, as we go, just the reference of this, you can see he's put that plane pretty much on his side. And as he turns around, he's going to put that plane again pretty much on its side. And the only thing that I'm doing to reference this, right here, do you see that hydro line? He didn't get low enough and he couldn't get under, he had to go around and do it again. I'm watching this airplane. And this airplane, it's very clear, is working at 25 percent of its operative capacity right now. He's working with an awful lot of power right now. So this is the best case scenario that you're going to get. When he comes back fully loaded, trust me when I tell you, he will not turn and he will not be maneuverable the way he is right now.

We can move on from here. Actually, stop.

Do you see those Hydro wires? Again, I don't know how big of a pole that is, but you can see there is three insulators going up there. That is a very tall line. You see that farmer Joe and farmer Henry are parked on the road right here right now watching what's going on. You'll also see that they are parked right at an intersection

where another car can go across. Tell me again where the Hydro line is?

This pilot is now assuming that between the droop of the insulator of both poles, he needs to stay down far enough. He's not seeing them either. He is taking a side reference of that insulator to see where he is at. This is a very dangerous situation. This is a very dangerous situation kind of thing. And again, it's not what the airplane can do, it's what it should be doing, safely.

Continue.

Again, there is the intersection. We are still spraying up the row. The only reason I keep on going back to this is I'm trying to explain. There he jumps a rural line on a half mile mark, there goes a car, and there he pulls over another rural line. Anywhere along there, think about putting in a 154-foot tower with another line within a mile, and let him deal with that. He won't turn the way he is turning now to do it.

So we're going to stop here. I think that you get the idea of the speed that we're dealing with. I think that you get an idea --

actually continue on. Under that line and over again, nobody seen it. But I think that you guys get an idea of the visual and how fast things are happening in that cockpit. Okay. So that is what I was trying to illustrate with these videos.

Could you bring up that dimensional picture that I've got?

When I kept on talking about how tall that tail was, if you take a look, this is a dimensional drawing of an 802A, Air Tractor, and this is one of the most popular manufacturers of airplanes nowadays. If you're looking at that tail height, it's 11 feet. If you are looking at that prop height, it is 13 feet. When you change that aircraft into a flying configuration, it does not sit like this, it sits like this, okay.

So when you go back and take a look at what I handed in for you guys to read, when I go to the reference of the height of the crop, the height of the tail and the clearance that we need to safely get under that line, I believe I came to around 42 feet. That field that that gentleman was spraying, that crop was no more than probably a foot and a half to two feet off the ground; corn, 10 to 12; canola, six. Pick your crop. You

know, that is all I'm really going to with something like that.

I wasted a lot of time on that, I apologize.

I'd like to talk to you about the legal ramifications of what we are doing on this now. Every product that we spray, whether it's ground or air, whether you're a custom operator, a retailer like myself, or whether you're a farmer like either of these two gentlemen on the panel with me, you have to abide by the label of that product. That label has been set out by the PMRA, Pesticide Management Regulatory Agency of Canada. It will state in there the rate, the amount of product that you can put on the field. It will state on there the amount of times that you can put it on and for what pest.

If you can move on to the next screen.

Every label will look on the front like that previous slide. This is an example of canola that I used, do not apply more than once per season, do not apply within 21 days of harvest. Application is permitted by ground application equipment, aircraft where specified.

The reason why this is so important is

food safety. I was on the CAAA Board, Canadian Aerial Applicators Board, going back probably four or five years. And we would meet in Ottawa every year with the PMRA. And we would bring up label issues of different products. This product, they tried to take off of the market. They didn't like the ferrophos (ph) kind of thing, which is its main ingredient. We fought to keep this product on because this product is an essential product for pest management in Western Canada. But to use this product properly, you cannot overapply it, just like any other pesticide, just like any other herbicide, and just like any other fungicide. It's no different than taking a handful of Tylenol to the two to three that the label actually says. If you take too much, it's not good for you. When we're dealing with food safety, we have to abide legally by these labels. We cannot spray within a given period of that hydro line.

When we have a pest outbreak, we will have to cut off probably about 500 feet from that line. If that line is inset, again, by the 42 or 37 metres, whatever they are proposing, you will not be able to spray in between the border of the field and that line, period, by air.

The problem with this is that your pests stay in that area. This field is now controlled, this strip is not. As soon as that day ends, all the pests in this area decide to jump over the line, and they go into the area of the field that has been treated kind of thing and they continue their destruction of the crop. I cannot come back with this product again to control that area. I now have to move to another product such as Desist. I'm not picking on these products, but this is what I will do in this sideways. I can spray that once. After that, I'm out of options. I have no more options, I've got nothing left.

And legally, those pests are sent back and they are just taken care of, or doing their business and destroying the crop as they move in.

An argument can be made, since I own ground equipment, that we put our ground equipment in to fix this problem under the lines. I don't think that it's reasonable to think that I'm going to send out a half million dollar sprayer with two people, a tandem water truck and/or a semi water truck, to a given location to spray anywhere from three to 13 acres, considering that I'm going to

make anywhere from 18 to $60. That's not going to happen.

Number 2, if the area is wet, the ground equipment can't go in.

Number 3, this is the big one, it can't tell where the airplane stopped. It can tell where the damage has ended, but it can't tell where the airplane has stopped. If that hi-boy then puts its wing -- sorry, its boom, can you go to the hi-boy picture? Puts his wing over into the area that the airplane has already treated, you are now double treating that area. Should that product get tested and should the main ingredient of let's say lorsban be detected, that whole thing is going to be banned from the food chain. They will come find who has done this problem and they will take any necessary measures against that company. You cannot do that, period, end of statement. You never ever, ever mess with food safety, never.

So that is our issues with the PMRA and the PMRA labels.

When dealing with herbicides, you're going to deal with exactly the same issue. When dealing with fungicides, you're going to deal with

exactly the same issue kind of thing. Everybody wants to know that when they are eating food, that it is grown and marketed responsibly. It is our job as farmers and ag retails to make sure that we can maintain that, because it is important for us to know that the people buying food out of Western Canada can trust it. These issues can happen.

We've got huge safety issues kind of thing, I think that I have pointed that out quite a bit with what we did on the fields that we can spray and the fields that we can't kind of thing. But to reiterate some of those points is that a pilot can choose to do many different things. I'd like to refer to my pilots as applicators, not actually pilots, because the job that they are supposed to be doing is they are supposed to be taking care of that crop, and they are supposed to be doing it in a responsible, safe manner, first for the public, as equal for themselves, and as equal for the food chain that we are putting that product into.

When dealing with all those issues, you have got the safety of what I was showing in that one video, where that aircraft is flying under lines that it can see, it's flying under

lines and over roads that are intersecting at the same area. You're watching them go in, you're watching them jump hydro lines. At what point of any of this would that farmer, farmer Joe or farmer Henry at the end of the field take a look? He's probably watching a really good air show and thinks that this guy is just fantastic. But this guy is actually not applying the product properly. He's endangering the community around him and he's endangering himself. He's using a huge liability factor of what he is doing with that power company kind of thing. None of it is being done responsibly, yet it's still being done.

This is a point that I want to reiterate is that you can do it but you can't do it safely, you can't do it properly, and you can't do it with respect to food safety.

These are all issues that I don't think Hydro has addressed. I don't think that they have looked into what they are doing and what any of these issues can actually cost. Because the most that you seem to hear about Hydro is the concern about a 10-foot area around their tower, because that's what they profess that they believe that they are affecting in agriculture. And quite

clearly, I am trying to show that that isn't happening.

The costs, the costs of all this. With our panel and everything, we have tried hard to come up with an actual cost of how to evaluate something like this. As you take a look, when I went through my intro, I went through I don't know how many different crops that we are actually growing. Any of these crops, most of these crops with the exception of a couple of them, you can go onto ICE Futures, which is right here in Winnipeg or you can go onto the Chicago Board of Trade, and you can look up their value on any given day. Some of these crops right now are at their record level, some of them aren't. But the point of what I'm talking about is that if these fields that are affected, any given one of them, they have to be addressed separately. They have to be addressed to the product that's in that field, and they have to be addressed to the value of what that crop is today. It's completely unreasonable to think that you are going to get a one-time payment, which quite honestly doesn't even come close to covering what the damages are in any given year, and think that that is what is acceptable for the next 50,

arguably 100 years. How long is this line going to be there? And I would venture a guess as to say that my children will probably pass away with that line still in their vision, still being used in one shape or another.

I have to reiterate that the cost of what Hydro thinks, I can hardly, hardly believe that with their professionals and with their due diligence, would believe that this is what their footprint on agriculture in our area is going to be. If they actually believe that, that is very sad. They cannot accept that the idea is 10 feet around any given tower, it's completely unreasonable. When you're taking a look at farm equipment passing under that line over and over and over, how can you actually believe that?

When you're taking a look at the liability factor of what is going on, from what I understand is Hydro is not expecting to keep 100 percent of the liability of this line. Why not? If this line is put in a safe and proper place, what is the issue with taking the liability off that line? There are going to be very large equipment going back and forth. That airplane that I told you that I was probably sitting in was

my smaller one of the two. It's a 600-horsepower, 400-gallon airplane. That's my small one. When I started this business, I started with 235-horsepower airplane that on a good day can carry 130 gallons. That's where we were. Farmers such as these gentlemen beside me were seeding with equipment that was anywhere from 20, maybe 30 feet wide. It would take them a month and a half to seed. That might be a bit of a stretch, maybe a month to a month and a week.

When taking a look at my large aircraft, only once in a given fungicide season has it covered more acres than my very first airplane ever did. And the difference is that now, with the large equipment that farms have got, they seed their entire farm in seven to 10 days. The spraying requirements that they demand from a company such as ours is to cover those same crops within seven to 10 days.

We have brought aircraft in now, if you go back to my report, my next airplane is going to be a minimum of $900,000 when it comes in. My very first airplane, I believe I paid $28,000 for it. That airplane operated for $4 to $4.50 an acre. This last airplane I'm bringing in

will operate for $8. Do the math kind of thing. We have to be efficient in agriculture nowadays. This is what all these sizes of equipment have done.

When going back and taking a look at the border to the towers that are going through, when we go back and take a look at that high clearance sprayer that I have put up on the picture here several times, that boom is too wide to go in between the tower and the borders today. That's the equipment that we're working with today, not 10 years from now, not 20 years from now, not 50 years from now.

How can Hydro say that they are doing their due diligence in agriculture? It's, in my opinion, quite ridiculous. The liability factor, the cost to the farmer kind of thing, we have brought these costs onto my report. I'd be happy to answer any questions of how we got there. But the damages that we believe could be there on any given year are huge, huge. We're talking 28 to $30 million a year. And that's considering that only half the fields are affected by this mile wide problem. Not all the fields, just half of them.

I hope that you guys will consider the facts that I have brought to the table today. I hope that I have made a bit more of an understanding of the problems facing aerial application. I hope that you guys understand that the problem with the farm equipment nowadays is not something of future, the problem already exists. We're too wide for this problem already. How could any of this slip through Hydro? How could Hydro believe that their footprint on agriculture, their irreversible footprint is going to be as minor as they actually are projecting? There's just no way.

Thank you for your time. I appreciate being able to present to the board here today.

MR. MERONEK: Thank you, Mr. Friesen. Turning over to you Mr. Nychuk, and I ask you, again, if you would get close to the mic, please?

Now, I understand from your bio, Mr. Nychuk, that you are a second generation farming family?

MR. NYCHUK: Yes, I am. We farm the land that my mother-in-law and father-in-law started on, and my partner and I now farm it, farm part of it and we bought some of our own.

MR. MERONEK: And do you have expectations with respect to your children in terms of farming?

MR. NYCHUK: Yeah. I think every farmer would love to see their children carry on the tradition of farming.

MR. MERONEK: Where is your farm located, sir?

MR. NYCHUK: Well, we farm in the RM of Morris and McDonald. We live right near the 330 highway south of Osborne.

MR. MERONEK: And how big is your farm?

MR. NYCHUK: We farm 2,200 acres approximately, just my partner and myself, but our family has a lot more acres.

MR. MERONEK: And where is your farm and your family's farm in relationship to the proposed Bipole III?

MR. NYCHUK: Our yard site is a mile and a half away, but the line will traverse through eight quarters of our family farm.

MR. MERONEK: Now, sir, what types of crops does your family farm grow?

MR. NYCHUK: We grow different types

of barley, oats, soybeans, wheat, canola, we used to grow sunflowers. We are looking at corn, looking at other aspects because of gross revenue and profitabilities.

MR. MERONEK: And can you give an estimate as to the capital cost of equipment that you own and operate for your family farm?

MR. NYCHUK: Each farm's different to that aspect. But, you know, probably a general number you could use would be four to $500 per acre for equipment cost.

MR. MERONEK: I'm talking about the cost of the equipment itself, how much equipment do you own in terms of dollars?

MR. NYCHUK: Well, if you look at our farm, you know, a million dollars worth, somewhere in that range, or a little less. Depends who is buying it that day.

MR. MERONEK: Now, could you describe in your area what is changed in the last say five years in terms of productivity and what's going on agriculturally speaking in the Red River Valley?

MR. NYCHUK: In our area, crops have changed immensely, the different types of crops. Years ago canola was king and now canola, the

shift out of canola just because of what it costs to grow, our input costs have risen. So we have shifted to soybeans, and corn is also coming because of the gross revenue and the net profitability.

On that chart there, we farm in risk area number 12 for crop insurance. That appendix C there shows the shift of acres. I got this from my crop insurance in Sanford, but risk area 12 goes from Altona to Stonewall, in an area like that. There's 16 regions in Manitoba for Manitoba Crop Insurance. But I got our local office to do an RM McDonald, of the shift in acres from 2001 of just over 1,000 acres to 4,000 of soybeans. Next year, they will be considerably more, because the yield factor, using my numbers growing soybeans, the yield was as good or better than canola, and the increased profitability is looking good with a price of beans anywhere from $13 to $16, depends when you sold them. And also with -- excuse me, that was corn, but also with the beans here, how much it went up.

So we're at 43,000 acres of soybeans right now. Those crops are row crop-able. I didn't ask for sunflowers, but the shift in

agriculture as done just in our area in the last five years.

MR. MERONEK: Okay.

MR. NYCHUK: Just as you take a look at this chart, this is a corn chart, but if you had a bean chart up there -- this is a bar chart, that's a 25 year chart. And from 2008, you can see the numbers going up. Those are what we drive by, those are what we look at when we are going to seed in the spring, at the numbers and where we think they are going.

THE CHAIRMAN: Mr. Meronek, can I interrupt? On this, the soybeans, it goes up and then it drops, it goes up and then it drops, and then the last three years have been pretty steady. Is this just crop rotation, or is it people experimenting and then finally getting into it?

MR. NYCHUK: No, look at that. There's your three years right there. It's driven by price, and also input cost. Canola will cost you 200 some dollars to grow, give and take. Beans will cost you pretty close to about the $100 gross to grow.

THE CHAIRMAN: Thanks.

MR. MERONEK: Now, just switching

gears for a moment. In your family farm, you have had experience with hydro lines before, correct?

MR. NYCHUK: Yes, we do. We have an HVAC line that goes through our property right near where I farm.

MR. MERONEK: And when was that constructed?

MR. NYCHUK: The original agreement was in 1968.

MR. MERONEK: And you became owner of the property when?

MR. NYCHUK: I do not own the property, my mother-in-law owns the property. We rent it from my mother-in-law. My mother-in-law and father-in-law bought the property in 1978.

MR. MERONEK: Okay. And what have you noticed from an agricultural operational perspective in terms of having a transmission line on your family property?

MR. NYCHUK: Number 1 is stress, because you worry about when you send out your children, or in my case too also hired labour, about hitting the poles. Number 2, you do have a tremendous yield loss around the poles, just because of overloading of fertilizer, chemicals

and compaction. As you can see around these poles here, the black soil, and this is an oat field this year that I took a picture of, the compaction. And this is only about, I think these poles are maybe 30 inches wide or whatever. But it just doesn't impact 30 inches, it impacts a whole distance around these poles. As you can see, the compaction, basically no yield at all, but the costs are still there year in, year out.

MR. MERONEK: There is also, as I understand it, Hydro put in a fibre optic line?

MR. NYCHUK: Yeah, in 2005 they wanted permission to go on our land. We didn't want them to go on because it was a wet fall. But because the gentleman that owned the property before signed the agreement for $60 a pole in 1968, they had rights to that easement.

MR. MERONEK: What were the results of construction in the fall?

MR. NYCHUK: Because it was wet and they had to bring a Caterpillar on, we had tracks in the field for quite a few years later, and they just plowed in a line. And so our soil is -- like I farmed in two different spots, I still own land in the RM of Birtle, it's a sandy clay soil versus

Osborne clay, and some Red River clay. We don't even drive on that land before we seed, we don't even put our pickup on it. And when they come in with heavy machines like that, they leave a heavy imprint and compact the soil, and it's very hard to get it back to a very good state before we seed that.

MR. MERONEK: Over what period of time are we talking?

MR. NYCHUK: I still can see the tracks now, if you look hard enough they are still there. It's hard to tell yield reduction, because it's an area that I don't go down that way, I go east/west on that field when I'm combining.

MR. MERONEK: Now, in your report, sir, you were talking about double costs. And I'm referring to page 2 of your report, the double costs associated with having to work the land by virtue of a transmission line impediment. You indicated that you might be operating in or around a transmission line 10 times per year. Is that correct?

MR. NYCHUK: Yeah, we do, yeah, we do a lot of passes. Like I can just go through a couple. In the spring you'll seed, do a pre-seed

burn-off possibly, herbicides, fungicides, could be a couple shots of fungicides, it could be a couple shots of herbicides, especially when you're going with soybeans, guarantee you'll spray twice, row crops, twice to three times. Then you will swath, combine, heavy harrow to spread the straw out, detail, and then heavy harrow again, and that will be over a season.

MR. MERONEK: Were you talking about double costs just in total, or is that double costs each time that you have to work in and around the poles?

MR. NYCHUK: Going around the air seeders is cost double. I'll just point this out. I'm also a heavy duty mechanic. In this tractor, this is my rig, there is a radar gun that gives me the true ground speed that's interfaced inside my tractor and a whole bunch of monitors in here. In here there's a valve that runs my anhydrous or NH3, which is in this tank that's pressured with a one and a half inch pressure line. In this tire here, this gives me the true ground speed for this rig. Your speedometer on your tractor is really irrelevant. It will say it's doing six miles an hour because it's spinning like crazy or whatever.

It can spin from a 3 percent slippage up to, I have seen it up to 17 if you can believe it, but desperate times. And there's four distributors along the front end here for my anhydrous, that's got 12 runs. This is a 10 inch space, 48-inch ranked machine with pressed wheels on it. And this machine is absolutely accurate. Once I calibrate it in the spring, I'm within a pound per acre at 100 pounds. So I'm out 1 percent when I'm seeding wheat. And same with the tank, it is absolutely accurate. So when you go around though, it cannot shut off. If you pivot here, or other side, I can't shut this thing down. I can't tell this side to shoot out 2 pounds and this out 100 pounds. So when I'm going around these poles, I'm putting out way more fertilizer, way more seed, way more phosphate. And the wider the machine is, whether it's herbicides, pesticides, fungicides, it does the same thing, and hence, you get that dead soil around those poles.

MR. MERONEK: On that screen you've got the heading Environmental Issues. What environmental issues are there associated with what you just talked about?

MR. NYCHUK: Well, we have a

tremendous amount of product going out in a very small space. Also, our land is very prone to flooding. A lot of guys will put their fertilizer on in the fall. We made a conscious effort to not put on the fall no more because we live in a flood zone. We flood year after -- we basically have overland flooding every spring to some extent. And we put it on in the spring because we have less losses and it doesn't leach into the riverways and stuff like that.

MR. MERONEK: What is your concern if you have a transmission line on your property as it relates to leaching?

MR. NYCHUK: Well, the government wants us to be very accurate on a pounds per acre basis, and we can be. But going around poles, the wider the machine, the more inaccurate and more because -- put that Hydro pole back on, could you do that for me?

Like if you're going by this thing, this pole or structure, it's going to probably be this wide, 28 feet, and you come here with a machine this way, with your GPS, it's going to come here this way, this pass, then you come back, somewhere you're going to have to go around this

pole, come like this, come back on your GPS line, then you'll come back, straighten out, so you're going to double pass here. Then you're going to have to lift up, you are going to have to come back this way, this way, turn around this way and this way. And you're going to be putting on product all the time. I cannot shut pieces of it off of my drill or my sprayer. So it keeps getting way more product on it, whether it's nitrogen, phosphate, herbicides, fungicides, it just gets all the time way too much, like double or triple sometime. So you just look at that compaction level of that and of the machine just going around these poles, or these structures.

MR. MERONEK: What are the implications to you of overapplication from a regulatory perspective?

MR. NYCHUK: Well, I did my environmental plan, and what it does is that it leaches the groundwater. That's where we farm, it's already seeded but we have -- we're used to some water once in a while. And the water, if you have poles in that, poles or a Bipole going through here, this would be the middle of a thing, middle of a section, it's going to go into the

riverways. There's nothing we can do about it. And to manage those poles, we have to go out there, because I can't get close to the poles. I have to go out there manually and spray also the weeds so the weeds don't go from the edge of the poles and blow into my field. Because I have not only the issue around the pole, then I have a bigger issue of the weeds going all over also.

MR. MERONEK: But from a regulatory perspective, are you at risk to the regulator with respect to overapplication?

MR. NYCHUK: Not right at the moment, but they have talked about us staying away from waterways. And I know in manure management plan, definitely. I used to be a feed salesman and also ran a feed mill. But for us as a farmer, they are talking about keeping away from waterways and they want accuracy. They want accuracy because it does land up in the waterways, there's nothing we can do about it.

MR. MERONEK: Thank you. Now, you have heard Mr. Friesen with respect to his concerns about aerial spraying. Do you employ or contract with an aerial sprayer?

MR. NYCHUK: Yes, we do.

MR. MERONEK: How important is aerial spraying to your operation?

MR. NYCHUK: Very important. If we have a bug outbreak, I spray for wheat midge, Bertha armyworms, fungicides, I have done it all. Each year brings different problems to the farm community. And we spray for fungicides, whether it's in canola or sunflowers or cereal, just for -- just to get a higher yield and a lot more higher valued crops, because we don't want dockage and small seeds. And like I say in a cereal crop, like it gets downgraded quite a bit.

MR. MERONEK: What are the implications to you, as a farmer, if aerial spraying is reduced or it's totally eliminated from the equation?

MR. NYCHUK: Well, on a quarter, if I can just use a quarter section, it can be -- like if you have a crop that's like 40 bushels, you know, at $14, it will cost you approximately --

MR. MERONEK: You're looking at page 5?

MR. NYCHUK: Like at gross value that crop will be about $90,000. If you use 40 bushels an acre at 160 times $14, we will just use canola

as an example, just say if there is a 25 percent loss, it would be a $22,000 loss if I couldn't do an aerial spraying of just fungicides to that crop. And that is being pretty generous on that. It can be a lot bigger loss. And when we spray fungicides, usually it's because of water and heat and moisture.

MR. MERONEK: And what is the prevalence of water, heat and moisture in the Red River Valley where you farm?

MR. NYCHUK: Very high. We always have wet, we have high humidity, and that's usually why we have fungicide, our fungus pressure -- here is a picture of, this is where I live, this is looking out my picture window. This line right here is a field that was aerial sprayed, this is sunflowers. And the aerial applicator had to quit because the night before, because of water, it was going to rain. And you can see the definite lines that he came back and took a picture of it. And this is where the proposed Bipole will be going, right here, on this half section right here, right through here. So there is a definite payback using fungicides.

MR. MERONEK: Okay. First of all,

does your area -- is it exposed to infestation of insects and disease on a regular basis?

MR. NYCHUK: Yes, it is.

MR. MERONEK: And what are the implications if you have a wet year and you can't aerial spray?

MR. NYCHUK: It can be devastating, because we need to protect our crops, we need to protect our input costs, we need to protect our livelihood. This is a tool in my tool box, and all my neighbours and all the farmers in the valley that we use. It's a great tool that we can have use of when we need to use it.

MR. MERONEK: There was a suggestion in this hearing that in terms of advancement of technology in dealing with wet land, that someone invent a ground sprayer with thin tires. Can you comment on that?

MR. NYCHUK: Yeah. There's thin tires, you just had the picture right there. But you cannot -- we have sprayed with water in field all the time, and thin tires, we don't go thin, we go wide. And wide you don't want because you're going to tramp -- also there's a huge cost to your machinery. Once you put a rig on like that with

1,200 gallons of water and you tramp it through your field, you make an impression in the field. And when you have to go do your other, like swathing and combining, you just break your machinery. Also, if that's a soybean field and you made those impressions, we use a header called a flex head that runs right on the ground. So you're going to pick that mud up and it's going in through your tank and it does damage to your machinery, and also the dirt is dockage. You're hauling dirt to the elevators. So that's why we use an aerial applicator.

MR. MERONEK: You mention in your report issues associated with crop insurance and government programs. Could you just briefly indicate what the implications are if there's a deterioration in your crops due to the presence of a transmission line?

MR. NYCHUK: Crop insurance is a ten-year running average. So the bottom year drops off and you add another year. So it's called the LTA, long-term average. So if you have a couple bad crops, that average goes down. I can use for just a quick, because it always sticks in my head, the flood of 1997. We seeded very late

that year because of the flood, of course, but we took an absolute zero on that crop insurance, and that we paid for, for years down the road. It's just like going to school. If you have a couple lousy marks, your average goes down. And that's exactly what happens with your crop insurance. And also your gross revenue and your net that you have, there's AgraStability and AgraInvest, works on those numbers, so they all intertwine. So as a farmer, we want to produce the most and have the highest yielding crops to keep those programs up. Because when you do have a disaster, and which we have had, in 2005 we didn't seed at all that year, those programs help you to stay in business for the next year.

MR. MERONEK: And what about the government programs you referenced in your report?

MR. NYCHUK: Well, that was the case in AgraStability, our two government programs that ran.

MR. MERONEK: Okay. There has been a debate, I suppose, the suggestion to the extent that there's compensation being offered by Manitoba Hydro is to have a one-time lump sum payment. Can you comment on your views on that?

MR. NYCHUK: For a farmer, we would like -- like we would never settle for a one lump sum payment. Just like in 1968, $60 for those structures was a one lump time payment. 1968, Neil Armstrong didn't walk on the moon, okay. Agriculture has moved so fast, so quick, the cost of doing business changes every day, and we would never go for a one-term payment.

MR. MERONEK: Do you want to throw up on the screen, it shows a collision with a tower. Can you speak about the liability issues associated with the kinds of equipment you operate around a structure such as a Bipole III transmission line?

MR. NYCHUK: This is an air drill, I'm guessing about 50 feet wide, just by looking at it, maybe 40. We have harrows that are 80 to 110, sprayers that are 120. When you are heavy harrowing a field, you are doing 12-miles an hour. This gentleman, when he hit this, was only doing probably five or six with a drill. So we are going fast, and we do things at night, and those impediments just make our farm way less efficient.

MR. MERONEK: Does GPS not assist you in terms of operating at night vis-a-vis

navigating around a transmission line?

MR. NYCHUK: No, that would not help me there. Would I set up an AB line or I'd use the axis of the earth, like zero degrees, or 90, or whatever way I wanted to do. It wouldn't pick out that structure until you came to it and hit a button, but by that time you'd knock it down.

MR. MERONEK: Certainly Manitoba Hydro is intending to, has a compensation program that is in place and it's somewhat flexible. If Manitoba Hydro was to come to you and address all these concerns financially, would you still be opposed to the imposition of a hydro line on your property?

MR. NYCHUK: I would be opposed because it can't address the issues. The issues cannot be addressed because the future and the past is spoken, the past is how we went through these poles, and the difference of where the agriculture has moved, I'll just use the last five years, but the last 40 years from most poles being on that land, and where is agriculture going in five, 10 years, no one can tell me that. And once they are there, Hydro is not going to come and take them down. And that is the reason why

farmers, we do not want those poles.

MR. MERONEK: When you say we do not want those poles, are you able to express what your neighbours, what their views are? Are they sharing the views that you are with respect to --

MR. NYCHUK: Unequivocably, yes, I know that my neighbours do not want those poles.

MR. MERONEK: Would you sign an easement agreement?

MR. NYCHUK: Never.

MR. MERONEK: Okay. Thank you, Mr. Nychuk.

I'm at your pleasure, Mr. Chair. If it's an appropriate time for a break, or we can go on to the next?

THE CHAIRMAN: I'm just writing a note there.

I think it's an appropriate time for a break, so we'll break for 15 minutes, come back at 20 to. Thank you, Mr. Nychuk.

(Proceedings recessed at 10:25 a.m. and reconvened at 10:43 a.m.)

MR. MERONEK: I'd like to move onto Mr. De Rocquigny.

Mr. De Rocquigny, you are a farmer by

profession?

MR. DE ROCQUIGNY: Yes, I am.

MR. MERONEK: And I understand that your family is a family of fourth generation farmers?

MR. DE ROCQUIGNY: Actually, me and my brothers are the fourth generation farmers.

MR. MERONEK: And how long has farming been in your family?

MR. DE ROCQUIGNY: Well, it started with my great grandfather when he came from overseas in 1908 and bought the property in 1911.

MR. MERONEK: The property that you presently farm?

MR. DE ROCQUIGNY: Yes, sir.

MR. MERONEK: And what are the expectations of carrying on through other generations?

MR. DE ROCQUIGNY: Well, as I am speaking right now, my 17 year old son is actually doing my chores, so with great interest, and my brothers are actually here making, having our nephews doing their chores also, so a lot of interest. So the farm is to move ahead on a fifth generation.

MR. MERONEK: And part of your farming activities are in growing crops?

MR. DE ROCQUIGNY: Yes.

MR. MERONEK: Row crops?

MR. DE ROCQUIGNY: Row crops, oil seeds, cereals and forage.

MR. MERONEK: And you and your family also are in the livestock business?

MR. DE ROCQUIGNY: Yes, my brothers run 128,000 -- no excuse me, 120 cow dairy operation, and I run the 280 cow calf beef operation.

MR. MERONEK: Can you tell the Commission where your property is located -- up on the screen there, I take it?

MR. DE ROCQUIGNY: This is number 2 highway south of Portage la Prairie. This is the Town of St. Claude. And you go 2 miles south St. Claude, and this area here, that's my feed lot operation. And this is my operation and this is my brother's operation.

MR. MERONEK: Okay. And where is your family farming operations in relationship to the proposed Bipole III?

MR. DE ROCQUIGNY: Well, the Bipole

III is going to be running from the north just a half a mile west of 305, going south on number 2 highway. And in this corner, this is where it's going to be turning, 90 degrees east going through this quarter section on both sides, this quarter section of ours, this quarter section of ours, this quarter section of ours, this quarter section of ours, this quarter section of ours, and then this quarter section, making it eight quarters.

MR. MERONEK: Eight quarter sections?

MR. DE ROCQUIGNY: Eight quarter sections.

MR. MERONEK: And where in the quarter sections do you anticipate the Bipole III line to be located?

MR. DE ROCQUIGNY: Well, in the first preferred routes, they are putting the line right on the municipal line between -- half of this section, at the half mile. And at the half mile it wasn't a problem. But the last preferred route, they had moved in the line 42 metres. At first I thought it was one-eighth of a mile, 660 feet, but when Evolve came around and we saw charts, they were showing 42 metres inside our property, could almost make it mid field.

MR. MERONEK: Now, in terms of the equipment that your family owns and operates, can you give us an estimate as to how much that would be worth?

MR. DE ROCQUIGNY: Equipment and business wise, like both dairy operation, beef operation, it would be a multi million dollar investment.

MR. MERONEK: Now, you're here today primarily to speak about the issue of liquid manure application; correct?

MR. DE ROCQUIGNY: Yes.

MR. MERONEK: Now, can you just describe what the government requirements are with respect to the use of liquid manure applications?

MR. DE ROCQUIGNY: Well, for liquid manure application, Water Stewardship preferred that you had manure management in place, especially moose and hog operations and dairy operations use injection in the soil. And before you inject manure in the soil, you have to have an analysis of the fertilizer content of your manure and soil samples to put the proper amount of gallons per acre, to be environmentally friendly. So that way you're not overexceeding amounts in

the ground. So that's their expectations.

MR. MERONEK: And what if a farmer overapplies liquid manure above what the management plan is, what are the implications of that?

MR. DE ROCQUIGNY: Well, there would be severe consequences, there could be fines for overapplications of what's on your guideline.

MR. MERONEK: So I take it you would submit a liquid manure management plan to the government?

MR. DE ROCQUIGNY: Yes.

MR. MERONEK: That gets approved?

MR. DE ROCQUIGNY: It has to be approved, yes.

MR. MERONEK: Okay. Now, on the screen, there was a picture of a tank, if you could go back to that? It's entitled Manure Storage Tank?

MR. DE ROCQUIGNY: Well, this is a manure storage tank.

MR. MERONEK: Is that your family's?

MR. DE ROCQUIGNY: That's the dairy farm operation's tank. It's 20 feet high, or six metres by 42 metres, which is 141 feet, and it has

a capacity of 1.6 million gallons. So it was in place for 400 day storage capacity, which is all part of manure management.

MR. MERONEK: Okay. And what would one of those tanks cost?

MR. DE ROCQUIGNY: Well, I did an offhand, and I asked my brothers and their cost, in 2005 was $268,000. So today's prices, I wouldn't be surprised to put 30 percent on it, even more.

MR. MERONEK: And I take it those tanks are fixed in place?

MR. DE ROCQUIGNY: Yes, they are. They are not -- can't say nothing is, you can't say not to nothing, but it's not economically feasible to move it.

MR. MERONEK: And do you have to get permission from the government in order to locate the tank where it's located?

MR. DE ROCQUIGNY: Yes, yes.

MR. MERONEK: Now, can you identify the problems that you envision being associated with liquid manure application in the face of a hydro line, transmission line on your family property?

MR. DE ROCQUIGNY: Could I, if it's possible, have Karen maybe bring up the video of what application of injection is all about, so the panel understands? This I presume it's a two minute video, so that everybody has an understanding of what is injection manure with an umbilical cord?

(Video shown)

MR. MERONEK: Mr. De Rocquigny, just in that video, there was a picture of a reddish type hose being pulled along. Is that what's referred to as an umbilical cord?

MR. DE ROCQUIGNY: Yes.

MR. MERONEK: Just on that score, is surface spraying legal?

MR. DE ROCQUIGNY: Not anymore. They prefer injection.

MR. MERONEK: Okay. Now, could you, just while we have appendix B on the screen, could you explain what that appendix B is?

MR. DE ROCQUIGNY: Well, this appendix B illustrates -- every dot that you see is a registered manure storage site in the Province of Manitoba, with the largest concentration in the RM of Hanover where there is most hog barns and dairy

farms.

MR. MERONEK: And I take it that green line is a crude simulation of where Bipole III is to go?

MR. DE ROCQUIGNY: Yes.

MR. MERONEK: Okay. Now, go to exhibit C, please -- or sorry, Exhibit A. What does that represent, sir?

MR. DE ROCQUIGNY: This represents the application of manure, the Manitoba manure management. And as you can see, an injection -- and this is 2007. So for injection there is 133,000 -- 103,000 acres being applied by farms, compared to 17,000 of incorporated and 2,000 of irrigation, which these are not acceptable anymore. So predominantly it's all by injection.

MR. MERONEK: And that's hog operations?

MR. DE ROCQUIGNY: This is hog operation only.

MR. MERONEK: And there would be another schedule for dairy.

MR. DE ROCQUIGNY: Oh, yes, there would be another schedule for dairy.

MR. MERONEK: Now, just in terms of,

we have visually seen how liquid manure operation works. Tell us the problems that you foresee associated with a transmission line on property where liquid manure application is conducted?

MR. DE ROCQUIGNY: What we see is loss of acres and overapplication, which is not at all acceptable by Manitoba Conservation and Water Stewardship. So by seeing how the umbilical cord follows a tractor, I'm just going to doodle on the screen here and give you a visual of how this would affect us. Take into consideration manure storage tank is 1.6 million gallons, and at the most we could apply 10,000 gallons per acre. And so that would give us 160 acres. So take into account that this is a core section, 160 acres, and this being the north, this being south. So put it in account the Bipole III line runs 42 metres off the southern line of the core section. So let's say right in the centre, we'll put it easiest in the centre, 42 metres off the line is a tower. There could be two, but we'll work with one. Now, when they apply by injection, they would usually put a point here, which is a pumping station, because you can go up to a mile and a half to two miles away from your storage facility

to apply the injection. So they need a pump station to keep the pressure properly. But they'll start in the centre and they will work diagonally, going back and forth, so that way your cord follows behind you and they are not tripping over the cord.

Now, these are all custom operators, because most farms can't afford that kind of equipment and most of them don't have the time to do it.

So, anyways, so they are going back and forth. And now we've got this obstruction right here on the bottom. So they've got to stop short of it and come back, and keep going. And then when they come by to it, now we're missing acres here. So they can easily go in and come back, but then that puts them into a pinch and runs a line up against the tower. Well, they can come back on the second pass and go in, but then you are overlapping here along the line, which is completely against Conservation and -- well, Water Stewardship and Conservation, because you're putting double the application of what manure management is all about. So now we've got loss of acres here because they are not even going to

attempt it.

So at 1.6 million gallons, that would give us 168 acres to work with. Well, now we are short of acres. So now these guys who are on the time schedule, because most farms have to have -- well, all farms have to have their manure applied by November 10th at the latest. So it gives them a short window. So time is money. So now they've got to move their equipment over to the next quarter section over to finish emptying the slurry tank.

MR. MERONEK: If there's acreage that can't be applied by way of liquid manure application, then how does it get applied?

MR. DE ROCQUIGNY: Then we would have to go with ground manure fertilizer or liquid fertilizer in an artificial form. And the whole reason behind manure is all cost savings, so this would add more costs to us. And let's say we're putting down the analysis on the soil samples, the manure might be coming, let's say there's 90 pounds to the acre at end, so we want to supplement it with 30 pounds more to get feasible for crop reduction. Well, you just can't put 30 pounds of granular dressing on those areas that

we missed. There would be loss of income on that crop.

MR. MERONEK: Now, I take it that there's a strict relationship between acreage and the amount of manure you have in the tanks?

MR. DE ROCQUIGNY: Yes.

MR. MERONEK: What happens if you can't apply liquid manure that's dedicated to acreage, that can't be applied because of your transmission line? What do you do with that? What happens to that liquid manure?

MR. DE ROCQUIGNY: Well, for us, there's always accessible acres because we have the operation for it. But you take it in the R.M. of Hanover, which is predominantly what they call Hog Alley, and all acres are taken in for manure management. So for the farmers in that area who are going to be losing acres due to, if the line is running midfield, they've got nowhere else to put the manure. So I don't know what they are going to do with it.

MR. MERONEK: Okay. What problems do you foresee with respect to having to work in an umbilical cord operation around a large transmission line?

MR. DE ROCQUIGNY: The problems I would see that would --

MR. MERONEK: Physical problems.

MR. DE ROCQUIGNY: Physical problems?

MR. MERONEK: Damage problems, yeah.

MR. DE ROCQUIGNY: Well, if the line comes up against the tower, if that's what you're asking me, there's a lot of weight on that line that could bring the tower down. There could be a rip on the line which would -- well, last thing you want to have is a rip in that line. Imagine all the manure that would be -- sure, you could shut off that pump, but it would not be -- I wouldn't want it to happen.

MR. MERONEK: All right. In your report you talk about concerns over the health of your family's dairy operations by virtue of some bad experience you had?

MR. DE ROCQUIGNY: We had issues with the dairy barn with stray voltage in the past.

MR. MERONEK: Right. And you had actually made a wee presentation before this Commission as a presenter in Portage, correct?

MR. DE ROCQUIGNY: Yes, I did, just to clear some facts.

MR. MERONEK: And there's been evidence in this hearing from a reputable scientist to suggest that there's no scientific studies which would demonstrate there's a health issue with respect to livestock associated with a HVDC line. Are you aware of that, sir?

MR. DE ROCQUIGNY: Well, we had went to a public meeting, me and my brother, on Pembina Highway back three years ago, and we talked to the expert, who I suppose had done research on that. And we asked them how many years of research was done. And he told us two years.

Now, two years of research is nothing for us. We would like to know 10 years, we would like to know 20 years. Two years, you might as well say that you didn't do any kind of research. Because you don't know what's 20 years down the road. So it's almost like a void of what could happen.

MR. MERONEK: All right. So your anxiety level isn't lowered by virtue of what's been presented?

MR. DE ROCQUIGNY: As long as I farm and I work underneath those lines, and I feed my cattle, I'll be feeding my cattle under those

lines, as of today where I winter feed the beef cattle operation is directly underneath that line where it will pass. I will be stressed, and I'm sure my son will be stressed, because the uncertainty is not there -- it's there, we don't know what will be the economic effect on our operations?

MR. MERONEK: Now, also in your report you made a reference to your silage operations and made the point about the equipment coming in contact with low hanging wires. And that's on the screen.

MR. DE ROCQUIGNY: That afternoon we were doing silage for the dairy operation, and I was just happening to run along this three-phase line and I realized, okay, we're not working underneath the line, but I realized how close the top of that dump wagon is to the lines. So we took a picture, I had my nephew, we took a picture of it. Now you take top, the top of our truck is 13 feet, so this is easily another 10 feet, that puts it at 23 feet. Now, that line, the Bipole III line is running over property that we rotate, on the eight quarters that we rotate for corn or for silage. And if it's 42 metres in, we will be

working underneath that line, and we'll be constantly, not all the time, but we'll be finding ourselves underneath that line dumping into the truck.

Now, this is of today's standards. What is it going to be in 10 years? Are we going to have bigger wagons? Now, this is 35 feet on the sag, but this really only gives us 10 feet. And 10 feet, I'm not comfortable with 10 feet above that silage wagon.

MR. MERONEK: Okay. Were you approached by Evolve to sign an easement agreement?

MR. DE ROCQUIGNY: Yeah, I was contacted. I wasn't approached, I was contacted and I gave them my piece of mind and did I not sign it.

MR. MERONEK: And why is that, sir?

MR. DE ROCQUIGNY: Why is that?

MR. MERONEK: Yes.

MR. DE ROCQUIGNY: Because I'm not for it, to have the line run through our property and, frankly, they can't compensate me enough to have that in my area.

MR. MERONEK: Are you aware of the

feelings of your neighbours with respect to Bipole III lines passing through their property?

MR. DE ROCQUIGNY: Well, I have one neighbour, and I prefer that he doesn't come because he gets really upset and then he starts swearing.

MR. MERONEK: Thank you, sir.

Now, over to you, Mr. Berrien. Firstly, you have done a report in hard copy that has been handed out, and you have your CV in appendix A. Could you just describe briefly to the panel your background and experience as it relates to the issues at hand?

MR. BERRIEN: Yes, sir. Good morning. By the way, just so I can keep the record straight, do my report and appendices have exhibit numbers?

MR. MERONEK: Not yet.

MR. BERRIEN: Thank you. To answer your question directly, I have a degree in agriculture, graduate studies in agriculture. I'm an accredited appraiser with three different organizations, particularly the American Society of Farm Managers and Rural Appraisers, which is a rural or farm based appraisal organization, as

opposed to generic or more residential or commercial. In addition to that, I am a licensed land man in Alberta, I'm a licensed real estate broker. I have my licence in Alberta to do appraisals, which is a requirement. And I am a professional agrologist, which again is a requirement in Alberta. It's what they call a restricted practice area. And I'm up-to-date with all those organizations in terms of their educational requirements.

With respect to experience, I have been in the agriculture appraisal and damage evaluation business for over 30 years. I have been specifically working on power line issues for over 25 years. And that involves particularly the routing evaluations, in addition to compensation evaluations. In other words, in Alberta Surface Rights Act covers the imposition of transmission lines, anything over 69 kV. I have worked specifically for ATCO Electric, which is one of the two major transmission facility operators in the Province of Alberta. And during the entire time I have worked for ATCO, I have found myself routinely requested to review power lines and power line compensation and power line routing for

landowners who have had AltaLink, or prior to that TransAlta Utilities seeking to put power lines across or near their property.

So the point is, I have got 25 years of routing experiences working both sides, with the transmission operator and with the landowners, so a fair amount of experience in that particular regard.

MR. MERONEK: Have you done any work as a consultant for any public utility boards?

MR. BERRIEN: Once the Energy and Utilities Board asked me to do a report for them on a specific issue that I was dealing with, that dealt with the abandonment of pipelines, but only the one time.

MR. MERONEK: Have you been involved in any consultation process dealing with compensation?

MR. BERRIEN: Oh heavens, yes. That's probably the largest single area of my practice. I would have been involved in hearings. In fact, I did the first Surface Rights Board hearing in the Province of Manitoba over 30 years ago when that Act was introduced here. I have done Surface Rights compensation evaluations all across the

country, including National Energy Board hearing panels in the Maritimes, BC, in Saskatchewan, and Surface Rights Boards all across Western Canada.

MR. MERONEK: How many routing studies have you been involved in, sir?

MR. BERRIEN: Probably about 100, I really don't keep track of them. But when I stop and think back over those years, it would probably easily be 100.

MR. MERONEK: And how many appearances have you had before a regulator in terms of issues of routing?

MR. BERRIEN: Well, issues of routing, I have done both pipelines and well sites. But specifically with respect to transmission lines, probably about 20 different occasions.

MR. MERONEK: All right. Then could you maybe proceed with your presentation then, sir?

MR. BERRIEN: Thank you.

Mr. Chairman, I see you've got copies of the report. I may, if it's all right with you, take you to that report on occasion. I certainly will not be reading it, but there may be a few times when it's more applicable to reference a page or

something like that, it might just be easier to see that.

So with your permission, sir, what I'd like to do is just advise you that I perceive my job when I was retained by the Commission to review the application by Manitoba Hydro, and as a result of my experience in background, evaluate that application and evaluate the route selection process.

Now, generally speaking, there's a two-step methodology to that. The first step would be to look at the criteria and the factors utilized. The second step would be to see how they were employed and to then evaluate, of course, the result at the end of the day, did they come up with a good route or a poor route?

I do the process the same way they did.

THE CHAIRMAN: Could I just interrupt and correct the record. You said when you were retained by the Commission, you were retained by the Coalition.

MR. BERRIEN: Thank you, sir, I appreciate that.

THE CHAIRMAN: Just a slip of the

tongue but we don't want anybody to misunderstand.

MR. BERRIEN: But I would have loved to have had that second retainer from the Commission.

THE CHAIRMAN: Not this time around.

MR. BERRIEN: Fair enough. And thank you for the correction.

So with that bit of a background, what I would just advise the Commission is after having evaluated the process and the criteria, and that sort of thing, I also did an on-the-ground look at the route. Mr. LaLiberte took me around and I was able to follow the route. I didn't have what I would call any quality aerial photography, and I'll show you some examples of what I'm talking about, to enable me to do that remotely. So we had to actually do it on the ground, and I went from Riel all the way around to Brunkild. So mainly the agriculture, not all of them, but the major portion of them.

What I will do is provide the Commission as a result of that with some specific what I call on-the-ground recommendations about how the route, should you choose to accept my recommendations, may be modified to reduce

impacts. Because that's clearly what I'm interested in is, were the impacts identified, were they evaluated properly, and then was a route designed that would minimize those impacts? That's the gist of this whole thing. And then finally, at the request of Mr. Meronek I have put together some recommendations that the Commission might consider.

So to begin the process, what I would like to do is talk about the route evaluation approach I took. And I did it on the basis of looking at the way it's done across Canada. In other words, we've got Manitoba Hydro providing us with a full blown EIS that has a route evaluation process integral to what it's done and what it has finally found in terms of a route. It would be my view that it would be useful to the Commission to have something to compare that to and to see how else it might well be done.

Given that Alberta is my backyard, I've got the largest inventory of alternative ways to do it from that. And the report goes through a number of those things.

What I'd like to do, Mr. Chairman, is just advise you that the first 12 appendices that

I have provided to you are actual copies of the original documents which I am referring to. And what I want you to understand is that I'm simply bringing forward the issues that are most germane to the particular areas we're talking about here.

So the first part of this report deals with what I will call routing principles. And one of the major routing principles that comes out of across Canada, and specifically in Alberta, is the process of existing linear disturbances, ELD's, which is the idea that if you can put a power line or a transmission line along a route or an alignment that has already seen some form of disturbance or some linearity already established, then the chances are reasonable that you are not going to create new impacts, but you may have additive or incremental impacts. But typically speaking, those are not found to be to the same degree or extent as they would if it was a brand new green field route.

So existing linear disturbances are an incredibly important aspect of route selection.

A number of decisions that I have referred to in the first couple of pages of the report discuss some of these things in detail.

And the board was feeling its way back when I was actually at some of these earlier hearings over 30 years ago, and you could see how they were trying to find a way to evaluate this. And I won't obviously read all of those by any means, but I will just recommend them to you to see the process by which this evaluation has proceeded, at least in a jurisdiction where the board has the power to approve, deny or send home. And that's a very strong issue, obviously, with the amount of money at stake in a lot of these lines. So these things have been very seriously treated because the companies alone have all kinds of money at risk when they do these kind of things. If they do it wrong, they get sent back. It's a very strenuous process and very much quasi-judicial court type formality. So it's important there. And I just stress that as the background for these decisions.

So, page 13, if I might recommend that to the Commission to look at, lists the first 32 years ago set of what they called six major aspects that were set out in the decision. You'll notice those are in italics. This is an actual quote.

The very first consideration was

agricultural impact, and below that they listed 13 different components by which the agricultural impact might be reviewed in terms of the routing and where the towers were placed. And if I might just mention that for a second, that's one of the major differences that I have found here, is that in Manitoba we are talking about a route alignment, but the process of placing the towers is called tower spotting, and that has been reserved for later in the process when the engineers go out.

That's not completely unique to Manitoba, but we don't even have in this case any idea of where those towers might be located, near the edge, in the middle? There is what's called ruling span, which is somewhere, 400, I think, and 80 metres plus or minus, which is the routine distance we will see between towers on flat ground with normal, you know, foundation conditions.

So we could have seen some effort to say, well, a tower might be 20 or 30 metres from this given location, but we don't have any of that except at turn points, where a right angle is made or something and, obviously, there's going to be a tower there.

But that's one of the issues that we really need to deal with when we get through this thing is where will the towers go at the end of the day?

So on page 13 I referenced a decision some 30 years old. Twenty-four years later, on page 15, you'll see that in fact virtually the same set of characteristics and parameters was seen again. And finally, on page 16, you will see it's called Alberta Utilities Commission rule 007, which is an actual codification of the factors that have to be included in a review of routing. So same set of parameters evolved over this period of time, but found to be sufficiently useful that they are now codified and they are actually in the regulation that says this is what you must include if you are going to submit an application to us, you have to look at these aspects.

You'll notice that there's a lot of information there with respect to the agricultural impact. And it is, in fact, the number one criteria that's set out with respect to going through an agricultural area, while most of Alberta is agricultural, but certainly that's where we find most of the lines and these are the

criteria that the TFO's, transmission facility operators, all have to look at, the ones I work for and against.

Just to give you an example of how this is specified when we get into on-the-ground applications, on pages 18 and 19, I have just given you a sampling of what were extracts from applications by various operators in various locations. And this is just to give you some idea of how they have picked out rule 007, and then said, all right, on the ground, in this location, with this set of factors, this is how we're going to look at those impacts.

You'll see when we get to it a little bit later how there's a significant difference between this approach and the approach taken by Manitoba Hydro.

The next consideration that I just put to the panel is the public consultation. And I might add that in Alberta it's mandated that public consultation be undertaken in a very, very significant way. In fact, there are only two major considerations that see power lines declined. One is a lack of adequate public consultation. In fact, that's probably the most

common rationale for the board turning down or sending an operator back to do a better job is consultation. And the second one is poor routing. But the consultation issues that come up -- and the reason I'm bringing this to your attention is this is what the landowners say is most important to them when a route is being selected. It's one thing for the Commission to say, this is what we think is important, but the landowners themselves, when they are considering it, have brought these elements forward. And they are, of course, talking about minimizing the effects, stay away from residences and follow existing corridors or power lines. And a corridor can be taken to be an existing linear disturbance, depending on what's in the given location, what's in the given area.

At the end of the day, and this is just something I have put forward on page 21, I have had occasion to be involved in both of those major power lines that run from all the way in the north to all the way in the south in Alberta in the last couple of years. So I'm right up to date with respect to how this is being handled. I have been putting forward my own, what I will call distillation of criteria, and it's set out in the

middle of page 21, just for your consideration.

As I indicated, I have gone across Canada, not to just say here's Alberta, do it that way, but let's look at the way this is done across the country. So travelling from east to west, I went to Quebec, and I was actually quite pleasantly surprised to see that there was an agreement between Hydro Quebec and the largest group of farmers there. And I don't know the exact name of it, but it's an actual agreement between them called citing principles.

And just for your consideration, Mr. Chairman, it is included in the appendix in its entirety, so you can see what it looks like and see how the farm community and the power line community have worked together to come up with a document that will govern the way power lines are routed.

What is particularly interesting is, and this again will come up later, but how the farmers said, here are our criteria, but they are not in any given order, what's applicable is what will govern in the location where the power line is planned. Because this document, of course, is meant to cover the whole province. Certain areas

they have lots of sugar bush and blueberries, other areas it's farming and agriculture related to livestock. So it's not going to be the same set of parameters that governs in each area. So what they were careful to do is say, well here's a bunch of parameters and criteria, these criteria are not automatically applicable to each area. That's a very important and rational approach to routing power lines.

In Ontario, I was able to locate three different resources that gave me some indication of these same things. And it's interesting to see how these characteristics, while using different words and different local jargon, keep referring to the same thing. Stay away from houses, follow existing linear disturbances, and if you are in a situation where it can be an either/or, put it the in the back, is the way they use it, like behind the house or in Western Canada, of course, that will be on the quarter section line away from the roads. In other words, this is a consistent theme, it's in Quebec, it's in Saskatchewan, it's in Ontario and, of course, in Alberta as I have already spoken to you. So this is a consistent theme that comes from both power companies as well

as landowners when they had been asked to give their views on what's an important routing criteria.

In Saskatchewan, I was able to find a couple of decisions and a couple of environmental impact assessments. It's interesting in Saskatchewan, what they do is they evaluate a mile wide corridor and then spot the line within it. But the one overwhelming factor that showed up in both the application as well as the decision by the Minister is that it was going to follow quarter section lines within that mile. Quarter section lines internally, not on the roads. And again, I have provided you with adequate original copies so that you can see exactly how they arrived at that decision.

So while it wasn't a route like this one is showing exactly where it would be in the quarter section, it wouldn't take you any amount of time at all to figure out that it was going to be on the quarter lines through Saskatchewan.

In British Columbia, they don't seem to have enough power lines going through agricultural areas other than the lower Fraser Valley where it's such a different scenario, it's

not comparable to anything we're dealing with here. But what I did get out of the British Columbia review, and I have again provided it to you in the appendix document, is that they did a fairly extensive job, even though only 16 kilometres of this very long line in BC was going through an agricultural area, they devoted a lot of resource and a lot of evaluation to the agricultural impacts in order to make sure they minimized them. We'll talk about that again later. I just want you to keep in your head the way this is done in other places.

So if I can refer you to page 25 in the middle? If we were to take cross Canada criteria, my summary would be that we would avoid residences, yards and farm building sites, cause the least possible inconvenience, use boundary or cadastral lines, that's a Quebec word but it means quarter lines in this location, with a goal following existing linear disturbances, avoid high quality land, and when there's irrigation, make sure you stay out of the way of it. Those are the criteria that come from across Canada.

And now with that in our mind, we can turn to our process to rate, with that kind of

criteria, how did Manitoba Hydro do and what did they do with it?

Before I get to that specific aspect, I'd just like to spend a moment with the Commission dealing with, the way the criteria are applied has a great deal to do with where the towers are located. Because the routing talks about basically the alignment, but the impacts that most farmers encounter, Mr. Friesen notwithstanding, is where the tower hits the ground and where it's placed on the property in relation to all of the other factors. So this is not, of course, a Surface Rights Board hearing, it's not a Land Valuation Commission hearing, but I perceive from reading some transcripts that the Commission has more than a passing interest in compensation because, and I will just say this from my own background and experience, compensation is often the real word that's meant when you say mitigation. Mitigation is code for compensation in many, many cases. When you can't do anything else but put it there and suffer the consequences, then what you have to do is pay for those consequences.

It would be my submission to the

Commission that if compensation is less than adequate, then the impacts are greater. So this is another way of looking at an impact that is indirect, if I can call it that, but it's most assuredly -- and you have heard from these other panel members what types of factors may arise.

So what I would just recommend to the Commission is to just have a quick look at the report, and what I'll quickly mention to you, and then I'd like to reference the appendices if I might, there's some pictures in there to give you an idea of the kind of things I'm talking about.

There are four general tower placements that one sees in a hierarchy of compensation. The first is what's called uncultivated, and that means clearly in a situation where there is no farming going on. An example of the uncultivated, and these would be in tab 17 -- I won't take too long with these but it may be worthwhile just to point a few things out.

This is a situation where the power company has specifically spotted a tower in a slough, while the line is crossing the field, so that the farmer doesn't have to farm around it, all right. This in my jargon is UNC or

uncultivated location. This is what I try to do when power companies ask me to do route planning for them. If I've got to go through a location near a field that's say a mile long, if I can bring it right up against the edge of the field or in a slough or along the edge of it, I'm going to do that virtually every time I can, as long as I'm not stuck with an engineering limitation. But this is an example of just that kind of placement.

The next one is what's called head lander, HL, and this is the kind of thing that I'm recommending then, that I think Mr. Nielsen in his testimony indicated that he started with the idea that he would place towers on field boundaries such as this. And you can really, in this picture, see how minimal the impact on the ground is. I'm not going to say it doesn't affect aerial spraying, but relative to farming around it, no, you farm by a tower that's placed on an edge like this, as opposed to 42 metres out or something where you have to farm around it and deal with the issues that Rick was talking about with double spraying and concentration near the base and all the rest of that compaction. There's a very significant difference between head land and mid

field. And there is a variation on head land on the next page.

You see how that tower is a little further out? Well, turn to the next page again, and this is photo four, and this is called head land one side, where the legs are now all on one property, but it's still very near the edge. Now, this I think is what there was some initial discussion by Manitoba Hydro, which is, well, we can put these things alongside roads and that would have looked probably something like this, but for whatever reasons they moved it further and then further yet again. You can see that it's still a relatively confined impact when you are doing head land or head land one side. If you turn over to the next page, you'll see an example where you've got two lands going side by side, but again they are adjacent to the edge of the field.

If you go to the very next picture, which is photo six, you will see a situation where now we've got one tower so far into the field that we're going to farm around it. The other one is so close to the edge that we farm by it. So we've got a head land and a head land one side.

These are the types of impacts that

we're talking about when we talk about placements.

And what has happened in this situation is, from what I can gather, we started out with quarter section lines. Then Mr. Nielsen was advised, no, we need to go beside a road. Then because of clearance issues and other things like that, we had to move in a little bit. And then in a consultation round, some farmers had indicated that, well, we can't get between it. So the next thing you know, what do we do, instead of moving it back to the quarter line, no, we move it 42 metres in. So what we do is we just keep creating a situation that deals with whatever the issues are Manitoba Hydro perceived to begin with, and then in an effort apparently to deal with farm issues, where we would have a head land or a head land one side, no, we're going to go further into the field to then create what, a situation where you have to farm around it.

This is a question, or a case of be careful what you ask for, when the farmer here said 20 metres is not enough to get by, instead of fixing it and going back to the quarter line, we moved it further into the field and now we have got an even worse scenario in my submission.

So with that background, you'll understand how when we talk about these existing linear disturbances, if you can keep an alignment and then subsequently the tower placements, where they will cause the least amount of requirement to farm around, we will be reducing the impacts. And you cannot evaluate the impact of a power line and a route without understanding what the towers are going to cause, what impacts they will result.

So that's the basics I want to give you in terms of understanding criteria. And when a farmer in Quebec or Ontario says keep it on a lot line or a cadastral line, or in Manitoba they ask for quarter section lines, this is the reason why. And the pictures I hope illustrate it.

The last picture I'll refer to, sir, is the irrigation photo, which is photo eight. And I'll talk a little bit about irrigation later on, but this is a situation where, in southern Alberta, where we have a great deal of irrigation, the power companies have found it appropriate to route these things on quarter section lines. And quite frankly, they are out of the way, they don't cause any issues at all where the quarter section is the irrigation unit. In some cases where they

go across a quarter section, it can be a problem, of course. But just to show, this is how -- they basically cause no impacts at all when they are on the quarter lines.

So returning then to the discussion and leaving the photos behind.

Now that we have the criteria, the ones that I have discussed that are across Canada, how are they used? How did Manitoba Hydro do in comparison to the criteria that the rest of the country appears to use when it is deciding where a power line should go and the impacts it will have? And let me just stress that there is two things that I'm talking about here. One is route planning, where should we put this line? The second aspect that should always be a part of this, all right, we have got a number of options, there's always options, you can always go multiple locations and planning. But the second aspect is, all right, which one of them is the best and how are we going to make that decision? So there's this question that comes up, did we use the criteria to plan the route well, and then did we use the criteria to evaluate which of the multiple routes might be possible to come up with the least

impact one? And really that's what we're trying to do here is find a route that is low impact. And there's always going to be some options. And then amongst those, choose the ones that is the lowest impact. And that's even part of the sustainability principles that you have in the province, is to create the least impact, do the least harm. So we'll go now into the process of what Manitoba Hydro did and see how that worked.

They have told us, and I'm on page 29 of my report now, just so you're following along, they have told us in section 7 of their application what they did. And I'm not going to read a whole lot of this by any means, but the one line I would like to read is the last line in italics in roughly the middle of page 29, where they talk about the SSEA, which is the site selection process, is tailored to match the particular requirements of the project components and the corresponding issues. Well, that sounds like the kind of thing we're talking about. That sounds like what we should be seeing. So, boy, we're in good shape to start with, let's see how it works.

To do that first step, what Manitoba

Hydro did was they set out 27 different constraints and opportunities, all right? We're not talking about the map yet, we're not there yet. Before we even get there, they did an evaluation where they looked at what I would call overlap, which is to say park reserves. In other words, did a route go over a park? And if so, how many kilometres did it traverse? So they used an overlap evaluation to try to look at a number of routing opportunities and constraints.

Now, let me say that the business of constraint analysis is usually a really good place to start. What you do, for example, is you map a given study area and you would take away -- let's just say it was a DND site where the government was training soldiers. Well, clearly, you're not going to go there, so that would be a red zone, a no go. And let's just say you had a Ducks Unlimited facility that was very operational and well-endowed and there was lots of money to keep running it, so you'd say, well, we probably should avoid that. And these are these VECs that we called them, valued environmental components. We map those, we start with those.

What's curious about the way Manitoba

Hydro did it, and I didn't realize this until Mr. Nielsen had testified, but he said we went out and looked for routes. And then we went back to the shop to see if there were any impediments, is the word he used. And he referenced the gentleman who looked at impediments. Then he said, we moved the line or we tweaked it. And one of them particularly, and I will talk about it a little later. He says if we hit a TLE area, Treaty Land Entitlement, well, then we moved the line.

So you see how reversed that process is? If you start out understanding where you shouldn't go, you don't plot a route there in the first place. It's not like you go out and find a bunch of routes and say, okay, let's go back to the shop and find out where they shouldn't go.

So I'm just pointing out to you that despite this process being stated to you of constraints and opportunities, it doesn't appear as though it was actually followed at the end of the day, where they were actually laying out A, B, C alternate routes.

So that's the first part of this exercise of, what did they do? They went out and they appeared to me, at least based on the

testimony, to have done it in reverse.

Now, we very quickly left behind the opportunities and constraints, and we went into the process of the RSM, which is the route selection matrix.

Now, I have seen some discussion about this in some cross-examination by Mr. Meronek, but there is a few things that a guy like me, when I'm doing these kind of evaluations, I'm particularly interested in the details. And suffice it to say that I ran into a few problems with the process that was put forward as being appropriate to identify the least impact route.

Manitoba Hydro tells us in section 7 that they have 27 preselected, and I believe that's the right word or something equivalent to that, criteria by which they are going to evaluate the routes. They also go and tell us that because way back when, as I mentioned to you, we are going to look at the things that are important, they have devised a system whereby they are going to use blanks or dashes to indicate that a particular criteria wasn't applicable. And the perfect example is caribou in Southern Manitoba. Well, there aren't any caribou at all, so we can put a

dash there and not even worry about that as a criteria. Well, theoretically on the face of it, yeah, that's the way it should be done. The problem is it doesn't appear as though it was actually done that way. And we'll give you some examples of that in a moment.

But the thing that's more important here, and we'll get into this route selection matrix in just a moment, is that the process, the step-wise process by which the final preferred route arose was to have a couple of these A, B, C's, go out and talk to some farmers, whoever would come into their open house, Manitoba Hydro went to the locations and to the municipalities and all that. But there's never been an effort to go to the farms where the route goes. In other words, not across the kitchen table. The farmers had to come to Manitoba Hydro wherever they set up.

By the time we got to the third round, now we had an initial preferred route. There was even only 16 tweaks to that route. And we will see them, and you have seen them in these route selection matrices here. That means that the initial preferred route, with the exception of 16

changes to it, which were site specific, and they told us that right in the report, and I can give you the quote, aside from that, the initial preferred route became the final preferred route. So what we're talking about now is that those A, B, C's, and the process by which this route selection matrix was used was largely the process by which the final route was picked. This is not an unimportant issue. What it means is that this, and this is an example up on the board here, this is section 11 of the 13 sections, this is right out of their document, this is what guided the Manitoba Hydro final route selection.

The reason this is so important is that if this process that they used to find that route has problems with it, then the result of that being the route selected is going to have problems as well. Garbage in, garbage out, right? You can't come up with a good route if your process was not good.

So let's look at the process and what they said they did, and what they actually did, and see whether in fact we can have confidence in the way this, in fact, was, the process was undertaken?

The first thing I'd like you to do is turn to page 32. Thirty-two is a summary of, and I'm pointing at the screen here, if you look up here you'll see various headings by which the criteria are organized into subgroups. Just to save you from looking at the screen, it's right here on the page in front of you. The significance, the very first thing that jumps out at me, and which I trust now jumps out at you, is that agriculture is one of 27 criteria, one. We have got all these other factors that occupied so much time and paper, which of course are very important to the northern section of the route. But I ask you, how important in an area that is so fully cultivated -- and if you have driven out here, you live here, you know what I'm talking about -- how important in the overall scheme of things are amphibians, just as an example, forestry, just as an example? Yet those factors are laid out in this document and each one of them has a high, medium or low, low is zero, medium is one, high is three, or very high is five. This is a rating system with numbers. These numbers have no objective basis. In fact, they advised us in the report that these ratings were generated by a

committee of individuals. And let's remember that within this particular scenario, and Mr. Nielsen confirmed this, he found route B. Manitoba Hydro rejected route B and went with route A. So here's one man who represents agriculture sitting at a table with a committee, judging the high, medium and low elements that will be going into this rating system. His judgment was overruled, presumably by engineers or whoever.

So now ask yourselves, if you were to be evaluating a route through heavily intensive farmed Southern Manitoba, and the one guy sitting at the table who might have had words to say about agriculture and its impacts has been overruled, how valid is the evaluation for the one criteria out of 27, that deals with agriculture? I have my doubts about the weight that that gentleman's opinion might have had in this final rating. Even if he was listened to 100 percent, his opinion only constituted one narrow slice of the total set of numbers that goes into the rating.

And what we're talking about, of course, just to refamiliarize you, is that these orange spots -- and we'll talk about those in a minute -- represent the highest impacts, the

mediums which are the slightly darker colour are the middle impact, and then of course the lightest colour is the low. You'll notice how this is green, this is the lowest impact, it's the lowest number.

Well, let's evaluate for just a minute in this particular section right here how we got to that lowest number.

If you have a look at this, you will see that there are three different sets, the A, the B and the C. But if you notice, C has got two components to it. That means if you look up here, you will see two C's. There's only one A and one B, but there is two C's. So if we are going to evaluate a section that starts here and ends on this side -- and by the way, they don't even have a common endpoint -- this graph with these numbers is intended to tell you what the level of impact is judged by a committee of Manitoba Hydro personnel, engineers, whoever. But the protocol that's being used here is, when you've got two, like here's one part and here's the other part, we're going to compare that to a segment that is not only longer, look at this compared to that. So now we're not only talking about different

lengths of routes judged by the same mathematical process which leads to a total over here, we're talking about two of them required to get from one end to the other.

Now, there was some cross-examination but I didn't see what I would consider appropriate answers to help guide me, as I'm sitting here looking at this process, saying if it's mathematically derived but it takes two segments to fill one section, how can we make a comparison between the total of those two versus one which is a much longer but single evaluation? Just ask yourself that in your mind and think about if that makes representative sense to the process of finding the lowest impact route? Two versus one, longer versus two short ones, to me it doesn't matter, you can't do it. Because if you're going to rate something -- and I'll give you a perfect example, we will do it right now. Do you see those two H's? Those are bird strikes over the Red River. You can read it right here. There's one of them right here and one of them right down in here. Okay. The numbers to this column, which is number 3, correspond to the notes over here. So you know why they did what they did. So they

rated two of them high. Let's think for just a minute. We've got the Red River going through here. All three routes have to cross the river, but only two of them are rated here. We say, well, where's the other one? It shows up in section 13 as a high. Same high as this one, same high as this one, but it's in a different section. Now, remember, we're trying to evaluate sections as they progress from one side to the other. The issue of bird strikes over the Red River is the same issue, but it receives a high, which is three, the biggest level of impact, and in fact in this one I think it's a total of nine. So it's a full 33 percent of the impact evaluation, and it's compared to one of the routes which hasn't even looked at bird strikes yet and doesn't until two sections later.

Ask yourself whether that's a representative process by which you can compare route A, route B, and route C? The same impact created by the same issue, crossing the same river, is evaluated twice in this section and once two sections later. That doesn't work for me, I'm sorry. I haven't seen how that functions properly.

The next thing that concerns me is a variation on the same theme, which is a bird strike over the Red River. This is what I would call a point impact. And you have heard something about this, I know this was part of the testimony. We are talking about these deflectors and things like that. But ask yourself a question for a moment. This A, which runs all the way from here to here, one side of this thing to the other, has been given a high rating for about 150 metres worth of length. I don't know, maybe I'm wrong, but that's how wide the Red River seemed to me when I was looking at it at that particular point. So we have birds flying up and down the river, we're going to rate that high. That single point influence added three points to the impact evaluation for that entire segment, not just segment section, from one end to the other, a point impact.

Remember those criteria we're talking about, all those different factors about poles and placements and front and back, and alignments and all the rest of those kind of things? That's dealing with the whole route. What has been put in front of you as the basis for the route

selection is point impacts, point impacts that drive the routing selection and the rating system for the entire -- remember now, this goes all the way from Riel all the way around. A point impact can drive enough of the selection criteria, in this case 30 some percent, to help pick out the route.

Now, again, there is the question, once applied the criteria, did we evaluate them properly? Two steps, find the criteria, two, use them.

So here's the questions that are running through my mind in terms of how this process was implemented and the kind of problems that I have got.

To just carry this a little bit further. One of the things that I'm trying to illustrate to you is how criteria should be applied and how they should be taken into account and so on. I have a great deal of concern about, when you've got this many criteria, that they must be looked at, they have to be rated because of the protocol they set up. Each one of these boxes has to be looked at and either given a dash or a rating, low, medium or high.

So I looked for dashes, and they are I believe right there, both the whites -- let me just double-check that, but I'm pretty sure that's what those are. Yeah, these are caribou right here, okay. So I'm saying to myself, all right, do we have an issue that is what I would call giving us ghost impacts? In other words, something that's been rated that shouldn't have been? So what I did was I went through, each one of these criteria has a little discussion in it, in chapter seven about what is it that they were looking for? So as I was going through I found that there were, in fact, a number of other criteria that had ratings that contributed to the total where there was nothing there. An example of that is TLE. TLE contributed a number of ratings, and yet we are advised by Mr. Nielsen that if they hit a TLE, they moved the line. If you look at the maps that accompanied section 7, you will see that they are, with the exception of Long Plain, there are simply no TLE lands marked. If they are there but they are not marked, I can't say anything. But they should have been marked on the map. Theoretically, that is the cross-check, right, they say this, we should be able to go see

it. But if you look through here you'll find in TLE that there's a number of times where they are rated medium, not just in this one but in a series of them. How can that be? If there is no TLE land in the whole southern sections, 13, 11, 12, 10, why would it have any rating at all, why wouldn't it just be a dash?

The next one is forestry, there should be dashes all the way across. You folks live here. When was the last time you saw a commercial forest operation running somewhere between Riel and, you know, where the line turns north? There aren't any. You should see all dashes. There aren't any dashes.

This is the kind of problem that concerns me is when you say you're going to do something, if you don't do it. And particularly if you end up in this system by attaching a rating to it, now you've got ghost impacts. You've got impacts that nobody else can see and yet you are counting them in your rating analysis to find the lowest impact route. How can that be? That doesn't make sense to me as a methodology, because it's not consistent and you can't go back and verify it. You can't go back and look at the maps

and see how those things happened.

MR. MERONEK: I note the time, Mr. Chairman, it's about noon. I'm just wondering if this might be --

THE CHAIRMAN: I was going to ask Mr. Berrien when might be an appropriate time to break?

MR. BERRIEN: If I might, I'll just finish the process, it will take two minutes and then move on to the next section.

THE CHAIRMAN: That's fine.

MR. BERRIEN: The conclusion, ladies and gentlemen of the panel, is that if we're going to use a process like this, what we have to make sure we do is we have to find the relevant criteria. And I'm suggesting to you that if you look at this set of criteria and compare it to the stuff that I have shown you from across Canada, this fails miserably in terms of replicating hardly any of that.

The second element is that when you are going to do an evaluation, you need to use the applicable criteria and not inapplicable criteria. So the issue that's for me most problematic with this process is that not only have we missed the

criteria we should have had, but we have evaluated criteria that don't exist.

So with that, I'll leave this for this section, and then we will pick up with the next one after lunch.

Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you. So we'll break now and come back at 1:00 o'clock.

(Proceedings recessed at 12:03 p.m. and reconvened at 1:00 p.m.)

THE CHAIRMAN: Okay. We'll reconvene Mr. Meronek. Back to you.

MR. MERONEK: Thank you, Mr. Chairman. Mr. Berrien, do you want to just continue where you left off this morning?

MR. BERRIEN: Mr. Chairman, let the record show I was the first one seated at this table, so I was on time.

Just to put us back in the groove of where we were discussing things before, I had an opportunity just to look at my few notes to make sure I covered everything. There was one or two issues that I wanted to just back up and make sure I covered adequately.

As we were finishing up before lunch I

was talking about the lack of criteria that should have been looked at, as well as the effect and the use in this RSM of criteria that seemed, you know, less than applicable. And one of the particular things, and it has a little bit later relevance in terms of volume of information and degree of evaluation, is exemplified perhaps best by the aquatics category.

And on the exhibit on the overhead there, the panel will notice that aquatics is M's all right here. So what they are saying is that there is a medium impact, or in this case a rating of 1 for the aquatic environmental impacts as a result of the Bipole line going through, in this case, all of the segments within that section.

However, what I'd like to just draw the attention of the Commission to is the aquatics report. The document itself, theoretically at least, would have been the basis for the ratings that were attributed by the committee to the impacts in this section. In fact, aquatics contributed 38 points of impacts, if you look at the different segments within the agricultural sections. And I'm referencing page 36 of my report right now.

So one might presume that with 36 points, you know, using this 1, 2, 3 rating system, that the aquatics was a pretty important criteria that we should be paying a lot of attention to in terms of where this alignment goes. But the difficulty I have is that when you look at the executive summary of the aquatics report, the summary is that aquatics in respect of the Bipole III line are at low risk and there is no measurable effect of surface water quality and fish habitat as a result of the Bipole line.

So ask yourself a question, if the aquatics with all this big recording and everything comes down to no effect, no measurable effect, and low risk, why do we have such a significant contribution to the ratings that will in fact drive the final route selection? I have included a copy of the aquatics report in the executive summary, in the appendix, so you can read it yourself.

This is an example of a disconnect between the experts, their review, the criteria selection, and then finally the opinions of the committee which built the recommendations in numbers. And disconnects are something that one

needs to take seriously, because it reveals there is a flaw somehow in the design process that was intended to find the lowest impact route.

The next quick category that I'd like to talk about is the four items that are shown over here under response. And this is, I believe they called it the EACP or something like that, basically it was a consultation process, let's just call it that. The concern I had with the rating system was based on a sentence that was in the section explaining this, and it's set out on page 36 where it says, a three-tiered ranking system, fair, good, or poor, for the EACP response was based on numeric counts of comments. So what that's doing is just telling you where we got this good, fair, poor, and the consequence then evaluation of the route based on these responses.

The problem with that type of a scenario is, first off, one must interpret the comments that one gets back as to whether the landowners have said, well, this is good, but I really hate that, so does that make it an average or a fair or a medium? It's a very, very subjective process that's completely opaque. One cannot tell what's going on.

The second aspect of this is that the consultation process, as I alluded to in my earlier comments, really was a process of Manitoba Hydro putting a sign up and saying, here's an open house, you all come.

The difficulty with that, particularly, Mr. Chairman, with the fourth round consultation, was that it was held the last part of August, September, and the first part of October, if I have my dates right. The difficulty with that, sir, is that the folks who have been standing up here would all advise you, without exception, that that's a pretty busy time of year. They are trying to harvest, or apply manure, or do break-up in terms of fall cultivation. If you wanted to design a process, a consultation process that was less effective, you'd have a hard time doing that. Because basically, Manitoba Hydro, with that timing said, Mr. Farmer, here we are, we're in town, shut down your combine, come on in here and tell what you like or don't like about this Bipole III line that we've got planned for your back yard.

You'll understand that when you get a results base like this, which is the number of

comments received, and the farmers are out running their combines, you're likely to get a poor sampling in terms of trying to elucidate what the actual opinions of the community are that you are attempting to poll.

So, in summary relative to the criteria, what we've got, and I'm now at the top of page 38, in my view, a significant divergence between the criteria, which is the factors that one would use to plan and evaluate a route, there is a significant divergence in the criteria that seems to apply across the rest of the country and what Manitoba Hydro picked as the criteria as illustrated by the appendix 1(a) up there. So there's divergence between the criteria.

And then the second element is the problematic method of setting up a rating system that again is opaque. It's not transparent. We don't know how high, medium and low are determined. And in one or two cases where we can actually go back and look at it, it appears to be problematic. I'm talking, for example, about the birds, a point impact will drive a valuation for a lengthy segment of the route.

The significance of this problem that

I think I have identified and explained to you is that at the end of the day, when Manitoba Hydro makes the assertion that they have picked the lowest impact route, first, when there is hundreds of kilometres of mid field tower placement, as there clearly are, this is at odds with what the farmers across Canada, and indeed the agricultural consultant Manitoba Hydro retained, this is at odds with all the information they have about tower placements.

Remember, routing and tower placements are just different sides of the same coin. If you've got a route in a field, you're going to have towers in a field.

So the assertion that there is indeed the least impact based on their route, the one that they are recommending to you, I think first off, that's demonstrably wrong. We don't need to mince words about that. The second thing, and this is the other aspect that I think the Commission would appreciate, is that you don't really have much to base the decision of which route is the lowest impact among the A, B, C route, because you were never given any information in real terms about the other routes.

I'm not using this as an example of good information, because particularly in the agricultural sector of this province and through the zones, I think probably I could say seven through 13, those sections, it's basically an agricultural environment. If we only have agriculture as one component, you really don't have a very good assessment of the A, B, C alternatives.

And then, of course, I have explained to you already the difficulty of how their rating segments work.

The significance of all that, Mr. Chairman, is that when someone makes an assertion to you that, please, Mr. Chairman, approve the lowest impact route, they should be able to back that up with something that you can see transparently, oh, yeah, okay, I can see that, that looks like the lowest route, lowest impact route. But what I'm asserting before you here today is there isn't any of that kind of evidence before you. All you have is assertions, you don't have evidence.

In fact, I thought about it as I was over the lunch hour, I can't even tell you how

many kilometres of line are in the field. The agricultural technical report listed some distances, but I have never found it anywhere else. And if I missed, mea culpa. But if you don't even know, how can you assess that situation of the A, B, C alternatives and say, oh, yes, based on the sustainability principles that Manitoba has, this Commission can recommend to the Minister that route B as applied for, or route A as applied for, or whatever, has the lowest impact. Without any evidence on those things, I suggest it's a very difficult chore that you have in front of you.

So with that, we are now talking about the next quick review on page 40, and what I would say is that I basically told you verbally what those factors are, I won't go through all of those. You can have a quick read on them. But at the end of the day, Mr. Chairman, what I would recommend is that the top of page 41 is a very important summary, and that is if the Commission cannot have confidence in a numbers based methodology, as exemplified by the screen overhead, if you can't have confidence in that method, then I don't think you can have confidence

in the route that's being put forward to you as being the lowest impact. You live or die by the rating system. And if the rating system has fatal flaws in it, then any consequential conclusions that come out of the use of that rating system will likewise be flawed.

And I think that's the message that came through to me loud and clear as I was reviewing the Manitoba Hydro EIS, the SSEA and, what do you call it, the selection matrix, those things have problems built right into the way they were designed. The result is that you can't have any confidence in the results that they lead you to.

So the next place I'd like to talk, sir, is the agriculture technical report. I'm not going to spend a great deal of time on that because I think Mr. Meronek did a pretty good job of asking questions about that. So there was a number of factors that I had posed to him and he, in turn, then posed to Mr. Nielsen. And we now know some of those things, and I don't think I need to go over them at all.

But there is a bit of this thing that I do want to talk about just a little bit, and

that is that -- and I alluded to this earlier -- it was my understanding based on Mr. Nielsen's testimony that he is the guy that designed routes A, B, C. And I think I'm pretty safe to say that, he went out there and provided those and then submitted them to Manitoba Hydro for subsequent evaluation. Of course, he recommended one route and they picked another, we know that. But the difficulty we have got is, in the agriculture technical report, there was another one of these rating systems. And in the testimony and cross-examination, or whether it's just in his presentation, I can't remember, it's not relevant, but there was an individual in Manitoba Hydro that said, please come up with a numbering system to try to evaluate this. And basically what I'm saying to you is that Mr. Nielsen invented the system that he used in his agriculture technical report. The significance of it is not that that's necessarily wrong, but it's just that it has no basis. It isn't something that comes from other jurisdictions that's been tested, it's his view of the numbers and his way of doing it.

The other part of that system is that, of course, Mr. Meronek's questions clearly

revealed that he had a problem, if I can put it that way, with the rating system which put beside roads as the lowest impact, and then on quarter section lines as the next highest impact. Clearly, that was not reflective of his view and he said so. But if you look in the technical report, we have got a rating of 1 beside roads, and beside roads in this situation means 42 metres in the field, because there isn't any other beside a road. And you compare that to the rating which is the next one up in impact, which is quarter section lines, demonstrably that's wrong. And he said so unequivocally in his testimony and unequivocally in his report, yet his numbering system had those two things reversed.

This sounds familiar, doesn't it? If you put the wrong numbers in, you're going to get the wrong conclusion out. And there's no question that the numbering system and the process by which he did the ratings suffered from this -- I mean, what else can you call it, it was a wrong way of evaluating the numbers. By his own opinion and by his own admission, that's a compromise in the agricultural technical report that never did get resolved. The ag guy said one thing, Manitoba

Hydro said another, he attempted to resolve that conflict and was unable to do so. And that's unfortunate, but that's clearly what happened.

There are a couple of factors in the ag technical report that are worthy of mentioning and just a little bit further discussion. These are factors the ag technical report, for all its failings, did have some good reviews in there in terms of the types of impacts. They were the kinds of things that you would have expected to see in the criteria of what I would call a full fledged agricultural based impact analysis for Southern Manitoba, the kinds of things that I would expect the Commission was hoping to see.

One of those matters was in his section 3.4.3(13), it's on page 52 in my report, he calls them environmental effects and mitigation measures. Now, you might remember me talking earlier where mitigation is code for compensation, and indeed he gets right into compensation here and talks about the issues of compensation.

What I would suggest to you is that in spite of Mr. Nielsen's efforts and the testimony of Manitoba Hydro staff, this Commission still has no real information other than you are going to

get an assessed or appraised value times 1.5. You don't know any of the components that are supposed to go into that capitalized one-time payment. And Mr. Nielsen has done a good job of identifying a whole bunch of factors that should be thought about when we're getting there, but he does know better in terms of getting you the information and the background numbers to allow you to assess that compensation issue. It's really just, if I can call it a blank spot on the wall that will be filled in at some future time. To my view, that's something that the Commission would really want to know more about and doesn't. And I think the ag technical report does a good job at identifying a whole bunch of the factors that contribute to a proper compensation evaluation. So let me give credit where it's due. Mr. Nielsen recognizes there was a whole bunch of categories that needed to be considered.

I would note, sir, from the testimony that I have reviewed that I don't know whether annual payments are going to be offered by Manitoba Hydro or not. And I say that based on the fact that the Land Value Commission has jurisdiction. I have read your Expropriation Act,

I have looked at it carefully, and there doesn't appear to be any basis in there for annual payment estimates. It's a number. It's actually a very loosely defined process, but I don't see any rationale or appropriate methodology by which annual payments could be generated under that system.

Manitoba Hydro's jurisdiction for getting access to land is the Expropriation Act. The process of determining compensation flows from the Expropriation Act. It would have to be either a contractual or a policy representation by them that they will do this and that the Commission requires them to make a condition of their licence to get into an annual payment scenario, because it's outside the legislation as it currently exists.

Sir, you have heard a great deal about the aerial application, and one of the factors in compensation that came out of the discussion Reg gave here earlier was about the areas that are impacted. Let me just give you a few numbers for your consideration. And we know that the recommendation is for probably about half of this line, 42 metres off of the road allowance is going

to be where the line is intended to be put.

The thing I want to point out to the Commission that doesn't seem to have been taken into account is the impact on the people on the other side of the road.

Now, Mr. Friesen told you that he wasn't going to get very close to those lines for safety reasons, and they sound like pretty good safety reasons to me. If have you a 42 metre centre line, and if you look at the actual physical example they've got on the side table there of the tower, you notice the side arms come out and they come out about eight metres. So what we've got is the conductors are running eight metres closer to the road than the 42 metre centre line. Well, that's about 34 metres. Thirty-four metres is about 112 feet. Typical road allowance in Manitoba, as in the rest of Canada, is about 66 feet. So what we've got is the next landowner across the road, his land begins roughly 180 feet or so from the centre line -- sorry, from the outside edge of what I call the closest conductor to his land. I can turn to Reg here and say, 178 feet, are you willing to go that close? No, he's telling me no. I know he is going to say no

because he has told us right here in his testimony that he won't get that close.

So the question I've got for the Commission to think about is, if you allow an alignment of these power poles, those towers, 42 metres in, who is going to take care of the problems with the guy who has no right-of-way on his land and, therefore, no capacity to claim compensation? How is he going to get taken care of when the first, you tell me, 100 or 150 feet of his field are "unsprayable" because of the exact same limitations Mr. Friesen told you about where the right-of-way were to be placed.

This is virtually eliminated when you move to a head land scenario. Why is that? Because the centre line is running right down the property line, there's legs of the tower on both sides, there's right-of-way on both sides, both of the parties are entitled to compensation. That is a huge issue as we have heard about here. This aerial spraying is an important issue. But in this part of the world, it strikes me, from my experience across Canada, that it's more important because of the nature of the farming, the soils, the flooding, the moisture conditions, and the

crops you are growing here. This is a more important issue here than has been seen in most other venues across the country that I have had an opportunity to look at.

So this compensation issue, while you might think it's out of your jurisdiction, in fact flows back to your opportunity to make recommendations to the Minister about where this line should go. And if you want to see everyone who deserves, potentially, compensation get it, you've got to place the line in a location where the jurisdiction flows to that individual.

So that's a category that the agricultural technical report picked up on.

The next situation I'd like to talk about is that the ag report, getting towards the back end of it, tried to give you some metrics. And I'm not talking about the metric system versus the imperial system, I am talking about just numbers that allow you to make comparisons. While the process of route selection, as I have discussed it with you, has problems being reduced to a numerical basis, one is better than five, what you do have is the capacity to look at metrics that are the characteristics of the route

as they are reduced to numbers.

And what I'd like to do is get you just to turn in the appendix, please, to tab 19.

What I'm putting in front of you here at tab 19 is that these are samples of the way the metrics can be displayed. And as a result of experience, at least in Alberta, this is the kind of thing that's possible to put in front of you on a comparative basis. I'm not saying this is how you do it, this is just the way it can be done.

And I've given you three different samples. If you just turn to the very back one, this is by AltaLink, these happen to be the guys that I typically find myself on the other side of the table. They have devised what they call a red/green scenario. And this is where you can get what I'll call good/bad, best/worst type of a situation. And when you see the red/greens, it doesn't take you long to get a visual feel of which one of these routes has got the lowest impacts based on various criteria that are being measured.

I don't need to rank something high, medium or low to know that 200 kilometres of midfield routing is worse than 50 kilometres. If

I was to do it in a metrics format like this, the 200 would be red, the 50 would be green, and the Commission would have the feel that, okay, for that criteria, this route is the lowest impact. And remember, that's always your goal is to find the lowest impact route.

What I'm simply suggesting to you is that the scenario that's up here might have been a bit of an attempt, but it missed a criteria, it rated all kinds of things that weren't there, and most importantly, and this, Mr. Chairman, if I can leave you with this one, you don't have the tools to make that choice, to decide whether they were right or wrong. You don't have the tools because you don't know what the metrics are, you don't have the evidence of how long, how much, how many, how far.

And that to me is the largest failing in the whole application is that it's we say so, so you should agree. We're telling you, so you should agree. You don't have the tools to peel the pages back, get through the layers of the onion, and drill down to find out whether that's so or not.

I can't tell you which is the lowest

route, sir, sitting here, I can't tell you. But I can tell you that you can't either. That's the baseline of this assessment that I have provided to you, is that this methodology does not allow you, me or anybody else to judge the best route or the lowest impact route. And to me that's a major failing in an application before a board like yours, which is given the responsibility to find the lowest impact route and say, yes, that's where you should go.

So with that, I have a couple other components I'd like to just bring your attention to. At page 56, I'll just go into briefly, and I think that I would be doing this, looking at the sustainability principles that the government has asked Manitoba Hydro to adhere to. I'm only looking at the ones that are inside my wheelhouse, which is agriculture.

The first one of those principles -- remember there's principles and there's guidelines -- and by the way, I provided you with those at the last appendix in there, so just for ease of reference you can see what they are supposed to be. The first, number one principle is the integration of environmental and economic

decisions. And quoting from that, what it talks about is the least impact.

So what I would suggest to you is that, based on the discussion we have just completed, is that it's impossible for you to know if you've got the least impact route. But perhaps more important, based on the testimony of Mr. Nielsen and my testimony to you, you can rest reasonably assured that where a routing goes through a field as opposed to the edge on the quarter line, you have got greater impact. That's unequivocal, absolutely unequivocal.

So if you have a line with a lot of routing in the field, you don't have the least impact. If you have the opportunity to get it elsewhere, that's key. You have to be able to legitimately move it to the quarter line, follow the existing linear disturbance of the property line. If that opportunity exists, then if you don't do so, you don't have the least impact.

The second is the guidelines. And in the guidelines -- the guidelines seek to have significant public participation.

Okay, I talked a little bit about consultation, public participation is the means by

which public participation is carried out. Manitoba Hydro talked about, with some pride if I could read that into the words, this extensive consultation program, and they talked about particularly with regard to round four of their consultation program. And what they particularly discussed is how good a job they did because, look, they removed diagonal routing as a result of feedback at round four.

Well, go back and read Mr. Nielsen's ag technical report. He told you the first thing they did was avoid diagonal routing. And diagonal routing should never have been on the table in the first place if proper routing principles had been observed following existing linear disturbances and so on. So if you're going to tell me that, if you're patting yourself on the back because you took diagonal routing out at the fourth round of consultation, I'm going to suggest you didn't do a very good job listening in the first three rounds, and you didn't listen to your ag guy right off the bat.

So what I would suggest to you is that that tells me that the consultation and public participation was something less than it might

have been in some other better situation, like there could have been more, better listening, better communication.

So with that you now have, I will call it a violation for lack of a better word, of the guidelines, and certainly a lack of adherence to the principles.

So with that, that covers that suggestion, or that section.

The next category I'll take you to very briefly is on the ground, and this is me suggesting to the Commission that there is routing opportunities that were not captured in the route that was put forward by Manitoba Hydro here. And what I'm telling you is that there's two particular areas that I saw. One of them is that one of the biggest and obvious existing linear disturbances you have in Manitoba Hydro is drain-ways. They cut through a variety of locations, sometimes they parallel the road, sometimes they don't. But there are two or three locations where this route is near a drain line. And in one particular area going east and west, we're driving there, Mr. LaLiberte is my chauffer, and I'm looking at the map and I'm looking at the

ground, and here is that enormous drain that half of this room would fit in, and the power line is on the other side of the road. Instead of following the drain with a big grass swale where you can be, not have any worry about clearance violations of any of those things that made them stay away from the road in the first place, they could have followed the grass on the in-field side of that drain for miles. But instead, no, they were 42 metres into the farmer's field on the other side.

And let me just say this, sir, I have sited a lot of power lines and I have had engineers telling me, Berrien, you're stupid, you can't run a line here because A, B, C. Well, let me tell you that almost none of those limitations exist in this Southern Manitoba area. You can build a power line almost anywhere. It's flat, there is good soil conditions, access is available seasonally, if not all year round. The limitations that would come in a rougher topographic area, or with mixed soil types, or with lots of potholes and sloughs, we don't have a lot of that in Southern Manitoba. These farmers have done an excellent job of making these fields

square, flat, and good from one end to the other. The significance of that, the kinds of limitations to power line routing, which you might find yourself dealing with on the more northerly sections, don't apply in significant measure to the southern, certainly the east/west sections. With that, what it means is that if you see a significant existing linear disturbance such as a drain with a great big grass swale beside it, that is a perfect, let me stress, perfect routing opportunity. You're not in anybody's way, you're out of a farmer's field, and you are following a disturbance that is already there. Why in the name of heaven you wouldn't have used that is absolutely beyond me.

That's one of the other things, by the way, that I want to make a comment on, is that if you review the routes, as difficult as that is with the mapping that you have been provided, I can't find any rationale why we'll go along a particular stretch and we'll be on road allowance, 42 metres, and then we'll go five more miles and we'll be on quarter lines. I mean, there is no consistency to the routing decisions that are there, and certainly there's no explanation of why

those routes have been picked to go in those locations. That's all part of the transparency of routing that should be part of an application.

I would just suggest, Mr. Chairman, that I've got three pages of specific routing suggestions, and I would just say with just a little bit of happiness or whatever, that I picked out the problem that Bert was talking about earlier when he testified, where he talks about that route being 165 metres into his field. There is one house at one location well-shielded by trees that supposedly is the rationale for, I think it's five miles worth of in-field routing. Well, if you have a point disturbance, you go around it. You don't create five miles worth of in-field placements when the quarter section line is sitting right there. And that would make a dramatic difference in the kinds of issues that Bert was talking to you about, in terms of manure spreading, but also aerial and everything else.

So this is an example of, and it's identified and given you an explanation of it's already there, I picked it out before I even met Bert. It was that obvious to me. We don't need that line where it's scheduled to go. So what I'm

suggesting, sir, is that these are things that you might consider, in your recommendations, should you decide to go ahead with it in that direction and give a recommendation to the Minister, these are what I would call tweaks or cures or realignments that you might consider including in your recommendations. They are on-the-ground observations by myself.

So with that, the last page of documentation in the report is page 62. Within that documentation I basically have set out what I have already provided to you, sir, in terms of basic information. I won't bother to repeat it again, but I just would suggest that if you decide to go ahead and give this route its approval, the kinds of improvements that I have suggested will categorically reduce the impact of this line.

So with that, Mr. Meronek, I think I'm done my presentation.

MR. MERONEK: Thank you, sir. We'll move on to Mr. Collinson.

THE CHAIRMAN: Thank you.

MR. MERONEK: Mr. Collinson advises me that his hearing is directly proportional to the amount of hair on his head, so we're all advised

to speak very clearly and loudly into the mic. Is that correct, sir?

THE CHAIRMAN: You're not making discriminatory comments about wide parts, are you?

MR. MERONEK: Follicly challenged jokes, no.

Mr. Collinson has an outline that has been handed out and we're trying to get it on the screen.

Mr. Collinson, you have prepared a lengthy report and you've got an outline that's now on the screen. And in terms of your resumé, it's attached as appendix 1 to your report, correct, sir? Can you hear, me?

MR. COLLINSON: Yes.

MR. MERONEK: And your resumé is attached as appendix 1 to your report?

MR. COLLINSON: It's at the end of the report, that's correct.

MR. MERONEK: Could you just go over your background and qualifications relating to the issues before this tribunal?

MR. COLLINSON: Yes. My academic background is in conservation, resource economics, agricultural economics. In terms of my work

experience -- am I speaking too close to the mic?

THE CHAIRMAN: No, that's good.

MR. COLLINSON: After grad school, I spent some time with the Canadian Council of Resource Ministers in Montreal helping with organizing a conference call, Pollution and Our Environment, which was a national conference involving about 1,200 people and a huge number of media people.

I came back to Manitoba and worked for a number of years in research in the Interlake Rural Development Agreement, the inventory, I was involved in the establishment of that, and then went on to an assistant secretary to Cabinet. And part of that involved doing a northern development strategy into, northern economic development strategy, this was in the early '70s. And then was moved to Mines, Resources and Environmental Management, where one of the things we did was, I took a mixture of specialists in an aircraft and we would spend a minimum of a week in each sort of zone of Northern Manitoba. There was the east side, the northeast, the coastal, mid north and northwest. And with this mixture of specialists, which included wildlife biologists such as J.

Bossemeyer at the time, who preceded Jerry Malagar as Director of Wildlife, Merv McKay, who was a colleague of mine in land resource management, Arnie Bauer, Lands Branch, Dr. Paul Nichol from the Resource Institute, the University of Manitoba Natural Resource Institute, and a forester. And we spent, we would fly different routes each day and sit down at night and go through and try to integrate all the findings. Because we didn't want overlays, if you like, of the information. We already had that. We wanted to know what the interrelationships were. So we spent a lot of time doing that. And came up with a map, an indicative map for resource development, that the last time I was aware of it being used was about 15 years later, so it served a purpose through several governments.

I then was asked to chair a study team to look into the social and economic impact of the Churchill River Diversion, which was a rather hot topic at the time. I did that, and at the time of doing it I was asked -- not sure if I was asked, I think I was told by the Premier that I was to do this, and he agreed that I would report my findings to the communities first, that when the

report was completed it would be provided to the government and the public at the same time. And that in the interim there would be a committee established of cabinet, which as we came up with findings, it allowed them to make decisions rather than receive a whole pile of recommendations at the last minute, they could act on them as we learned.

I must say my experience with Manitoba Hydro at the time was very positive. Virtually everything we discovered, we would raise with them, they'd provide us back information on that particular question and then act on the recommendation. So it was a positive experience.

I then went from the Manitoba Government to the Federal Government, and I worked in the Department of Regional Economic Expansion for eight years, did a couple of things there related that were relevant to this. One of them is we had agricultural agreements with the three Prairie Provinces, and we had northern development agreements with the four western provinces and the then two territories, NWT and Yukon.

I then went through a series of special assignments which are not relevant to this

particular subject that we're on today, exciting stuff like a review of all the common service policies of the Federal Government. I don't know what I did to deserve that.

Then I was at the time Assistant Deputy Minister of Parks Canada, the position is now called the CEO, where in addition to national parks, there was a development of new parks, and the annual or the five-year review of all management plans, which included any kind of developments, and review and assessment of interventions.

My last role in the Federal Government was to set up a group of scientists to say prepare a report on the state of Canada's environment, which was done, the report was dated 1991, but by the time it was released it was 1992. But it was about three inches thick and covered virtually every subject on environment at that time.

I chaired the UNESCO World Heritage Committee for two terms. UNESCO at that time had two categories of sites that they dominated. One were cultural and one were natural. There was a gap because some were a bit of both, and yet the criteria wouldn't work with them, and so I set up

a process within the World Heritage Centre to review that and they eventually came up with a category for joint type of nominations.

One interesting nomination that we dealt with was the panda reserves in China. China proposed nine panda reserves for nomination. We spent a bit of time explaining to them that a pending review to the committee at that time, we explained that really we were looking for the best in the world so there should be one. And they chose the Wolong one, which is now listed on the World Heritage list. The interesting thing about that in terms of protection and long-term management, and when I say long-term, I'm talking really long-term, sort of the Kane's notion of long-term, they are all dead. And China at the time didn't make the linkage between habitat and longevity of any particular species. And so we had to work with them to get them to understand the ecological interrelationships. Because while they put a ban on hunting panda, they were still putting roads through the panda habitat and cutting the bamboo, which is the only food panda eat. And we were able to work out, through a process with China, to respect that and understand

that and respect that, which got us to the point where we were able to nominate that particular site.

I think that's probably the best example in terms of World Heritage Committee of something that's a bit comparable.

I also was the head of Canadian delegation to a group that was called a high level committee on environment and economy, and this was the first time -- it followed the Bruntland Commission in '80s, and this was the first time that governments as a whole internationally began to take into account environment and economy as two interrelated things. You touch one, you are involved in the other immediately, it doesn't matter which way you go.

MR. MERONEK: Sir, in terms of the environmental impact statement, have you been involved in similar review processes in your work --

MR. COLLINSON: Similar.

MR. MERONEK: -- to what we're doing today in terms of environmental impact studies?

MR. COLLINSON: Well recently, although for commercial reasons I can't tell you

the name of the company, but I just finished doing a study for a mining company and how they could locate their operation in an area which did have some sensitive sites by taking account of the sensitivity and the interconnects between the sensitivities and how to locate the business without having undo harm.

MR. MERONEK: When you were working with a CEO of the National Parks, did you do any review process similar to what we are looking at today?

MR. COLLINSON: Yes. National parks are a funny kind of land use in that they have definite boundaries, and from the inside some of the Parks Canada people look at it as there needs to be a buffer on the outside between the effect of external activity to the park on the park. And so we worked with communities. I spent a lot of time working with our own staff to help them understand that we were managing within those boundaries, not outside. Cooperate as best we can, but in the end we are responsible for managing within.

Each park has to have its management plan renewed or reviewed every five years and that

gave an opportunity to make sure that we were on top of things.

Now, the other example is Ellesmere Island, where there was a proposal of long-standing to design or develop a national park on the northern part of Ellesmere island. My view at the time was we were tight for money and that we really didn't have the budget to be spending on a park that at best might accommodate 50 or 60 people a year.

However, I got the opportunity to go there and fly around the area, came back convinced that we needed to do something about it to protect the area what was there. Because even the researchers were leaving a mess behind. And the idea that was to develop the park, at some time it will become a more significant one, but in the meantime at least we can protect what's there by establishing some rules or regulations for behaviour, people who were going in, whether researchers or other. So that was a little bit different take on a national park.

MR. MERONEK: In terms of wildlife, what kind of experience have you had in dealing with some of the wildlife that is the subject

matter of this hearing?

MR. COLLINSON: I think Manatee Lake wildlife management area was one of the first in Manitoba, and I was involved in that in the northern part of the Interlake. We also at one point established, well, the Souris River bend is another example of a wildlife management area that we established at the time I was there. I spent a fair bit of time when we were looking at the northern area, northwest area, looking at the movements of woodland caribou, I'm sorry, of barren ground caribou, and also on the coastal, Hudson Bay coastal area, looking at the coastal herd as well as the polar bears. There was a polar bear denning area running from about the Owl River all the way down to the Ontario border. I was somewhat surprised recently to see that -- recently the Manitoba wildlife people had discovered there were polar bear denning areas east of the Hayes River. And unfortunately, it's an example of when some people get involved in something like that for a long time and then leave, there isn't necessarily the continuity. And so it was discovered all over again, according to the article, that there are polar bear denning

areas east of York Factory.

MR. MERONEK: What about birds?

MR. COLLINSON: Well, I guess the most negative thing to say is I used to hunt them, but I have had an interest in birds for a long time and did get involved, not with both feet, but in the development, for example, of Oak Hammock Marsh when we were working in the Interlake. And through the Canada land inventory, one of the criteria we used in the category five to eight land designations were whether birds, ungulates, other forms of wildlife existed and lived in those kind of areas. Because they tended to have higher use for wildlife than they did for anything else, including agriculture.

MR. MERONEK: Perhaps now, sir, you can take us through your presentation?

MR. COLLINSON: Okay. I had been asked by the Coalition to take a look at a number of factors. Mr. Meronek has covered some of them. And maybe from a little different perspective, the people prior to me today have talked in detail about agriculture, for example. And we have had presentations from the farm level, from a service operator level for a district, to the entire

routing, and I'm going to take a look at it from a little bit farther back and see how it fits in with the rest of Southern Manitoba economy.

I'll then take a look at a couple of other things that are in the EIS, and I'd like to end up talking a little bit about the notions of avoidance mitigation and compensation as sort of a continuum of options in terms of how a route might be assessed with the preferred option being avoidance, if possible. Mitigation comes second, if you can't avoid it, then mitigate and hopefully bring everything back to some norm. And then compensation is the last resort.

There's a few theoretical concepts, and I should warn you that I had been advised to go easy on them because I think I can get involved in conceptual models too easily. But first of all, I think some of these are pretty self-evident. But when we take a look at the whole earth, whatever is here has been here almost forever. There's nothing new except radiation from the sun. The earth turns, the moon moves around, and everything else is here. We get a little bit of space stuff. I suppose with all the iridium that was in the space stuff, so it falls

to earth, was put in a pile, we'd be in trouble, but it's not, it's spread out, so it's almost insignificant around the world. But it's important to notice that all we have on earth is what's here now, with the exception of the sun, of the radiation from the sun.

What humans do is they transform the resources in various ways, they transform them into other kinds of products, they move them into other locations and they concentrate them in certain places. The natural systems have an ability to a degree to adapt, to change. Some of them are quite resilient, some are less resilient. And over time these changes have different effects. They have an immediate effect and they have lessening effects, and different effects over time. One of the main things, though, is that a lot of us grew up in a world where there's a cause and a result, or a cause and effect, and that affects our thinking. And it's true, there is a cause and effect. There's a primary effect and sometimes we even look at a secondary effect. The reality is that the effects over time are web like, they are not linear. And so for example, when you take a look at moving a route because it

may help the caribou, it may concurrently have a whole series of Sharp-tailed Grouse licks along that northern route. So you need to take a look at all of these kinds of implications over time.

The other factors that is kind of interesting is that every decision and every action becomes another variable immediately. You know, if you change the tax laws, then all the accountants go to work and figure out how to avoid them. And you change them again, the same thing happens. So every reaction, every action becomes another variable. So that in ecological theory, the same thing occurs, one little change becomes a variable and affects a whole series of other things.

What this really means is when you put this all together, it's very difficult to separate environment and economy, and today energy. Energy is part of economy, but it all gets mixed up, because even whenever you talk about one, or any one of those three, we are immediately into talking about the other two. And it also follows that everything is changing everywhere all the time. That's enough of the theory for now, but it's an underlay to some of the comments that I

want to make later.

If we look at the world today, and because of globalization that's taken place, it's been going on for a long time since England sent ships around to China for tea. But the last 20 to 25 years, it's become growingly obvious that we are all interrelated on the globe. And so the global economy has effects here. We wouldn't be in the same position we are now economically if the European union economy was in better shape. I mean, we're not in bad shape, but we'd be a lot better off if they weren't in trouble. The U.S. economy has been dragging since 2008, so that's had an impact on us because we don't have the same market we had before.

Also depending on whether you travel to the U.S., our capacity to export has been impacted because of the change in the dollar. If you're a tourist, that's a good thing. So it all depends on who you are.

The U.S. at the same time as one of our prime markets for almost 80 percent of our sales has been doing several things. One of them is their economy has backtracked a bit. Two is that they have found ways, partly because of the

economy slowing down, to use and need less energy, and partly because they have come up with alternate means of energy. My personal view, based on some analysis, is that the most unfortunate thing they have done is turn agricultural land away from food production to energy production.

Now, the good news in the short run is that's given us better markets for Canadian agricultural products.

Now, just as I'm talking, we're seeing examples of all of these interconnections.

When we come to the whole northern hydro development program, this was developed in the 1960s and into the '70s, quite a major achievement at the time. And that plan had served Manitoba well for some years. We need to look ahead, though, because an investment today is not going to have its payoff for 10, 15, in some cases 25 years if it's a new dam. You get the idea. Make a decision, do all your planning, go through the regulatory process and construct, you're looking at 20, 25 years. So we need to be looking at the market situation, and what is likely to be 20, 25 and beyond in terms of the updating of

planning for that kind of purpose.

At the same time, environmental assessments have become a lot more complicated. When I did the study in the early '70s on South Indian Lake and the other communities affected by the Diversion, we were sort of creating our own process because there wasn't an established process for environmental assessments in those days. If that was to be done now, we would do it considerably differently. But at the time, that was the best we could do. So these get more complicated, which adds to the complexity of any planning of a long-run nature.

The final point is that, in terms of context is that I think there's now enough evidence that most people realize the climate is changing, however it's been caused. A large degree of that is normal. Geologically, over time, there have been changes in climate, and this is happening again. It's probably influenced by some of the weird things we put into the atmosphere. And it gets more complicated as you start running through those nozzles.

We get to Bipole III review, the environmental impact statement is, and this has

been mentioned by others before, but it's incomplete in a number of respects. And I can appreciate all sides on this. On the one hand, there's an urgency to get it done. On the other hand, there was a plan in place and all of a sudden you can't go that way, you've got to go somewhere else. The urgency builds. And so unfortunately there's some significant gaps in the EIS. And what I'd like to try to do to see if I can highlight some points that may help resolve some of the issues.

And of course, the first thing to do to resolve those is to bring them up.

The EIS does mention avoidance, mitigation and compensation. But it's hard to follow the logic at times between which is chosen. And I'll highlight some of those, and we'll talk about birds, caribou, severe weather, agriculture, the economic assessment and the implications of climate change.

I have done a little map, and I must apologize to Manitoba Hydro for taking some liberties with one of their maps, but based on my experience in Northern Manitoba -- and I'll just backtrack for a second here. In 2007, I happened

to be in Calgary, and at the time I was living in Souris. I grew up on a farm in Souris and left to go to university. I finally went back some years ago for about three years and realized that by this time, all our family was in other places and we were too far away, so we no longer live in Manitoba. But when I was in Calgary and saw this news on the Calgary Herald that the Hydro line was going to go around the west side of not just Lake Manitoba, but Lake Winnipegosis, I thought the Calgary Herald had made a typographical error. That was my immediate reaction. So I got back to Souris and discovered that it hadn't been an error. And being kind of curious by nature, I said to myself, there's got to be a good reason for this, so let me see if I can figure it out. Because my initial reaction to it was that there is a problem with birds and there's a problem with agriculture.

It turns out I was wrong, there was a problem with birds, agriculture, severe weather and caribou.

So then I began to look into each of those as individual items to start with, and then try to tie them together later on.

It struck me as interesting that when you enter Langruth from the south, you have that image of a heron looking at you. And that tells me something, that tells me that not just is that a major part of the Mississippi flyway, but it's something that resonates with the local community. That's their motto, and the birds in that area are well-known.

The Mississippi flyway, now, Mr. Meronek tells me that it's hard to distinguish between colours there, and I didn't believe him until I looked more closely. It turns out he's right. But if you can make out the sort of bluey-purple, if there's such a colour, that's the Mississippi flyway. It runs up just sort of the east side of lake, that one there runs just up to the east side of Lake Winnipeg and then west. As you get over in Saskatchewan, then you're into the central flyway. So we're looking at the Mississippi flyway here, and it crosses Manitoba and southeast and northwest. It's funny, it sort of follows the edge of the Precambrian shield if you look at it and think about it. There's good reason for that, there's more food to the west of the Precambrian shield.

They fly up in the spring and then they stage, they rest and stage. And that's a phenomenon that can be explained by the existence of the last agricultural land they are going to see until fall, unless they choose to nest in Manitoba. And that's an important point because by this time, they have already gone some distance, and they are due for a break. So they stop. Not only do they get rested up, but they eat, and there happen to be agricultural fields there. Usually in the migration time in the spring they haven't been worked yet, so there's a few seeds lying around. And some parts that have been missed by the swather and combine, and so they are able to stock up.

It reminds me, back in the '60s, if you went to Grand Rapids up highway 6, there was a little restaurant at Moosehorn. And if you were wise and the least bit hungry, you would stop there for lunch, because the next place to stop was Grand Rapids. And so there was a sign at one point where it said "Next gas 109 miles." The birds are like that too. Because they get there, and somehow they seem to know that the next food stop is a long way so they spend up to three weeks

at times on their way up.

So while they are doing that, they are doing local flying from where they do their resting, usually wet areas, out to fields, and back again, often twice a day. That's what we call staging.

There are 200 waterfowl species that use the flyway. Some of the major ones, Canada Goose, Tundra Swans. Tundra Swans are interesting. They come actually from over in the Georgia area along the Atlantic coast, and their route is over through the Great Lakes, into Manitoba, and then along into the Arctic. They are the only ones that seem to cross flyways in that respect.

The concern then is not so much with the local birds nesting, some of them are going to run into wires. But this large concentration that goes up in the spring, back in the fall, when they stop in Manitoba to rest and feed up, it makes them susceptible to collisions with wires. And I think that's something that's worth pretty close attention.

I know the person who spoke to this subject from Manitoba Hydro talked about zero to

18 bird strikes per kilometre. That would probably be true in some parts of the line, particularly from about north Moose Lake to the Henday converter. South of there, it would be substantially higher. North Dakota measured 124 to 200 birds per kilometre per year, and they don't have the density of birds there that exist in Manitoba. So that's a question that I think deserves some attention.

So about half of that is -- half of the 1,400 kilometres is staging area, fairly significant.

Just to give you an idea of the range of birds, these are two photographs. And that's not Reg Friesen's aircraft, that's a Bald Eagle flying above the line. And this was last week, by the way, just south of Winnipeg, very close to where the proposed line would be. And those birds on the bottom are Bald Eagles on their way north -- sorry, on their way south. Basically they prefer fish but they will eat other things like pets and whatever is small and moving around. But when the lakes start to freeze over, then they'll go south and come back in the spring. And their habitat range will go anywhere from fairly

close around here all the way through to the Northwest Territories.

I have borrowed a slide from Manitoba Hydro again just to illustrate that the proposed line goes through that highly sensitive bird area near The Pas. There are a number of wildlife management areas right there, designated primarily because of birds, and including some of them that are designated as protected and the line goes through them. Now, I can understand why the line goes through that general area, because there are parts there, we probably have trouble finding a decent foundation for a tower because it is marshy and muddy. But the reality is that that routing goes through a prime wildlife area, migratory bird area.

We have a tendency to be behind in a lot of things in our heads, and when it comes to wildlife, there is a tendency to think that the value for wildlife is hunting. And for some people, hunting is a major priority. There are a number of Aboriginal people who rely very heavily on wildlife of one sort of another. But when we try to look at the economic impact, then a different picture emerges. Now, there is no data

available for Manitoba. However, there is data in the U.S. that parallels, that's part of the Mississippi flyway. And what it shows is that bird watching and bird appreciation has taken a significant jump above hunting. And so when you look at the figures there, ignore the bars because that's fish, the blue lines you see is significant growth, and this is money spent, agregation of money spent watching birds compared to money spent on hunting. And it's often a surprise to some people, because the assumption is that the major impact of birds is hunting, and point of fact is bird watching and it's growing.

Just as a side example, when I was responsible for Parks Canada, we had a study done at Point Pelee. There's not large birds there, but a lot of songbirds. And in one week at the time of the spring migration, $825,000 was spent in Leamington on film processing. Now, that wouldn't happened today with digital cameras, but it gives you some idea of the magnitude of what people spend when they are bird watching.

With respect to the avoidance, mitigation, compensation considerations proposed with respect to birds, there is mention made of --

avoidance really doesn't really seem to have been attempted in it, but there is mention of the Minnedosa pothole area. That's certainly a significant nesting area for ducks in particular. Whether that was the prime reason for rejecting that particular route, I don't know, it was probably certainly longer and more costly, so that may well have been the reason. But beyond that, there doesn't seem to have been any adjustments made to take birds into account. It runs through between the Big Grass Marsh, for example, and Lake Manitoba, which is right smack dab in the middle of the major part of the Mississippi flyway.

I used the figure 25 percent Whooping Crane deaths due to wire collisions. That happens to be true. I know there are no Whooping Cranes in the area, but they represent the kind of bird and the nature of their flying. Cranes are not particularly good at aerobatic manoeuvres, if you like, to use a term that Reg would understand. About the only large bird that is in fact is the pelican. And so whether it's geese, heron, Sandhill Cranes -- and geese, in particular, in my experience is that they are known to fly in the mornings, early in the morning when they are going

out to feed. And if there happens to be ground fog, that doesn't matter, they fly anyway. So, however they use -- they obviously have their own navigation system. However that works, it doesn't tell them how to avoid lines. And on a Bipole line that's the centre of the ground line -- sorry, optical ground line, that perhaps because it's higher, perhaps because it's smaller, more likely the latter, that seems to be the one that catches the large birds more than anything.

Bald Eagles are another example of a bird that's very susceptible to wire, because they are -- when they are going after prey, they are concentrating on the prey, they can see the two other wires, but by the time they realize there's another one there, it's too late, because something like Mr. Friesen's aircraft, although they are not going quite as fast, they are going at a fair rate of speed and they are not capable of manoeuvring quickly to avoid it.

And this is not to be mean or anything, but I do note that Syncrude paid the equivalent of $1,800 a duck for ducks killed in a settling pond in Alberta, about two, three years ago now. So it does give an indication that

society sees these as valuable parts of our ecological system and I think that should be noted.

Upland game birds are different than migratory in that they are residential. The prime ones are Sharp-tailed Grouse, Ruffed Grouse, Ptarmigan, Spruce Grouse. Most of them live north of Gladstone, but you'll find a few in the Portage, St. Claude area.

The Sharp-tailed Grouse in particular I think deserve some attention. The critical thing there is their winter habitat and nesting habitat is somewhat similar. They need to be protected when they are nesting and they need to have some protection in the winter, both from predators and from the elements, and that tends to be the heavily treed areas with thick underbrush. And so anywhere that those are taken out, there's a chance of reducing that kind of critical habitat.

The Leks are something that are a little different in that they are only applied to Sharp-tailed Grouse. And I'll just take a minute on them. This is a picture of a Lek. Terribly important that they be identified in advance of

any construction or clearing.

Now, the problem with it is that they can only be identified when they are active. They are active almost certainly between mid-March and the end of May. They may become active as early sometime in February in an unusual year, and they can continue to be active into July in some cases. But generally speaking, it's sort of mid-March to the end of May, or late March to the end of May.

It's not just a small area, the Lek tends to be regarded as the place, and just -- I'll just take a minute to explain a Lek. It's kind of like the old high school dances where all the girls sit along one wall -- this is Souris, a long time ago -- and the guys stand by doors so they can get out in a hurry or something. And sometimes not much dancing goes on, but they shuffle around. And this is sort of like a Lek. The males go to the Lek per se, and they get themselves all lathered up dancing and bouncing around and shaking their feathers and everything, and they've got about four guard birds off to the side making sure the fox doesn't come by. And the girls are sitting off in little low boughs of the trees around the Lek area. And they watch this

going on. And if they feel so inclined, then they go over and land beside one particularly attractive dancer, and they say come with me. And that goes on until nobody is left.

Now, it may take a month or more before it all happens, but that's the process of a Lek. So it's not just where the dancing occurs. It's the trees around where the female birds sit while they observe all of the things that are going on there. Well, I'll leave it at that.

So first of all, it's important to identify where they are. They need to be avoided -- they don't -- it's important they not be disturbed, first of all. The Lek includes the dancing area as well as the trees around.

They are more susceptible to -- it is just spoiling the whole scene if there is industrial activity going on in the neighbourhood. And this could be up to at least half a mile if not, I think some places they talk about 2 miles. I think that may be a little bit excessive, but it's certainly beyond half a mile.

So those need to be identified, which means that the only time they can be identified for sure is in that March, April, May period, and

early in the morning. By the time noon arrives, everybody is gone. And you may be able to identify an inactive one by seeing the grass that's trampled down, but you've got to be a real good observer to be able to do that. So it's got to be done between, let's say the 1st of March and the end of May, and it's got to be done before probably 10:00 o'clock in the morning. So that's a fairly intensive effort that would be required by somebody to identify where they are, so that the final, final line doesn't access or impede on what's going on there.

Woodland caribou are probably the most critical species affected along the entire route. They are threatened, and there's a good reason for it. The fecundity of woodland caribou is never very good, throughout North America it's not very high. That means the chances of herd growth are very slow, if any. And the consequence then is any disruption to habitat becomes a critical factor.

There are three caribou ranges impacted by the proposed route. I should back up just a bit and say that the EIS per se and the original technical report on caribou was useful to

a point, but not particularly complete. The second one that came out in early August, I believe, excellent report. The only unfortunate thing is it doesn't give much depth in terms of time. And so while the information is first rate, to draw conclusions that you would feel safe with over a period of time would require more information over a period of time.

In terms of their susceptibility to outside impact, there is a number of things affecting their fecundity rate to begin with. One of them is predation. The studies that have been done and reported indicate that the actual growth rate by fall is barely break even. And in some cases actually there is a net non -- negative addition to the side of the herd. So that's a serious question for any species that is threatened.

I can go back to one case that the World Heritage Committee dealt with, and this was Ngorongoro wildlife reserve in Africa, the Central African Republic, which was mostly famous for the White Rhino. Unlike the caribou here, the White Rhino's biggest predator were gangs of people with machine guns who would shoot them and cut off the

horn and leave the carcass. All they wanted was the horn to sell to the Far East.

When the item came before the World Heritage Committee, six months prior there were 16 White Rhino left. And the suspicion, and I suspect that it was true, was that they were probably all gone by the time the committee met.

So whatever the cause for a reduction in numbers, it requires serious attention. It's very simple, or it sounds simple if it's predation by humans. In the case of Africa, it's not quite as simple as it sounds. We can probably deal with poaching better here, but the habitat impacts are not that easily addressed. And the problem with them is that whatever changes in terms of habitat is not easily -- you can't mitigate it very easily because in the meantime the caribou herd could be gone.

If, for example, a line goes through and the monitoring that's proposed shows that the line has affected the habitat to the point where the caribou herd is in real trouble, you can't take the line out and replace the trees. So the monitoring is of interest to the biologist and to Manitoba Hydro, but it's not doing the caribou an

awful lot of good if they are not there anymore. And this is a factor that needs to be I think taken into account very carefully. I have used one of your maps again to show the location of the core areas and winter habitat, and I'll come back to that in a second.

The other ones that I wanted to mention was that the EIS is quite accurate in identifying the interaction of moose and wolves and caribou. And that's important to keep in mind, because if for whatever reason moose move more into caribou range, and there's always some interaction, but some of the caribou range areas are essentially caribou. As moose move in they drag their wolves with them. And for the wolves, it's sort of like going after McDonald's and coming across Dairy Queen, and here they can get an ice cream cone for dessert in the form of caribou, as well as moose for the main course. So that's one of the implications of how these ungulates and their predators interact with each other. Moose and caribou don't share the same food, but they do at times share the same habitat.

Bears, black bears have been known to prey on caribou, primarily I think young calves.

I don't know that there's enough evidence to show that this is very serious or not so serious, but it is a factor.

My main concern with respect to the caribou is that the short-term information we have is not sufficient to make a long-term decision. That's what makes us a little nervous.

Now, there are three kinds of caribou in Northern Manitoba at times, the barren ground caribou, the Porcupine Herd and the other one that starts with a Q, I have never in my entire life been able to pronounce, migrate into Manitoba down into the tree lines some winters, not all. And at times they could reach very close to the Nelson River. But this is not a predictable annual occurrence.

Their nature is such that although they will run away from people, if there's not a lot of activity going on, they will wander by buildings and so on. You won't find woodland caribou doing that.

This happens to be some pictures that I took at Deadhorse, Alaska, of woodland caribou at the time that they were concerned about the impacts on woodland caribou. And the trick there

was not to bother them at the calving time, that was the important part. Other times of the year they could handle being close to buildings and other activities.

The next shot is this is the Cape Churchill coastal caribou herd south of Churchill. These will come down to the Nelson River occasionally, depending on the winter, it's not expected that the impact on that herd would be particularly great.

The woodland ones are the ones that are of greatest concern. And as I mentioned, there are three ranges that are affected.

And they are shy animals, so they will get out of the way if there's activity going on. And that's a concern particularly during construction, but even afterwards. They tend to stay away if they can from disturbed areas.

The other major impact on the woodland caribou can be forest fires. I love your Hydro base maps because they give me something to draw on, although my art work is not all that great. But it does show that there are significant areas of caribou habitat that are impacted by their proposed line.

So when we come to avoidance, mitigation, compensation questions with respect to caribou, avoidance is by far the preferred one. It usually is, but especially so with caribou, because it's not clear what kind of mitigation would work. And compensation doesn't really cut it when you come to caribou. They don't accept payments very well. So the trick then is to try to find a way to avoid having any impact.

The work that's been done and the proposed adjustment to the Wabowden range moving it out of winter habitat into summer habitat is of some benefit, there's no question about that. However, it's still going through that particular range. And where you have a threatened herd with no recent sign of growth, as far as we can tell from the data, then it continues to be at risk and there is an impact that needs to be taken into account.

The line goes right through the middle of The Bog caribou range, and that is one of the larger herds and it's one of the apparently more healthy herds. The problem, though, is the line goes through the middle of it now. I recognize that the number 10 highway and an existing power

line and the rail line go through there, so there is an active corridor and the proposed final route is through that area.

That's good to a point, but at some point the intensity of use within a corridor becomes a factor. The rail line and the highway are not used anywhere nearly as heavy as most highways in southern Manitoba. And so when you look at the cumulative impacts of those three elements that exist at the present time, and take into account one additional line, then the chances of an additional impact are greater. It's just the intensity of use in a corridor.

Normally a corridor makes a lot of sense, but for something like caribou that are a shy animal to begin with, they will cross it, but they will hesitate and the people that are -- or the predators that are looking for them will be close to that unless there's water nearby. So it's something that deserves attention. And I don't have a quick answer for that. I did want to flag, Mr. Chairman, the fact that that is a concern.

And monitoring, as I indicated earlier, is of interest over the long haul, but if

you find out that the cause of rapid decline in a herd is because the line has gone through and it's cleared out some of the habitat, and it's caused a problem with crossing, you can't take the line back out and put the trees back in. That's the real tricky one there.

Now, the caribou report speaks to 65 percent of habitat being impacted one way or another as being a tipping point. And I think the data they have to date would show that that's probably the case. The problem with a figure like that is, my experience, you want to have a buffer idea that gives you some clue as when you are sort of into the lookout range. And whether that's between 65 and 75 or 65 and 80 percent, I don't know. And I don't know if the biologists at this point would care to come up with a figure. But it seems to me that that's important. Because 65 percent by itself, if you take it literally means that 65.1 is good and 64.9 is bad. And it's obviously not quite that simple. And it seems to me that there needs to be some thought given to how close to that 65 percent can you get without being really potentially in trouble?

The next item is severe weather. And

the prime reason that Manitoba Hydro has given for the proposed Bipole III line is for security purposes. And then the solution to improving security is to put a line through some 400 or so parts of Manitoba that have the highest incidence of severe weather, including tornadoes. It's an interesting proposition.

If I take you to a map of tornadoes over the years in Manitoba, you will see what I can mean by that point. It runs up from about Winnipeg across, including the west side of Lake Manitoba and all the way up into Saskatchewan. And there's the incidence of tornadoes.

So the only way you can avoid weather damage to the currently proposed route would be to put it underground. You can't strengthen towers sufficient to stand up under an F-5 tornado like the one that hit Elie. Where also the big problem is what happens if Dorsey were to be hit by severe weather? But in terms of the line, this is a serious question because it impacts on security.

I'm going to go through very quickly the agricultural impacts, Mr. Chairman, because they have been well covered this morning.

The problem that I see, standing back

a little farther than just looking at the line itself, is if I look back to my day on the farm in Souris, which was about almost the length of a Bipole line if we gave it a short life span of say 50 years or so, we were farming with 12-foot wide machinery and we had the biggest machinery in the area. We made probably four passes over the ground before we got the seeding done. And now they talk about doing it all with an 80-foot or greater air seeder that does everything in one pass. Well, if you look at, for example, the Souris area now and see the crops that are grown compared to the crops that were grown in the '50s, there's nothing to compare. There's hardly anything grown now that we used to grow. Why? Because of genetics, because of many of the seeds are now designed to fight off diseases and weeds. Colleagues from the University of Manitoba managed to take rapeseed, which was grown occasionally for oil purposes back in the '50s, they've got the erucic acid completely out of it and is now called canola oil, and one of the biggest cash crops in Manitoba. You hardly ever saw a field of rapeseed in the 1950s. So all of these kinds of changes have taken place, and if you look back even 20

years or 10 years, the pace of technology and agriculture has changed dramatically. And I think this needs to be take into account in both the impact of the line over time, and if it's going to be in place, the nature of the compensation that accompanies it.

I won't go into the extra field costs associated with the line within fields or the impact on aerial spraying, weed issues and so on, that's all been covered.

I will speak briefly on irrigation, and that is that it seems kind of unusual that the proposal that is put forward is that account would be taken of existing irrigation systems to try to avoid them, and the route would go through adjacent lands that would not be under irrigation. That implies that the owners of those adjacent land would in perpetuity never have any intention of putting irrigation in, and it seems to me a bit of a disconnect there that needs to be taken into account.

I just put this forward, my last borrowed Manitoba Hydro slide. And I refer to the 50-hectare illusion. And technically there's probably 50 hectares that would be impacted by the

line in terms of the base of the towers through the agricultural area. But that's not the area impacted by the reality of the line being in existence. We have heard this morning that it can be up to a mile on either side, depending on the nature of the operation. That can be a different kind of impact for meeting the provincial regulations with respect to liquid manure and so on.

So the main point here is, Mr. Chairman, I would implore you not to spend a lot of time concerning yourself with 50 hectares in the case of agriculture.

I want to come back to the pace of change in agriculture. When I talk about birds and caribou, there is a particular pattern that may vary a bit with weather, but the birds fly north in the spring, and they nest and they grow up and they fly south in the fall. And they do that year after year after year. And as long as there's habitat available, they'll keep doing it.

Agriculture is not a living thing like birds or caribou, but it's an industry that combines technology, capital management and labour all together, probably one of the highest outputs

per unit of labour that you'd find. Machinery is complex, new skill is required, it is not just anybody, including me, that can climb on a tractor or combine today and know what they are doing. Because you don't have to look out and see where the edge of your machine is because your GPS is telling you where to go. What you're looking at is all the monitors that tell you that the machine is working properly. In my day, we had a rag on the far side of the return elevator on a combine, and you would see that rag going, it meant that return elevator was working. It was the only way you knew it was working. Now they've got monitors that do all of that for you. But it's a different thing to look at. The machinery is much larger, more sophisticated, so it's a different kind of skill required to operate it.

When we look at the kind of inputs from various scientific industries, I guess you'd put it, genetics is a factor, chemistry, physics, nutrition, engineering, economics, computer technologies, medicine, all of this comes together within the agricultural industry, so a highly, highly complex industry. And as all of those factors change over time, then it changes the

industry itself. And so any notion that you can come up with a figure for compensation for a project that will have impacts for as long as it's in place, which I would think would be at least 60 years, if not longer, it defies any methodology that I can come up with. And as a consequence, it seems to me that it's important that we begin to take a look at how can you -- if there's going to be this kind of impact, how can you come up with a system of compensation that's fair?

Compensation by definition implies making up for losses. That's what it's all about. We can't calculate the losses because we can't see what the pace of change is going to take us to in the future. The very best we can do is over a 10 year period, we can probably make a projection that will be off by the tenth year, but it will be somewhere in the ballpark. If you try to beyond that, it's simply not doable. The pace of change is too fast.

Some people who suggested five years, I am looking for something that's practical that doesn't mean you have to be continually doing projections, but it seems to me that you would be in real trouble to try to beyond 10 years. So

it's something beyond 10 years to come up with a calculation, and then make the payments to a farmer on an annual basis. And this is very important. This is how they earn their money. And if their business is impacted by something, that's how they lose it. They lose it annually. They don't lose it once. So that's a very important factor that needs to be taken into account, Mr. Chairman. I can't think of any other way of trying to deal with something that is just disappearing over the horizon so fast in terms of being able to see where it's taking us.

Now, I grew up in a family where if I was critical of anything, the first reaction I got was, okay, how do you solve it? And what I tried to do is identify at least some questions that seem to be worth following up on. And one is, it's pretty obvious that the route through Southern Manitoba, and would I distinguish between -- now that Yellowhead highway has been used and I'm aware that there are pockets of class 3 or better land north of the Yellowhead, there's some very good land in the Swan River area, so it's not fair to make that black and white distinction. But reality is that most of the

class 3 or better land in Manitoba is south of the Yellowhead, and it goes all the way around to Winnipeg on the proposed route.

So the greatest impact on agriculture is in that area. If you get into an area where it's class 4 or 5 land, and those are about the only land categories beyond 3 that would be farmed, then you are looking at some cultivated land. And I say some in the sense that it's probably a cereal crop as a nurse crop to get hay growing in some smaller fields. Or if it's native pasture or native hay. The equipment required for that type of an operation is very, very different than is required for a large grain operation. The width of the machinery is different and the nature of the land is such that there are potholes and bush that you have to go around anyways. So in some respects what's one more tower?

Once you get into the large areas of arable land, it's an entirely different picture. But I make that distinction because I'm not suggesting that the same impacts occur all the way up past Swan River. Once you get north of the Yellowhead into that area between the Big Grassy Marsh and into Lake Manitoba, there are some

pockets of very good soil. But right across the other side of the road, you could be looking at rock outcrop and stunted trees. So it's a little hard to tell. But the land that's used for native hay and pasture does not have the same impact as the land that's used for arable agriculture.

So there needs to be a compensation system that takes into account the change over time. And the only way I can think of is to take a look at those impacts in some period of time under 10 years, and then just follow through decade by decade.

If on the other hand the lands were underground in the class 1 to 3 agricultural lands, that could have a difference. There would be some impact on the soil type that's been disturbed. But if it's carefully done, there are oil pipelines all over Southern Manitoba, and within a few years, the crops are growing just fine. So it's a thought.

So the real mitigation, my response to the question my parents would ask me would be, take a look at lines underground through the class 3 or better land.

And in terms of the bird impacts,

because there is a connection here, the birds are flying into agricultural to cereal and grain growing areas for their feed when they are staging. So within about 30 kilometres of that kind of arable land, you'd want to have the lines, something done with the lines, perhaps diverters, but solid diverters, not just here and there, but it would mean a continuous series of diverters for a long distance in those areas.

I have just shown the prime agricultural areas on a map here. There's the Swan River area. There's another area just to the southeast of there. There's patches along the west side of Lake Manitoba. If you put them on a map, you'd have dots, but there are patches. And then once you get into the area around Gladstone, then you are into class 1 to 3 agricultural land.

There is some implications or indications in the report that the sandier type lands are best suited for irrigation. That's true. It doesn't follow that the heavier clay soils into the Red River Valley are not suitable for irrigation, it means that there are more difficulties associated with it, but it doesn't mean they are not suitable.

And so I'll come back to this right at the end, Mr. Chairman.

Now, the economic impacts that are noted in the report, my first glance at it, yeah, that's what we used to do in DREE. We would approve a project, and the press release would say this is going to create so many jobs and do this and this and this. That's true, that's what it would do. The difference is, and I want to put this in a positive way, when we did that it meant that the project had been subjected to what I would call due diligence, and that is a complete review of all the possible factors, and they all come out and this is the best way to spend the money.

In the case of the economic impact study, or report that's in the EIS, there are several things that are missed. One critical one that we identified in the South Indian Lake study 40 years ago was that as soon as the possibility of a project is announced or discussed, people start thinking, there is a social impact on individuals and on communities. What's going to happen to us? Nobody has even announced anything yet but they are thinking. And it's called

stress.

Then an actual proposal comes out and people find out the line is going to go through my farm, or near my community, or whatever, and then the stress really begins. Construction hasn't started, the decision hasn't been made, but the impact is already there. In the case of the communities in the north in the early '70s, the impact was such that South Indian Lake community, for example, had to make about -- and they were set up, the community was organized to make about four decisions a year. And their decision-making process based on that worked extremely well. All of a sudden, for perfectly good reasons from their point of view, Manitoba Hydro is coming in almost weekly and asking for 10, 12, 15 decisions, bang, every week.

In other societies where the decision-making process is set up to handle that kind of decision-making, it's no big deal. But where a community has done very well for a long period of time with a process designed for four decisions a year, it's quite a shock. And so that began to cause a huge amount of stress. And this is not putting any blame anywhere, this is just an

analytical observation. We were able to determine that this was a case at that time.

And so there's a similar kind of impact in the agricultural areas. The birds probably don't even know there's going to be a line go through their area, so they are not talking about it, but the farmers are and the communities are, even though the decision hasn't been made. And so I think it's important to acknowledge that there is a degree of stress associated with even the rumours, and then when the decision is made.

The economic impact on agriculture really hasn't been discussed in the EIS. I would take just as a rough figure, if you -- now, the comment has been made in the EIS that the route adjustment in the northern area was made to accommodate the mining organizations in terms of distance from existing line. There's some range there where the line is within the 40 kilometre range. I don't know what the mining interests were, and I suspect it has to do with expiration of work, and fair enough. But if you take farms today, have a capitalized value of at least $2 million, probably three, maybe more in some

cases, there are about 400 farms affected by the line. So you multiply 2 million by 400 and you get 800 million capitalized value of farms. If it happens to be 3 million, that's $1.2 billion industry impacted by this proposed line. So this is not peanuts, Mr. Chairman, this is something that deserves attention.

Economic impact for migratory bird collisions has not been calculated, not been addressed at all in the EIS, nor has the impact of severe weather incidents. I was trying to find something that would help me understand how this line was going to improve security, and had difficulty doing that. I understand the fact that there's an additional line, but when it goes through an area that's prone to tornadoes, then it's going through an area that's going to cause interruptions at times. Now, maybe you can fix the line and have it up and running again in a week, I don't know, but it's going to be a cost no matter how you look at it.

The other thing that I often look at in terms of the economic impact of certain activities is where do you get the labour and where do you get the industrial capacity?

Is the steel available that is going to be available, or is it going to be available at a higher price to get it in the time frame you're looking for?

Same thing with respect to the labour. I do know that in the case of Alberta there are a number of comparable kind of power lines going in at the same time. So that's going to be attracting certain types of labour and contractors. It's going to be buying the same kind of steel. There is job growth in the field for oil production, in some ways similar kind of labour. So it seems to me that the environmental impact, or the economic impact component of the report should really have addressed these kinds of questions.

THE CHAIRMAN: Mr. Collinson, I'd just like to interrupt for a minute. We need to take an afternoon break, and I'm just wondering if you're almost done, we'll carry on. If not, we'll take a break now.

MR. COLLINSON: I can finish very quickly, Mr. Chairman.

THE CHAIRMAN: Okay.

MR. COLLINSON: I just want to say a

few words on climate change. And I realize this is in some ways outside of the purview of Manitoba Hydro, but it's a reality that's going to affect everybody, including Manitoba Hydro. So it deserves a wee bit of attention.

The bird migration timing might change a bit, it could cause an increase in forest fires, and it could result in variable water conditions, some years of drought, some years of excess moisture, which makes management of water flow kind of tricky, a lot more challenging than it has been in the past. I think probably we experienced that already.

The hatched area on the map here shows the drainage area of the Nelson River. And all I wanted to show there was that it's so large that there are different climatic changes likely to occur within that one region. The warmest increase -- this is winter temperatures, the greatest increase is the red area and that's right around Hudson Bay, which has a bearing on things like polar bears.

I'll just deal very quickly with this. It may mean in the case of agricultural areas that in dry years, farmers feel that they are almost

obligated to take a serious look at irrigation, which brings into question what the EIS is suggesting in terms of areas to be avoided for irrigation. It means that whole Red River Valley is subject to that question.

Polar bear interactions. Polar bears spend most of their time out on the ice in Hudson Bay, they are living off seals. If the ice season on Hudson Bay is shorter, then of course it sort of feeds on itself. The white of the ice reflects the heat back up. When the ice isn't there, it absorbs it. So global warming in that respect increases as there's less ice around. So the bears have less time on the ice, less time to eat, so they are going to be looking for something else. They are not incapable of eating a whole range of things, including berries. Their denning areas may be affected because they are dug into the old ridges along Hudson Bay in the lowlands, and those are permafrost areas that could slump. So the bears might be doing different things. And it may be that in the end, Manitoba Hydro will need to take into account means of keeping bears and workers and people separate.

Churchill has had a lot of experience

in it, but Manitoba Hydro hasn't had to deal with it.

There's some example of bears on the Nelson, on the river.

I go back to my original sense. Bipole III proposal is to follow, currently, in my opinion, following the worst route possible of all the options available. Now, that means that mitigation or avoidance in the immediate areas is going to be really tricky. It's been admirably tried in the case of caribou, but it hasn't quite made it. It doesn't really avoid any of the bird things, and there's serious problem with agriculture, like we've heard this morning. So that needs to be taken into account.

The policy is then that it must avoid the east side. And fair enough, the Provincial Government has a right to make that decision. So it presented a conundrum. And avoidance being the first option, to try to stick 40 kilometres away, it may be difficult. And that explains the long route through the agricultural area. It may be that the 40 kilometres isn't as important farther north, I don't know. But the weather indications would be that that's something that could be

looked at. There are other things that could be looked at. One is putting it underground through the agricultural area. The other is just some facts. If you go south of the Nelson River to the northeast corner of Lake Winnipeg, there are no caribou, except the Penn Island's herd which is right up near the generating stations, and they are occasional, they are not as likely to be affected as the woodland caribou. That same area has limited bird migration. There is bird nesting, very limited migration. The migration is to the west. And there's virtually no tornado issues. There may be some broad based winds and there may be some icing, but there are no tornadoes in that area at this point. With climate change, who knows?

So I leave you with this. This is a picture of Port Nelson, which is celebrating its hundredth anniversary this year. That was when construction was begun in 1912, and in 1918 construction was stopped. And in 1926, the rail bed was turned north to Churchill.

I give the engineers full credit, the bridge that they built is still standing. Initially, it was supposed to be a wharf along the

show. They discovered the shifting sandbars and the speed of the current was such that it was impractical. They built an island out by a deep channel and they built a half a mile bridge out to it. Their bridge was elevated enough to accommodate the ice flows going underneath. Wonderful engineering project.

Where the due diligence didn't take place was they didn't take a look at the weather outside the mouth of the Nelson River coming into the Bay -- from the Bay to the Nelson River, the shifting mud banks, and the fact that the current was so strong, and that's sailing ships in those days, that it was literally impossible to get ships in, in a safe and practical way. So the whole thing was abandoned before it was ever used. And so my point here, action before due diligence. And I leave you with that, Mr. Chairman.

THE CHAIRMAN: Thank you, Mr. Collinson.

Does that conclude your presentations, Mr. Meronek?

MR. MERONEK: Yes, sir. Thank you.

THE CHAIRMAN: Thank you, sir. We'll take a 15 minute break and we'll return with

cross-examination. So about 25 after.

(Proceedings recessed at 3:12 p.m. and reconvened at 3:29 p.m.)

THE CHAIRMAN: We will reconvene. We had a little bit of a glitch in the recording system. So Manitoba Hydro, Ms. Mayor.

MS. MAYOR: Thank you. Mr. Berrien, I have a few questions for you, so I will start with you. Now, you had indicated I think at one point in your presentation, we will give credit where credit is due. So I'm going to start there. And you had indicated in your report that the agricultural technical report team had done a good job of identifying issues that have the potential to be significant issues in the agricultural area of the route. Do you remember making that statement at page 55 of your report?

MR. BERRIEN: I do.

MS. MAYOR: Now one issue that you do identify, you indicated in your presentation this morning, was that the constraints and opportunities were not used at the start of the process, that was part of your concern?

MR. BERRIEN: Yes. What I said is that based on the testimony of Mr. Nielsen, the

evaluation, and he used the term impediments, came after they had done their field review as opposed to constraint mapping those things beforehand, I believe that was my testimony.

MS. MAYOR: So you based that on the words that he used. So, I'm going to try and assist you in explaining the difference between constraints and impediments used in his testimony and in the report. Now, you have indicated that you had read some of the testimony. Can you tell us -- you read which parts of the EIS? Because I'm going to refer you to a few, and I will make sure I point you to them --

MR. BERRIEN: Are you asking me which parts of the EIS I read?

MS. MAYOR: Yes.

MR. BERRIEN: I tried to review -- I don't remember the chapters, but the major ones I was looking at were the routing aspects of it. I didn't get into the environmental reviews and all of that sort of thing. I'm sorry, I can't give you chapters and things like that, it had to do with the routing, and I think chapter 7 was the majority of that.

MS. MAYOR: Now, in chapter 4 of the

environmental impact statement, and you may not have read it, but there was a section on the process used in the site selection for agricultural land use and productivity. And I will even provide you with the section on agriculture, since you don't have it.

MR. BERRIEN: Thank you.

MS. MAYOR: And for the sake of the CEC, I'm referring to pages 4-21 of chapter 4 and 4-22. And in that section it describes what was done at the beginning of the process. And it indicates that when the -- and I'm looking at the second paragraph on page 4-21, it indicates that when the alternative route selection process began a comprehensive study of the routing area east of the rail site to provincial trunk highway 12, south to Steinbach, west to Carman, and on to Holland and provincial trunk highway 34 was conducted.

At that stage, right at the beginning of the alternative route selection process, 34 categories of routing issues, constraints were identified. So that would assist you to alleviate some of your concerns, and in fact this wasn't done later on, it was actually done at the

beginning of the site selection process.

MR. BERRIEN: I appreciate the evidence that you are giving, but the thing I'm concerned about is this description is at odds with the sworn testimony of Mr. Nielsen, and that's where I was basing my consideration, is that he said we went out and looked at the routes, and then we came back and looked for impediments. So, I'm sorry, I can't sort that out for you. All I can do is point out the inconsistency.

MS. MAYOR: In terms of what the environmental impact statement says, when it talks about the 34 categories of routing issues and constraints, it talks about you wouldn't have reviewed them, what those 34 categories of routing issues and constraints were?

MR. BERRIEN: Sorry, I didn't understand the last few words you said. Can you repeat that, please?

MS. MAYOR: There were 34 categories of route issues and constraints identified when the alternative route selection process began, according to the environmental impact statement. And some of those included occupied farmyards, grain farms, livestock farms, rural residential

housing, pivot irrigation; you would agree that those are all relevant constraints and issues to be identified when an alternative route selection process is beginning?

MR. BERRIEN: Yes.

MS. MAYOR: Now this chapter goes on to indicate that at the completion of this task, they then allowed the selection of the alternative process to begin. So, they are now looking at the alternative route selections, and they are going on to the next task, which is set out again in this particular section. And what it says, and I'm going to turn you to the second page, it talks about -- so we are moving on to the next step, and there are some general guidelines that they took into account when they started looking at the routing through agricultural lands. And they talk about a number of factors. And are you with me on that particular page? It says the following are the general guidelines. It is about ten lines down.

MR. BERRIEN: Okay. I'm with you, yes.

MS. MAYOR: And I would like to compare those guidelines to the guidelines that

you yourself have prepared in your report at page 25. So if I could have you turn to that particular page of your report?

MR. BERRIEN: I don't need to turn to it, it looks very familiar.

MS. MAYOR: So you would agree with me that in fact the five different bullets that you have in your report are almost identical to those that are identified in the guidelines?

MR. BERRIEN: Yes.

MS. MAYOR: Now, you also have made the comment during your presentation that Manitoba Hydro only made 16 tweaks from the preliminary preferred route to the final preferred route. Have I quoted you correctly?

MR. BERRIEN: Yes, I have actually got a quote in my document where I believe it was the initial preferred route, and then 16, and I used the term site specific issues were identified where there was adjustments made, those showed up on the final route selection matrix in chapter 7 or appendix 7A-1. And my understanding from the reading of the document was that the initial route, with those 16 changes then made, became the final preferred route. That's my understanding of

the way the document was written.

MS. MAYOR: So, if I indicate to you, and I have Mr. Dyck and Mr. McGarry next to me, they clarified for me that in fact those 16 tweaks you referred to only made the change from -- in fact, once the 16 tweaks were done, I apologize, that then created the preliminary preferred route. The then next point between rounds 3 and 4, there was considerably more work done, and ultimately after round 4 -- in between round 3 and round 4, 67 additional considerations were taken into account to then come upon the final preferred route.

MR. BERRIEN: You will have to show that to me, because I have the quote right in the middle of page 31 that helps me understand it. The other thing is that your final route selection matrix only has the 16 additional on it. I have no idea where the 67 are.

MS. MAYOR: Do you have in fact chapter 7 of the EIS in front of you?

MR. BERRIEN: I think I brought most of it with me. Hang on and see if I can find it.

MS. MAYOR: I'm referring to appendix 7B-1. And just to clarify, I think I was

stumbling over my own words, being very inarticulate, the 67 additional considerations were taken into account after round 4 to make the final preferred route.

MR. BERRIEN: That helps, because I was reading the document to see how we do we get to the final preferred route. That's where the 16 comes in. And that in fact, I believe, and you can confirm this, here I am asking you questions -- you give evidence, I ask questions -- is that the only documents that we had to make that comparison of route evaluations was ABC, with the route selection matrices, 13 of them plus the additional, so if there is a final one, if I can put it that way, I never saw it.

MS. MAYOR: Would you have seen the appendix 7B-1 that shows the 67 initial considerations that were taken into account after round 4 to make the actual final preferred route?

MR. BERRIEN: If you would show it to me, I would say yes or no. But I'm not identifying it by what you just described, so if you could show it to me, I could say yes or no.

MS. MAYOR: And you don't have the chapter 7 EIS in front of you?

MR. BERRIEN: Yes, I have chapter 7 in front of me, yes, the whole thing.

MS. MAYOR: It is appendix 7B-1.

MR. BERRIEN: 7B --

MS. MAYOR: Dash one.

MR. BERRIEN: I have 7A. I don't seem to have that one with me. Let me look one other place. No, I don't have that one with me, I'm sorry. If you could show it to me, I would appreciate it.

I do remember seeing this, I'm sorry, I just don't have a copy with me, but I do remember seeing it.

MS. MAYOR: So, if Mr. McGarry and Mr. Dyck were indicating those were the 67 additional route considerations between the preliminary preferred route and the final preferred route, as opposed to the 16 tweaks that you talked about earlier, you wouldn't disagree based on the information in that be table?

MR. BERRIEN: Yes, some of them resulted in changes and some did not. What I'm gathering is this is the feedback that you received, so you looked at it after round 4, and whether it produced a route change or not, I think

the Tourond adjustment was the actual only route change in southern Manitoba, but if there is something else you can tell me.

MS. MAYOR: Mr. Berrien, in an environmental impact assessment you would agree that you need to look at the various relevant value environmental components?

MR. BERRIEN: Yes, environmental impact assessments or statements carry a wide range of criteria that you have to look at. The trick, of course, is to focus on the ones that are appropriate, given the area that you are looking at specifically.

MS. MAYOR: And you would agree that in such an assessment it becomes much more complex when the assessment spans 1400 kilometres?

MR. BERRIEN: Yes, you guys had a huge job. I mean, it went up from all the way up in the shield all the way down into the Assiniboine flats and clay. It was a huge profile of land for sure.

MS. MAYOR: And you would agree at least with Manitoba Hydro's approach to hire subject matter experts?

MR. BERRIEN: Of course.

MS. MAYOR: And that would include not only those for biophysicial environmental factors, but also you would need to consult experts on the technical issues?

MR. BERRIEN: Biophysical items, technical, they are interchangeable, but yes, you have to listen a whole variety of experts, unless you have a huge in-house inventory of people.

MS. MAYOR: And you would agree that inputs into the routing process on both the biophysical and technical matters are all crucial to the routing of transmission lines and the overall environmental assessment process?

MR. BERRIEN: Theoretically that's what you hired the experts for, is to guide you with our decision-making process. Whether you took account of them or not and listened to what they had to say to you, I guess is another question altogether.

MS. MAYOR: You spent some time reviewing for us the route selection matrix, and the impression you said that you had from the writing of your report was that the route selection matrix was essentially the be all and the end all in selecting the final route, in fact

I think at page 31 you said take the largest fall.

MR. BERRIEN: I believe that is correct, yes. Not only did I say it, I believe it, based on the way it was explained within section 7, and I provided enough quotes to let you know that this is how I came to that thinking.

MS. MAYOR: So Mr. McGarry and Mr. Dyck indicated in their evidence that the matrix was used as an early tool to select the preliminary preferred route, and it was not the driving factor in the final preferred route. Would you disagree with that assessment?

MR. BERRIEN: Yes, I would disagree with it, and say to you that if that indeed is the case, I had enough problems with the opacity of the route selection matrix, and if you didn't use that to pick the final route, now I have no idea what you used to pick the final route, if that wasn't it.

MS. MAYOR: Now in fact, Mr. Berrien, it was used as an input to provide all of the information from the subject matter experts, and it was gathered and utilized for the preliminary preferred route. Then the multi-disciplinary team met over many weeks and months. And at those

meetings all of the different valued environmental components were discussed. You were aware of that process as well?

MR. BERRIEN: No question that's what would have happened.

MS. MAYOR: And the evidence from testimony was that the agricultural issue was quite plain and apparent to all during the assessment process, and that a relevant criteria dropped off to zero during those meetings in the assessments to get to the final preferred route.

MR. BERRIEN: What dropped off to zero?

MS. MAYOR: Criteria that weren't considered to be relevant dropped off to zero, and that's the evidence that was provided during the course of this hearing.

MR. BERRIEN: Am I to understand the context of your question to mean that there were no agricultural considerations left on the table that drove the route selection?

MS. MAYOR: No, in fact, quite the opposite. You indicated today in your report that what your concern was that a relevant consideration, such as amphibians and other

aquatics, those types of valued environmental components, took more of a leading role through agricultural areas than agriculture itself.

MR. BERRIEN: All I can tell you is that based on the documented material that I have in front of me, which is what I wish they had in front of them, I saw agriculture as one criteria in 27 of the route selection matrix, and if there were other evaluations or protocols that were undertaken, they are certainly not apparent to me, and I tried to read the route selection section 7 fairly carefully. So if somebody was doing something beyond that afterwards -- I mean, there certainly appears to be no evidence of it in the document, you may have spoken about it and I didn't read it, but let me simply say that bringing together the comments and questions that you have asked me about your experts in resolving all of these issues and so and so forth, somebody wasn't paying very close attention to what Mr. Nielsen had to say when you came up with the route you did.

MS. MAYOR: Mr. Berrien, and to be very fair to you, you wouldn't have had the opportunity to be present at the

multi-disciplinary team meetings that were held over several months?

MR. BERRIEN: Of course not.

MS. MAYOR: So you wouldn't have had the opportunity to see that agriculture was in fact a significant component of the discussions through the agricultural route?

THE WITNESS: I hear you saying that in the form of a question, but there is no evidence of how that hits the ground at the end of the day. I'm sorry, I just don't see how agriculture and the kinds of impacts that I'm familiar with, and that you were advised of in the AG report, showed up in the final routing. So I hear you say it. I wasn't there, no, but I'm also saying I don't see how it happened.

MS. MAYOR: If in fact it did occur that the relevant considerations were dropped off to zero, and agriculture and other relevant VECs were in fact the focus of those discussions, you would agree that that would follow what your guidance was, that the criteria most applicable should be the most important to those considerations?

MR. BERRIEN: Yes, but in the form of

the question that you are posing to me again is please agree with me that what we said is right, but unfortunately therein lies the whole rub. I can only look at what is here. You are telling me again you have done all of these good things, but I haven't seen any of it in print, I haven't seen how that manifested itself, and I don't know how your judgment calls were made, because of the cryptic type of notes, and I don't see further matrices that provide me with either the documentation, the matrix that I talked about earlier and those other factors, that would allow me to judge how the route selection process finally occurred. That is all I can say to you, you say it, but I don't see it.

MS. MAYOR: Mr. Berrien, we are agreed that you have to consider all of the relevant factors when you are determining what the final preferred route is?

MR. BERRIEN: Please, yes, absolutely.

MS. MAYOR: So you had a number of examples in your report which you indicated you thought were irrelevant considerations. So, for example, you talked about the forestry VEC, the VEC is the value, that's the terminology we have

been using.

MR. BERRIEN: Right.

MS. MAYOR: And in your view that was something that was completely irrelevant, and I think at page 35 of your report, you indicated that that particular VEC was noted to be concerned with commercial forestry values.

MR. BERRIEN: That's exactly what your document says. I mean, I even clipped it out so I would have it if we got to questions like this.

MS. MAYOR: Now in the forestry technical report it also talks about the importance of shelter belts and wooded areas, and you would agree with me, that consideration of, in particular shelter belts, during the discussion of the route selection would be important consideration to still keep on the table?

MR. BERRIEN: Yes, there is no question about that. But when you have forestry as your category, and I read it, I have it right here, it says the forestry evaluation is considered commercial forestry values as considered by the provincial government and industry. Ecological values -- and then you go on, you talk about productive forest land,

harvest, renewal, forest values, monitoring, research. And finally the last one of the whole line is shelter belts. So you will pardon me if it appears as though it wasn't given a whole lot of consideration, and if so, we should have perhaps put it under the agricultural category where it really belongs when we talk about shelter belts. It is an agricultural value. It is erosion, the soil moisture and all of those other things. So you will pardon me if it appears that the forestry issue should have had dashes, and yet it was actually rated and ranked, and in my view it was just like caribou, it had no place in this evaluation in this part of the province.

MS. MAYOR: You will agree that shelter belts were a relevant consideration during the routing through agriculture land?

MR. BERRIEN: Yes, we have already gone there.

MS. MAYOR: Because Manitoba Hydro, rightly or wrongly in your view, included shelter belts under the forestry VEC, that VEC was still one that should have been included in the discussions?

MR. BERRIEN: You could have done it

better, but yes, the answer is that it should have been in the discussion, correct.

MS. MAYOR: You also commented on treaty land entitlement and how that should not have been involved in any of the discussions through the agricultural land route selection.

MR. BERRIEN: Let's be clear; I indicated where it didn't exist, it shouldn't have been rated.

MS. MAYOR: Through the agricultural area there is a reserve known as the Long Plains reserve?

MR. BERRIEN: I'm familiar with where it is.

MS. MAYOR: They have treaty land entitlement?

THE WITNESS: Yes.

MS. MAYOR: Also the reserve has purchased land through the area close to the final preferred route?

MR. BERRIEN: Fair enough.

MS. MAYOR: And that wouldn't be apparent from just looking at a treaty land entitlement map?

MR. BERRIEN: Why not? That's what it

is there for, to allow me and the Commission to check what you guys have said. If it is not on the map, then how are we to know how you arrived at that particular conclusion?

MS. MAYOR: I'm sorry, I am talking about the mapping that's provided through the Province or the Federal governments.

MR. BERRIEN: I'm looking at the maps you provided to back up your information. I have a copy of it right here. I am sorry, there isn't anything that says something about treaty lands until you get to Long Plain.

MS. MAYOR: You would agree that if Manitoba Hydro, again rightly or wrongly, in your view, included purchases of land by reserves in its view of land use, that the land use VEC criteria should still have been on the table when they were having the multi-disciplinary team meetings?

MR. BERRIEN: Well, is it land use or is it TLE, or are we going to count both of them twice?

MS. MAYOR: All of this information could be in the land use documents in terms of land purchased, as well as a treaty land

entitlement report.

MR. BERRIEN: Very familiar with what it all means, I really do, I understand it, I have been evaluating for the Federal government, so I know what you are saying.

MS. MAYOR: You would also agree that the five VECs that are technical considerations should still have been included in the discussions in the selection of the final preferred route?

MR. BERRIEN: Yes, absolutely right.

MS. MAYOR: Those remain throughout?

MR. BERRIEN: Yes, I didn't have anything to say about those at all.

MS. MAYOR: Now, you criticized in your report Manitoba Hydro for not ante-ing up, for lack of a better word, and not providing more up-to-date aerial photography and imagery. Now your first criticism was that those were -- the first ones that were used were from 1998 to 2005.

MR. BERRIEN: That's Mr. Nielsen's evidence, both in his written report as well as his testimony, as I recall it.

MS. MAYOR: Now the work began in 2008.

MR. BERRIEN: It was actually 2009,

but somewhere in that vicinity, yes, it did.

MS. MAYOR: And another fairly good option would be to rent a plane, hire a pilot and use GPS and fly the entire area, which would be another use of imagery through that process?

MR. BERRIEN: I quite frankly had trouble believing that in a project of this nature and scope that wasn't the very first documentation put forward to everybody, including the two gentlemen sitting beside you to start with. If it was done, there certainly is no indication of it until later on when Mr. Nielsen says we need some up-to-date photography, and it appears that was done later in 2009, or '10, or something like that, they went out and took some actual ground or decent photography.

MS. MAYOR: You would agree with me that to get an accurate picture of the land flying the ground using GPS, taking pictures as needed, would be one way to get additional information?

MR. BERRIEN: If you are talking additional information, sure. But this is my point is that this should have been the primary basis of data which we all started with, and it should have also been put forward in a size and

scope that we could all sit and look at it and understand what we were seeing, not little tiny squares a quarter inch big.

MS. MAYOR: You would also agree that driving the various proposed routes a number of times between 2008 and 2011, covering thousands of miles and mapping out all of the various constraints, impediments, is also a good way to get a good view of the landscape and what is on it?

MR. BERRIEN: No question about it. You have to do that. You can't pick a route without on the ground look sees, no question.

MS. MAYOR: And you would also agree that aerial photography, of course, has its own limits and can't be done in isolation?

MR. BERRIEN: No, it is one of the tools in the tool box. I would begin with the aerials just to get a feel of the texture of the landscape and the level of development that's there, that sort of thing. But let me just say that aerial photography is the baseline. Typically what we would see is various layers of GIS on top of it showing us, for example, where the houses were and that sort of thing. Again,

your aerial maps that I can see don't even show up the houses. If you use a microscope and Google you can find them, but that's the kind of thing that should be apparent to anyone who looks at your routing study, in my view.

MS. MAYOR: And using your house example, those would in fact be located by both flying the route and driving it several times?

MR. BERRIEN: You are going to find all of those things out if you do both of them.

MS. MAYOR: One of the things that you won't find through only aerial photography are things such as future housing developments, if they haven't at all been surveyed or staked out?

MR. BERRIEN: That's exactly, right. This is the process, I think I called it constraints mapping. In the planning scenario you look for what are called in our part of the world area structure plans, subdivisions, you consult with planning authorities, all of that forms the baseline of constraints that typically constrain where you have freedom to plot routes. That's why it is called constraint mapping. But that's certainly something else that needs to be included. You won't often see that on aerial

photography, sometimes you see layouts but usually not.

MS. MAYOR: And, in fact, proposed future housing developments was one of the reasons that Mr. Nielsen's proposed route had to be changed by Manitoba Hydro. Were you aware of that?

MR. BERRIEN: You might have changed one little sector, but you wouldn't go from A to B or B to A. I mean, you could say that in a location, but certainly you wouldn't lose the whole routing for that reason.

MS. MAYOR: Now you indicated in your presentation and report that you toured the final prepared route by car over the course of two days from Riel to Langruth?

MR. BERRIEN: Yes, in reverse, from 13 going up to the west and then north.

MS. MAYOR: And I will call him your tour guide, was Mr. LaLiberte from the coalition?

MR. BERRIEN: Yes.

MS. MAYOR: As a result of your two day tour, you made some suggestions for possible route revisions?

MR. BERRIEN: Yes, I did.

MS. MAYOR: If you can turn to those for me in your report. They start at page 59.

MR. BERRIEN: I have it.

MS. MAYOR: Now, we haven't had your report long, so we have only been able to take a quick look at them. I wanted to talk to you about a few of those. Now you reference in the -- in your report, the reference is -- for ease of reference is map 92.

MR. BERRIEN: I'm not sure I have all of those maps with me with, but I may have one or two that may help me. Okay, I have 92 in front of me. Go ahead.

MS. MAYOR: Now, in some of the decisions that you provided to us, one of the references that was made by the boards was that there is a desire on the part of the boards that we are talking about to avoid bends and curves.

MR. BERRIEN: Sorry, who is recommending that you avoid bends and curves?

MS. MAYOR: In some of the decisions that you provided to us, there was reference to the desire to avoid bends and curves.

MR. BERRIEN: Oh, sure, absolutely, because those dead end towers were heavy angle

towers, and can cost anywhere from four to eight times what a tandem or straight line tower will cost.

MS. MAYOR: So in your route suggestion relating to map 92, your suggestion would result in an additional angle tower, were you aware of that?

MR. BERRIEN: Yes, but it avoids about four miles worth of 44 metres into the crop fields. I mean, this is the trade offs that come with appropriate routing decisions. We don't increase the impact on the landowners just to save Manitoba Hydro some money. There are benefits to both scenarios. One is a straight cash deal, the other is the farmers forever have to farm around these things in their fields. This is where you make the kinds of, I will call them soft or purely judgmental decisions. This is not a mathematical exercise. That's one of the reasons that I have problems with some of what you guys have done. This is where judgment calls are made consistently from one end of the line to the other. I'm telling you what I would have done in this scenario, not what you did.

MS. MAYOR: One of the comments you

make in your report is that ultimately individual preferences are only one of the factors in considering the routing.

MR. BERRIEN: That was true. I think I used the line, power line routing is not a popularity contest. You shouldn't sacrifice good routing principles on popularity or individual preferences. They are important, you take them into account, but you look at the larger and overall and what I will call life of the line impacts when you make these decisions.

MS. MAYOR: Looking to your reference to map 87, and that is where you talked about during your presentation, about following the drain.

MR. BERRIEN: Yes, ma'am, it is.

MS. MAYOR: Now our experts indicate that the drain is actually quite minimal and not likely to be sufficient to accommodate half of the right-of-way in that area. Were you aware of that?

MR. BERRIEN: You will have to give me some kind of an explanation why. And the reason I say it is this; all I need is half of eight metres to put the feet, if I can put it that way, of the

tower on it. The issue that you explained, you meaning Manitoba Hydro, for not running directly beside the property line on a road allowance is clearance violations and the risks of collision. None of those factors materialized when you are offset even 20 metres or 15 metres into the field because of the presence of the drain. I'm obviously talking about the field side of the drain, not the road side of the drain. Any drain, any drain, as long as it is 10, 15 metres wide, will allow you to place a line right beside the edge of the field as opposed to in the field, and there is no rational understanding that I have received in this explanation that I see in yours of why that could not have been done.

MS. MAYOR: Mr. Berrien, one of the other participant's experts asked to speak with Manitoba Hydro staff and experts to ensure, prior to writing his report, that he fully understood all of the issues prior to making his assertions. Did you make that request of Manitoba Hydro?

MR. BERRIEN: I did not.

MS. MAYOR: Can we turn to map 86, your reference there?

MR. BERRIEN: I have it.

MS. MAYOR: Your reference there I'm told would bring the half mile -- a half mile placement would bring the line within a hundred metres of a residence, and you would agree with me that that would not be desirable when you look at good routing practices?

MR. BERRIEN: You would typically try to create greater separation than that. There are times when for linearity, for good routing principles, given residents might need to be bought out, but certainly you try to avoid them beforehand, no question about that.

MS. MAYOR: And it would also affect the existing fence lines and shelter belts and not desirable from a routing perspective and certainly not desirable from the perspective of the farmer.

MR. BERRIEN: If you are talking about shelter belts that are providing some serious benefit, I agree. A lot of times shelter belts are just trees that grew, basically big woody weeds. And when we talk about fence lines, there is nothing stopping a fence from sitting under a power line. They do it for thousands of miles, so that alone is not the issue.

MS. MAYOR: You provided another

suggestion at map 80-79, and you indicated there a careful inspection shows a possible reroute. Now did your inspection show that the half mile line in one of the sections would actually place the line on an existing east/west road into other sections of that area?

MR. BERRIEN: Sorry, I did not catch what you were saying? Can you give me a little more specificity? I'm on map 80, and I have map 79, so I need to know which one we are talking about.

I think what I said is this entire stretch, and I am looking at map 80, then I move right over to map 79, the entire thing, or at least the majority of it, is beside roads which, of course, leaves 42 metres in the field. What I was looking for through this section is why we couldn't have put it on quarter section lines, and I don't see anything that I would say jumps out at me as to why we couldn't ask for, at least in the vast majority of it, just run it on the quarter lines. Now if you could explain it to me, I would be happy to hear from you.

MS. MAYOR: If you look at map 82 which depicts the actual area that you are talking

about --

MR. BERRIEN: Map 82?

MS. MAYOR: Yes.

MR. BERRIEN: Okay. Sorry, are we at cross purposes here? The ones that I'm talking about are 80 and 79. What are you asking me to look for now?

MS. MAYOR: Just one minute. The map -- sorry my reference -- so the map would show 7-13-8 west.

MR. BERRIEN: Yes.

MS. MAYOR: And I'm told to realign the half mile line in 7-13-8 west would place the line on the existing east/west road of section 14 and 15 of 13-8 west, which is not an option.

MR. BERRIEN: Sorry, I'm not following what you are talking about. My description turns west in the middle of section 7-13-8 west. I'm not running down a road at all. So I'm not sure what you are talking about.

MS. MAYOR: I get the point. And we can spend a bit of time on it, back and forth with my expert. I guess the point is the devil is in the detail, isn't it, when you are looking at these maps?

MR. BERRIEN: You bet it is.

MS. MAYOR: So you have had an opportunity to look at it for two days, and you need to do a careful analysis of all of these sections to go through to determine what is appropriate routing?

MR. BERRIEN: Let me just say, and the one category, if your fellows want to argue with me, we can probably get into it a little bit. But you had pretty wide opportunities through the majority of this area, it is flat, it is agricultural land, you don't have a lot of topographic issues, you have a relatively uniform soil type, you are not liable to run into a lot of issues with respect to placing the foundation below these things. There is not a whole lot at this area at least, not a whole lot of residential factors and all of the rest of it. To the extent that for miles the maps that I'm talking about right here are running 42 metres in the field. There isn't a thing that I can see, and I have got some experience, that tells me you couldn't have run them on half mile lines for most of this routing. I'm not going to say there aren't the odd thing, but I can't see it now, and I'm a

pretty good study, I have to learn to do these things quickly. If you want to point out a few things to me, I will consider them. But you can't throw a generality at me like that and expect me to roll over, that is not going to happen.

MS. MAYOR: The reality, though, Mr. Berrien, is that you had two days to drive the route and the experts from Manitoba Hydro had three years over which they drove up and down the route thousands of miles, pointing out each impediment, each barrier, each constraint, and you have to concede that they would at least have somewhat of a better opportunity to make those selections than you did over the course of two days?

MR. BERRIEN: You would have hoped so.

MS. MAYOR: You talked about the compensation. Now you had indicated in your report that you have, of course, an appraisal background.

MR. BERRIEN: Significant in compensation, yes, I have been doing it for decades.

MS. MAYOR: And your experience in Alberta has shown that there is not a

measurable -- page 11 of your report -- that your experience has shown there is not a measurable impact on land value in Alberta of a high voltage transmission line on agricultural land.

MR. BERRIEN: In the Alberta dry land situation that's what my research has found, that's correct.

MS. MAYOR: And your research also shows there haven't been any studies, perhaps you indicated, that shows it would actually take longer to sell with a high voltage transmission line on properties. There are no studies that have found that?

MR. BERRIEN: Not by me or any other expert appraiser that I know of yet. I'm not going to say it hasn't happened, but I haven't found it yet.

MS. MAYOR: Now you have provided us with a number of panel decisions that deal with the placement of transmission lines.

MR. BERRIEN: Yes, quite a few actually, just the idea being to show you how other commissions and panels look at routing.

MS. MAYOR: Now, what is also demonstrated in the decisions is the need to

balance the agricultural routing preferences with other factors?

MR. BERRIEN: Yes, and I think we explored that idea, that this is not a one-sided thing, one factor doesn't decide.

MS. MAYOR: That, of course, is one of the very important tasks of those types of boards and panels and, of course, this Clean Environment Commission is to try and find that balance?

MR. BERRIEN: Absolutely correct.

MS. MAYOR: And the reason that the task is so important is that because participants and intervenors often have a very focused, unique perspective based on their own needs and interests?

MR. BERRIEN: That is true. This is again why I think I made the comment, power line routing isn't a popularity contest, because if you put it through your backyard you are going to have a different perspective than if you put it through his backyard.

MS. MAYOR: And in trying to find -- some of those factors that the Commission will have to look at would, of course, be cost is one of many factors?

MR. BERRIEN: Of course, you will have to appreciate that a whole bunch of the cost considerations got set on the shelf, if we pull out the compass.

MS. MAYOR: And system reliability would be another area?

MR. BERRIEN: Reliability is a very difficult one to assess, but certainly reliability comes at a cost.

MS. MAYOR: Construction issues and technical feasibility would be another factor that has to be looked at?

MR. BERRIEN: No question about it. The type of terrain you are going through, you guys face a particularly challenging end at the north end of this project, no question about it, even getting into some of it is going to be very interesting for you. But yes, very important.

MS. MAYOR: Separation between lines or between a line and a facility is certainly one of the factors that your cases looked at?

MR. BERRIEN: If liability is your issue, that's one of your major criteria.

MS. MAYOR: In one of the cases the board, of course, had to consider that the

intervenors proposal in an agricultural area just moved the problem elsewhere, from one agricultural property to another, and that's something that has to be balanced as well?

MR. BERRIEN: That's right. I don't think in too many of my situations I actually took the problem from one guy and gave it to someone else. When I moved it on the quarter line, certainly it creates some sharing of the impacts, but as I discussed, a bunch of those impacts were already going to be shared whether they realized it or not.

MS. MAYOR: That's certainly one of the challenges, though, that this Commission would face in trying to balance the interests, particularly in an area where much of the land has similar soil capability and agricultural productivity?

MR. BERRIEN: Yes. The trick, as I think I pointed out earlier, is that if you are going to create impacts on someone, it would be advisable, if possible, to make sure they qualified for compensation. That's one of the ways you balance that out.

MS. MAYOR: And, in fact, the

challenge that this Commission faces is that although they are trying to find the line with the lowest impact, that has to be the lowest impact on all of the valued environmental components taken into account?

MR. BERRIEN: Yes, and that, of course, is one of the issues that I had some problem with is understanding how that, what I would call the farming VEC, was recognized. I appreciate that you have tried to inform me of some of that, but we have had some difficulties with that.

MS. MAYOR: Thank you. I have no further questions.

MR. BERRIEN: Thank you, ma'am.

THE CHAIRMAN: No one else at Manitoba Hydro?

MR. BEDFORD: Mr. Collinson, you and I have not met before. I will introduce myself. My name is Doug Bedford, and as you were perhaps told, I'm one of the lawyers representing Manitoba Hydro at this Clean Environment Commission hearing. And if you can bear with me for about ten minutes, I would like to go through the paper that you filed for the hearing, with a view to

drawing your attention to several concerns that I have which I suspect you will want to give some thought to if you are ever going to use your paper in a future presentation.

Do you have your paper there? Thank you.

Page 15 of your paper, as part of your discussion regarding your observations about birds, and I think most of us who read the paper will find of some passing interest at the top of the page you record at least one study that has found that 124, as you write, to 200 bird strikes occur every year per kilometre of line. And like a good writer, you give us all a citation for that statement of fact. But I'm concerned that you may not know that the study that you are citing, which is a study that was conducted for the south of Manitoba and North Dakota, is a study of a transmission line, that I'm told by Mr.Berger, crosses over ponds, lakes, and at other locations lies within 100 metres of water marshes, all of which water marshes, ponds and lakes are important resting places for migrating waterfowl. Were you aware of that?

MR. COLLINSON: Yes.

MR. BEDFORD: And the helpful Mr.Berger tells me that there are five other recent studies of bird strikes, and the findings in all of those other studies range from 3.25 bird strikes per kilometre per year on the transmission line, through 5.5, 11.75, and 18 bird strikes per kilometre. So what I wanted to draw your attention to is that, perhaps for understandable reasons, you have chosen the far more dramatic but hardly conclusive study that would lead us to believe that bird strikes are perhaps 5 to 10 times what some observers have recorded.

Were you aware of the other studies?

MR. COLLINSON: I'm aware of a number of studies. There is very little information available in Canada. It is important that the information that is used is relevant to the Mississippi Flyway and the kind of local conditions that you find.

When you talk about the one in North Dakota, that was the closest I could find to, if you like, a comparable situation in the parts of Manitoba that are most susceptible to bird collisions. And that would run from, well, there would be some in the southern agricultural area,

running from about the Yellowhead, west side of Lake Manitoba, right through to south end of Wekusko Lake. And with some exceptions, you are looking at ponds, the resting areas, or the line between those resting areas and the feeding areas where the birds would be going to. And we are talking about a migration route. I'm not talking specifically about local nesting birds. They would be somewhat susceptible, but the large numbers come from migration. This is in the spring and the fall. I'm quite frankly surprised there was no analysis done on either of the existing Bipole lines in Manitoba. It is a tricky thing to do, I would be the first to admit that.

When a route hits a line, if it is in an area where there are frequent collisions, chances are there is a fox near by, they are not stupid, they can figure out where the food is. So if there is a consistent number of bird collisions in a particular segment of line, then some of them get picked up. In other words, if you have a crew going out and trying to find the carcasses, if that's the only way you know for sure that there has been a bird kill, if a cat or a fox or whatever got there first, you are not going to

find it. You might, if a crow or a raven, or a Turkey Vulture were to come across it, then you would find some bones and feathers. But if it is a fox or a cat or dog or coyote, you won't find that. So it is a little tricky to know whether or not you really have got an accurate count.

The second thing that happens is a bird may be seriously injured, but by the time it dies it may be well without of the area that you did your count in. So it is a tricky business to do, I would be the first to admit that.

My main point is that there is a very long stretch of line that you would be hard pressed to find more than a couple, 300 yards away from a pond of some sort from about, south of Langruth, somewhere around the southwest corner of Big Grass Marsh, pretty much right through south of Wekusko Lake. That's my concern. To the area to the north of Wekusko, there would be the occasional strike, and I would be the first to admit that you wouldn't get the hundreds in that range. You would probably get some large raptors, like hawks or Bald Eagles hitting the centre line.

What I apologize, Mr. Chairman, for not mentioning was there are a number of proposals

in the EIS, quite a long list of locations where you put diverters in. I should have mentioned that. The concern that I have is that the diverters are located in the areas that are most strongly likely to have bird collisions, in other words, where the line crosses the Red River or any other stream, that sort of thing, and that's correct. The problem is in the staging area the entire line for a long distance falls into that category. It may not be crossing a stream or a pond, but it is within the distance of where the birds would be moving, particularly in the morning. Because quite often, in the fall, for example, it gets foggy in the morning, the geese for some reason or another think that's good flying weather and away they go. But they are flying low and they are only going a short distance to a feeding area, they are very susceptible to hitting lines at that point. In poor weather conditions, they are not likely to see them, and if they do, by the time they see them they are not able to avoid them. That's the concern there.

So I think to the extent that you go with diverters, you probably need to give serious

thought to a long stretch of line having diverters all the way. Now, that runs into money. Diverters, I know your expert used the figure of 80 per cent, quite frankly, that's terribly optimistic. Somewhere between 50 and 63 or so per cent would be in the practical range in terms of their effectiveness. I have taken that into account when I came up with those numbers that I show here. So the diverters are not the sole solution, they certainly help, but they are not the solution.

MR. BEDFORD: I noticed your disappointment expressed on page 11 of your paper that my client did not give, from your perspective, more attention to geese and Sandhill Cranes. I will tell you that Mr.Berger is quite agitated at that observation coming from you, because he reminds me that Sandhill Cranes were a valued environmental component in this particular study. And when I'm reminded of that, I suggest to you that you can not give a species of bird a higher status in an environmental impact statement than to recognize it as one of the valued environmental components.

MR. COLLINSON: That's a good point.

And what I was talking about in this particular portion of the report was the use of Mallards as a proxy for a whole wide range of waterfowl. And it struck me that the numbers were such that you can't ignore, for example, the Canada Goose, the Snow Goose, the Blue Goose, Tundra Swans, and I know Herons are included. In other words, he was using Mallards as a proxy for a large number, and I was just pointing out that there are large numbers of large birds of different species and they need to be taken into account. Yes, Sandhill Cranes are particularly important.

MR. BEDFORD: When you began your presentation, I'm sure I heard a confession from you that once upon a time you yourself used to hunt birds. And I instantly concluded those must have been geese and ducks, am I correct?

MR. COLLINSON: Geese, ducks and upland game birds. I gave it up, particularly the former, fairly early. Because going out in wet fields at 4:30 in the morning to lie under a swath and hope they happen to come to where you are is not my idea of a lot of fun.

MR. BEDFORD: Mr.Berger tells me that in the years that have lapsed since you gave it

up, there has been a five fold increase in the number of Canada Geese.

MR. COLLINSON: I can comment on that. When I was working on the Interlake rural development agreement, one of the things that we did was we purchased land that was really not well suited to agriculture and turned it into alternate uses, including wildlife management areas. The wildlife biologist at the time, which included sadly the late Al Pakulak, who was killed in a helicopter crash while working in the Oak Hammock Marsh some years back, came to Ted Crozier and I, who were working together on this at the time, and said, you know, I bet if we put some fish boxes out on some posts in the middle of some of these marshes, we would increase the nesting capacity of those marshes considerably. And being the kind of person that even wild ideas that sound like they might have some potential are worth having a run at, we said do it. And they did. And they multiplied. At that time the giant Canada Goose was seriously a concern about it diminishing vastly in numbers. I don't want to take credit for all of the large Canada Geese amount these days, but certainly the work that began in the

Interlake with fish boxes seemed to pay off.

MR. BEDFORD: Could you turn, please to page 17 of your report? And I have again found my way into one of the footnotes that you use to support a statement that you make, and we are still on the subject of diverters and birds that collide with conductors on high voltage lines. And you will see footnote 16 cites yet another example from North Dakota. And you have told us why studies from North Dakota had some appeal to you. Do you see footnote 16? Are you aware that the towers that were studied in that example are 1,000 feet high?

MR. COLLINSON: No, I wasn't aware of the height.

MR. BEDFORD: But you have generally heard observations, with which I concur, that the Bipole III towers will be approximately 154, 160 feet high?

MR. COLLINSON: Yes.

MR. BEDFORD: Mr.Berger told us all, but he has told me again, that migrating birds fly generally at a much higher height than the height of the Bipole towers, in other words higher than 160 feet. And he suggests to me that the same is

typical of birds which fly at night, clearly once they lift themselves from their resting places on water marshes and ponds, they climb to an altitude and then fly at that attitude; would you agree with that?

MR. COLLINSON: There is a difference between migrating birds, migrating as a verb, and migratory birds that are staging and simply going from a resting area to a feeding area. I want to make that distinction very clear. You are quite correct, there are some birds when they are actually migrating, going long distances, get up to 20,000 feet. When they are doing local flying they don't get quite as high. And in bad weather conditions, bad enough that they are still flying -- and I think my example of geese when I'm lying under a swath on a foggy day, they are not flying very high. I don't know how they navigate. Somehow or other I guess they want to be able to at least see the ground when they are flying. If you look directly down, you can see the ground. If you look ahead where you want to see, you can't see a thing if there is bad weather. I suspect something like that is involved.

So really what I'm talking about is

not migrating birds, but migratory birds moving from a resting area to a feeding area, which is often a relatively short distance and not a great height, particularly if they are coming in or leaving. If they are coming into a field, there may not be any water nearby, so you wouldn't maybe thought about putting up diverters, but they are coming in to land in a field to feed.

MR. BEDFORD: Would you turn, please, to page 25 of your report? We have now moved to your discussion of woodland caribou.

MR. COLLINSON: Yes.

MR. BEDFORD: And I think what has happened here is a modest oversight on your part, but in the spirit of drawing your attention to matters which you may want to ponder and change if you use this report in the future, I draw your attention to the last paragraph, and I will tell you that my understanding of recruitment rate for boreal woodland caribou is that the rate is a ratio, the numerator of which is the calves that survive for a year, and the denominator is generally 100 female caribou or cows. That recruitment rate, I suggest to you with respect, could never be negative, could it?

MR. COLLINSON: No, I'm sorry, you are right. That's a typographical error. What I meant was that the rate is not sufficient to increase the size of the herd over time at the rate that the recruitment is at the present time.

MR. BEDFORD: I listened during your presentation to the observations you made to us all regarding monitoring of boreal woodland caribou. You reminded us it is a threatened species. And as I understood the point you were trying to make, in the case of a threatened species like boreal caribou, monitoring really isn't going to help us much because it will be too late if we lose the caribou, and they are already a threatened species. I would like to suggest to you that to be a little bit more sophisticated about the value of monitoring boreal woodland caribou, my understanding is that careful and timely monitoring will alert us all to mitigation strategies that may not be working, that we are optimistic will work, and timely realization of mitigation that isn't working ought to motivate us all to implement new mitigation strategies, or to alter the design of existing mitigation strategies.

Working on this project, I learned a new phrase called adaptive management, and that's why I think monitoring, perhaps contrary to what you told us all, monitoring boreal woodland caribou would be worthwhile.

MR. COLLINSON: Thank you for the opportunity to clarify that. I didn't want to give anyone the impression that monitoring is not important, it is, it is very important.

Adaptive mitigation is important too, because as we learn things, then rather than wait for some great long pre-determined point, we act on what we've learned. That's very important.

My point on the monitoring is that society will learn from the monitoring, but if the monitoring tells us that the clearing for a line and the construction activity for a line has resulted in fewer caribou and some serious problems, that's what I'm talking about. You can't take the line out and put the trees back, that's my only point that, yes, monitoring is important, but it could turn out to be that it is more important for the biologists to have their data than it is for the caribou to be able to survive. That's my point there.

MR. BEDFORD: Could you turn to page 36 of your report? And I would like to suggest a few things to you with respect to a subject that's guaranteed always to agitate my client, and that's burying the conductors underground instead of stringing them overground.

If you and I, as an example, were given the assignment of burying one of these high voltage cables, I suggest to you that we would, in looking at the costs and the feasibility of doing this, it would be important for you and I to know the voltage of the high voltage cable. Is it a 500 kV line such as Bipole III? Is it a 350 kV line, or perhaps is it 69 kV that's typical of distribution lines that are, in fact, buried in the parts of the City of Winnipeg. That would be an important factor?

MR. COLLINSON: Yes.

MR. BEDFORD: And secondly, we would want to know the power rating for this line, is it intended to be 2000 megawatts as Bipole III is, or perhaps half that, 1000 megawatts?

MR. COLLINSON: Yes.

MR. BEDFORD: And we would have to keep in mind that burying underground cables means

that we are investing in an asset that has a life expectancy of about 40 years, as opposed to about double that for overhead cable, would we not?

MR. COLLINSON: We would want to know the life expectancy, I'm not sure of your figures on life expectancy, I'm not sure of the figure of 40, but, yes, you would want to know that.

MR. BEDFORD: Now, you of course will know and I know, and those of us who have had the benefit of reading your paper know, that your opinion is that here in Manitoba, Manitoba Hydro could in fact bury the Bipole III cable at about, I think you say two to three times the cost of stringing it overhead. Have I summarized that accurately?

MR. COLLINSON: That is correct.

MR. BEDFORD: In support of that opinion, you cite a study on page 36 called Europacable; correct?

MR. COLLINSON: Yes, there is also a report at the IEEE conference in San Diego this past summer that had similar information.

MR. BEDFORD: Now, going back to the scenario that I posed to you, you and I have been hired to look into a project where we are going to

bury the cable, and either you -- it was you in this case, not me -- you found Europacable as a real life example of this being done in Europe and what the costs are. I would be correct if I reminded you, my partner in this project, that we had better factor in an exchange rate calculation for the Euro dollar and the Canadian dollar. That would be an important thing to do if we are trying to work out comparable pricing in Manitoba, would it not?

MR. COLLINSON: Yes, you would want to do that. And you would also want to compare it with the proposed one going down Lake Champlain to the Hudson River in New York.

MR. BEDFORD: It is probably at this point that you will agree with me, but we should remind everybody listening to me that in the Europa study, they were looking at not a 500 kV line but a 350 kV line; correct?

MR. COLLINSON: Yes, there are a number in Europe, some of which are comparable in both power and length that, in fact, are going underwater.

MR. BEDFORD: And the Europa study was dealing with an 1100-megawatt power situation, not

2000, correct?

MR. COLLINSON: Yes.

MR. BEDFORD: And I will confess it wasn't me, but somebody who helps me has done the calculations, and if we are to be guided, you and I by the Europacable study, the comparable costs in Manitoba, after we also factor in the exchange rate, would mean five to six times the cost of stringing these conductors for Bipole III overhead; correct?

MR. COLLINSON: I have difficulty with that one. I have seen figures of five to six times, but if you look at the kind of terrain and soil type that's going through, what we are looking at say from the Gladstone area, somewhere just south of PTH 16, and let's say it goes either along, down to the TransCanada and somewhere along the TransCanada area to Winnipeg, there is not likely -- there is certainly no underground rock to have to worry about blasting and so on. You can drill underneath the Portage Diversion. Beyond that you are going through basically soils that can be moved, no different than a pipeline, and there is many of those in Manitoba.

So, the five to six dollar figure from

anything that I have been able to find and do some calculations on is inflated for that kind of terrain. It is not necessarily inflated, if you were to have to go up the west side of Lake Manitoba, that would be a different matter, you are into limestone and gravel stone, bedrock, but not south of Gladstone.

MR. BEDFORD: My understanding is when they bury these cables in Europe, that they are burying what are called network or distribution lines, not lines that are carrying energy from generation, point of generation to load. Is that your understanding as well?

MR. COLLINSON: In some cases, some of the ones in Europe that are underwater are going from wind generation out in the North Sea into land, and it is a similar kind of thing and the costs are about the same. Let me come back to my basic point, and that is that with the long route going through the agriculture, the key agriculture area of the province, it is causing great discomfort and cost to a large number of farmers and impacting the agricultural industry. Is it not worthwhile to take a little bit of time -- and the trick is the way the question gets asked, I

learned this over the years -- one of them is take a look at an underground line. The other is, let's see if we can do this? There is a very different way that the question is heard, not said, but heard.

And my question is, isn't it worthwhile seeing if this could be done? Let's just really work it through seriously and see what the costs are. You could be right, I could be right, but at this point we don't know. That's the point. And if it turns out that it is somewhat comparable, and if you took a route from just south of Gladstone, pretty much straight across to Winnipeg, at double the cost of an overhead line, it would be cheaper.

So I don't know what the answer is. All I'm saying is the question is worth being addressed seriously.

MR. BEDFORD: It would mean, of course, burying five cables, correct, two for each pole of Bipole III, and one spare one to deal with the risk of one or other of those going out?

MR. COLLINSON: A spare one is a good point. And I think a spare one is perhaps more critical underwater, but you could certainly do an

underground, yes, you are right about that. That would give a degree of security that I expect would exceed any security you have in an overhead line through that area.

MR. BEDFORD: Thank you. And thank you for the shortest of anecdotes about dances in Souris. If memory serves me correctly, it may not because sometimes it doesn't, one of the lawyers in this room is from Souris, and I always rather suspected that he hung out by the door and disappeared out the door at local dances.

MR. COLLINSON: Just for the record, I just met the individual being mentioned and I never saw him at a dance.

THE CHAIRMAN: Thank you.

Participants, Pine Creek, Mr. Mills or Mr. Stockwell? No. Mr. Williams?

MR. MERONEK: I am disappointed, Mr. Chairman, that Mr. Mills wasn't going to ask a question about bison urine, but I guess he couldn't fit it in anywhere.

THE CHAIRMAN: It wasn't covered by any of today's presenters.

You had me terrified, a little earlier, Mr. Williams, when I saw this stack, and

stack, and stack of yellow pages, I thought they were all questions.

MR. WILLIAMS: I will be relatively quick, and my questions are to Mr. Berrien. But I do want to confirm for the record that not only, for dances in Souris, I was actually outside the door because I was very rarely told about the dances and not allowed to attend.

THE CHAIRMAN: I think that outside the door is also where stuff that might be less than legal happened.

MR. WILLIAMS: I have no comment on that, Mr. Chair.

Mr. Berrien, a few questions, and really going to pages 34 and 35 of your written evidence. And, Ms. Friesen, I don't know if Mr. Berrien's map there for segment, section 11 is there. If it is not, we can just do it verbally. Are you shaking your head -- it is unhooked, okay. So, Mr. Berrien, you will do it without benefit of the map.

MR. BERRIEN: Sure. We have got the report, though, that perhaps has what you need in it. So maybe that will help.

MR. WILLIAMS: And Mr. Berrien, I just

do want to, in terms of your report, page 34, I want to direct your attention to the last two paragraphs on page 34, and then the top paragraph on page 35. But perhaps verbally we can recreate the map just for a second.

In terms of section 11, sir, you recall that the segment A appeared at the top of section 11 and was in one segment?

MR. BERRIEN: Yes, it was the longest of -- it was a segment and a section both, in other words, the segment spanned the entire section.

MR. WILLIAMS: Okay. And in terms of segment B, I will suggest to you it was shorter, compared to segment A, but again it spanned the entire section?

MR. BERRIEN: It is the other way around. A went from one side to the other and so did B, but B was longer than A, in fact probably twice as long.

MR. WILLIAMS: Okay. Then we have segment C, which was divided into two segments being C27 and C28?

MR. BERRIEN: That is correct.

MR. WILLIAMS: And length-wise, sir,

how would they compare to the other two segments?

MR. BERRIEN: It was marginally longer than A, but not as long as B.

MR. WILLIAMS: And sir, like yourself, my client has been struggling with the conundrum of how one can relatively compare these segments. And if I look to your evidence on page 34, am I correct in suggesting to you, and towards the top of page 5, that if we evaluated segment C27 and C28 from the point of highest single point impact, we would arrive at a score of 15?

MR. BERRIEN: Yes. What I did, Mr. Chairman, is I eliminated the section between the two sub segments of C. You said, well, let's look at C. And clearly the governing principle would be the highest impact would be the one that you would rate. So at the top of page 35, I basically went through the criteria that actually generated a rating and said, all right, which one was the highest in there? And this is particularly important in terms of understanding how this process works, because if you were to look at the map and see C27, it is tiny, it is a tiny fraction of whatever any of the other segments within this section are. So if one was

to do, as was done in the RSM process where each one has a complete set of ratings from one end to the other, we have 11 and 10 respectively for C27 and C28, but if you actually treat C as all one, one piece of the route, and go back and rate the highest of the impacts along C, you would end up with a 15 instead of a 21, which is the combined effects of the two subsections.

MR. WILLIAMS: Sir, just in terms of the numbers that you have presented, I have heard a ranking of 11 for segment C27, a ranking of 10 for segment C28, an additive ranking of 21 and a highest single point impact of 15?

MR. BERRIEN: That is correct.

MR. WILLIAMS: In terms of these figures, can you advise me what Hydro did with them?

MR. BERRIEN: What Hydro did?

MR. WILLIAMS: Are you able to discern from their report what they did?

MR. BERRIEN: Well, it appears if you look at the document up on the screen, when I see the green highlighted, it appears as though they've said that the lowest impact total is 9, but we are comparing that to a 10 and an 11, which

when you blend them together is, depending on how you do it, 21 or 15. So I'm not sure which one they were looking at. For example, let me say this, if it wasn't a 10, if that were the issue, 10 is close to 9, so now you are starting to get into more of a judgment thing, you can't really say on the basis of numbers alone which one is the better one. You add 10 and 11 together, now it is pretty easy to say. Again, this is part of the difficulty in the opacity, the non-transparent aspect of this as to how these numbers were used at the end of the day. I can't tell you, it appears as though the lowest impacts was assembled from one end to the other to generate then what is deemed to be the lowest impact route. But I am saying that is, especially based on the questions that we heard, it went into committee and somehow popped out the final route after that. So I'm not sure anymore.

MR. WILLIAMS: Sir, I do want to follow up just briefly on your discussion with Ms. Mayor, legal counsel for Hydro. You had, you will recall, a somewhat colourful discussion with her about the committee?

MR. BERRIEN: Well, we like to keep

people awake.

MR. WILLIAMS: Now, in terms of your discussion, in terms of the committee, I think you used a phrase like, you say it but I don't see it. Do you recall a phrase to that effect?

MR. BERRIEN: I do.

MR. WILLIAMS: As well in terms of the alleged committee discussion in terms of the final preferred route, I believe your information was that you don't see a final matrices, or final metrics. Do you remember words to that effect?

MR. BERRIEN: Yes. It was conveyed to me in the form of a question that this actually had been done, some further evaluation beyond what we see on the screen that lead to, in fact, the final route, at least that's what I understood. But, again, that's what I have not yet seen.

MR. WILLIAMS: Based on your experience in other jurisdictions though, sir, if there was an additional discussion by this, in quotation marks, "the committee," would you have expected a matrices, some metrics flowing from that?

MR. BERRIEN: I think that's the thesis of my whole presentation, Mr. Chairman, is

that one needs to see to be able to satisfy oneself how this selection process was conducted. And if indeed there was one more go round, well, certainly if it leads to the final preferred route, the one seeking this Commission's approval, one would expect it to be in chapter and verse as transparent as possible, this is it, this is how we got here.

MR. WILLIAMS: I'm going to come back to that point in just one second. But, sir, are you aware that there is an ongoing discussion in terms of revisions to the final preferred route by Manitoba Hydro with regard to three segments?

MR. BERRIEN: I understood that there was some issues up in the border end, and it had to do with caribou ground, so I think, yes, I'm aware of that generally.

MR. WILLIAMS: And if you were to evaluate the outcomes of different routes through these contested segments at some future date, would I be correct in expecting that you would expect to see some sort of empirical or evaluation or some sort of matrices or metric in support of that analysis?

MR. BERRIEN: Let us say this, if what

I have had to say has had any effect whatsoever, perhaps yes. I would hope that it would be there. I have given some examples of what it can look like. I haven't seen such a thing yet, but certainly my hope would be that if this Commission in its wisdom decides how it wants to handle this, it can give direction, that's the kind of metrics that they want to see so that they can make an independent judgment, a comparison that so far can't be made based on what I have in front of me.

MR. WILLIAMS: Just a couple of final questions, Mr. Berrien. You have used the word opaque to discuss Hydro's presentation in terms of site selection. In your experience with the regulatory process in other jurisdictions with regards to transmission lines, would you consider this level of opacity -- I don't even know what that word is -- but you know what I'm saying, comparable to what you have seen in other jurisdictions, sir?

MR. BERRIEN: I can just say, at least in Alberta, if an application with this degree or lack there of detail came forward, I can tell you unequivocally, it would be just sent home. The board wouldn't even make a decision on it. They

would say go back and get this information, because this doesn't mean the basics of rule 7. I mean, this just happens to be the way it would work.

I will just give you an example. I can recall doing the Western Alberta Transmission Line from one end of the province to the other, Edmonton all the way down to east of Calgary. Every single major turn had its own description of why it was there. Every deflection where the line didn't go in a straight line had a discussion of why that deflection had been made. That's the degree of detail that can go into the routing discussions.

I'm not suggesting that the environmental stuff wasn't important, but elsewhere in the report I talked about the degree of the discussion on routing relative to the agriculture areas. One, we have got one agricultural technical report, and miles of other environmental things, and yet this is half of the route. That's the kind of detail we need on the agriculture area, the same attention paid to that. So that's the answer to your question I hope.

MR. WILLIAMS: Mr. Chair, I thank the

panel, and I thank the Bipole III panel for your time.

THE CHAIRMAN: Thank you, Mr. Williams. Mr. Dawson?

MR. DAWSON: I have no questions about diapers for buffalo.

THE CHAIRMAN: Thank you. Panel members? Wayne?

MR. MOTHERAL: Thank you for the opportunity. I just said to the Chairman after this morning's presentation, this is the one presentation I understood everything that you were talking about. I can't say that for all of the other presentations we have had, because I am a former farmer.

I'm still getting conflicting issues on, and I know it is a difficult thing to say to get farmers to unite and to try and get a consensus of what is best. I have heard that on the -- I'm talking about placement of towers. I get the point, some points where some papers say that it is best on the property line, with a little higher liability to Manitoba Hydro. Then I hear the 42 metre, whatever the space there is, that's great, because most of the farm equipment

will go around it. Now I'm hearing it is the quarter mile is probably the ideal.

Now, am I true, am I correct in saying that the quarter mile would be the best option?

MR. BERRIEN: Let me make a real clear distinction of what the one quarter refers to, it is the quarter line, a quarter section boundary, not quarter mile. Quarter mile is, what is that -- 1,300 feet?

MR. MOTHERAL: I just said that wrong, I understand it is the half mile, quarter section line.

MR. BERRIEN: Sir, I have been doing this for a lot of years, I have worked for farmers, I have worked for the company themselves. It is unequivocal that at the end of the day, the odd shelter belt issue notwithstanding and so on, that the least impact is where you can farm by a structure, not around it. It is absolutely unequivocal. And let me really be clear with you, some farmers don't like it for a variety of reasons, but at the end of the day, the vast majority, and certainly all of the panels across Canada agree that that is the kind of placement that you are looking for, is on a pre-existing

boundary. You will run into the odd one that I think Mr. Nielsen called management unit splits. But let's recall that a mid field tower, if you have a mile long field and it is cutting across on the half mile, is no different in impact than a 42 metre one that you are farming around. It is the same thing. Yes, you will run into the odd management unit split, I don't even think that's a proper description. But certainly wherever possible, if you are on half section, you know, the section differentiating one quarter to the next, you are going to minimize the number of times that's going to happen.

MR. MOTHERAL: Thank you for that.

MR. BERRIEN: My aerial spray man looks like he wants to say something.

MR. MOTHERAL: My next question was for Mr. Friesen anyway.

MR. FRIESEN: May I comment on the shelter belt issue? I understand Hydro trying to save the shelter belts that are in this area. One of the comments that I made about shelter belts is that when I was young, I developed a real hatred for them because I spent most of my childhood with a hoe getting weeds out and getting them to grow.

There has been a lot of effort put into those shelter belt rows for specific reasons. And those reasons are for wind and wind erosion and issues such as that.

Considering the ugly footprint that Hydro is about to put in to the agricultural zone, leaving those shelter belts there in lieu of moving that line over is a horrible idea. Because essentially what you have done now is you have put the footprint of the Bipole III in 42 metres off of that level, and you have made the land from the existing shelter belt row to that tower line pretty much useless. So you have exaggerated the problem by trying to save a shelter belt row that already is becoming useless because of the routing decisions that Hydro are making. It only makes the problem worse kind of thing. Now you are actually taking land and you are completely making it useless. That's my two bits on shelter belts.

MR. MOTHERAL: I'm not going to talk about shelter belts. My next question is on your presentation on your video that you had this morning on spraying. And it certainly isn't a job that I would like, in fact, I couldn't stand that. But you mentioned that it makes the 42 metre spot

unsprayable; correct? And then you are also saying that it would affect across the road, to your neighbour across the road, right along his property line also. Are you telling me that you would not spray, you do not spray something across the road when you have got that line across there?

MR. FRIESEN: If that line is on the other side of the road, and I've established a safety zone between that line and myself, then the answer is yes, if I'm spraying that line in a parallel direction. Once you turn and you are spraying perpendicular to that line, it is a completely different situation and safety zone that you are in.

Now, one of the big factors is that people want to know the number, what is the safe number, okay, when taking a look at that tower that's on display over there? The safe number is on any given day a different number. If I'm flying into a head wind in a good condition, I can tighten up to that line. If I'm flying in a cross wind that is pushing me towards that line, I need an extra buffer. Because as soon as I pull on that airplane, the first thing that happens is we enter into different air currents. I can be

working in a 10 to 15 kilometre cross wind at 10 feet above crop level wheels. Okay. And as soon as I pull up to sometimes even 50 or 100 feet, I can be into a 30 K wind. Levels of wind change with altitude, and it is not hundreds or thousands of feet, sometimes it is tens of feet. So you want to make sure that at any given time when you pop, that you don't have an issue where the plane wants to drift. When there is nothing around you, it can drift and you can manage that just fine, and in some cases, you won't notice that it is happening. Because when watching that video, your vision has now gone up into the horizon, so you don't even have a differential to know that you are drifting. But when you are beside a tower, then you know it is happening, because you can see it and you can feel it coming close.

Now, if the upper end of that tower is what is extending over you, your safety factor is not the leg that you have in the periphery, the safety factor is above you, that you are not even seeing as you are pulling up through the situation.

MR. MOTHERAL: Thank you. A simple yes or no would have done, but that's fine, I

enjoyed that. That's all for now.

THE CHAIRMAN: Brian?

MR. KAPLAN: I have two questions and two comments. My first question is directed to Mr. de Rocquigny, Mr. Nychuk and Mr. Friesen. Have we ever met?

MR. NYCHUK: No.

MR. de ROCQUIQNY: No.

MR. FRIESEN: Not to my knowledge.

MR. KAPLAN: I want to make a comment now, my first comment, that any thought I have farm experience would be incorrect on your part. My second comment that I would like to make, and the first -- the first comment is what causes me to ask for clarification once in a while. So I will go to my second comment and then my second question.

The second comment is, I thought your presentations were very well done today. My second question to you, for the clarification in my question is as far as tower strikes are concerned, and I'm not asking for exact numbers, but your best estimates. As far as tower strikes that are mentioned in one way or another, as far as you, Mr. Friesen at page 12 of your report --

you don't have to look at it -- Mr. de Rocquigny, page 3 of your report, and Mr. Nychuk, page 2 of your report, per year, can you give me a number as far as how many tower strikes we are talking about in an average year?

MR. NYCHUK: You mean going around the tower, or what are you talking about?

MR. KAPLAN: No, I mean hitting them, or in some way doing damage to them?

MR. NYCHUK: Well, on that picture that I showed you, there was damage to the pole, okay, to the Hydro pole. We do those fields, it costs us money, during the daylight hours, okay. I usually do them, I have other things to do, I manage a farm, but I do not feel secure in sending out my hired labour or my sons to go wrap a $100,000 machine around that pole when I need to use it. They have caused us stress, they have caused us thousands upon thousands of dollars over the years, the compaction, the weeds, when they tramped in their fiberoptic line with no compensation. They are a nuisance, just like -- I will give you an example, I will pay them -- they paid that gentleman 60 bucks, I will pay them 10 times to get them off my field. They won't come

and get them. That is why we don't want the poles. This, as their lawyer said, is an 80 year thing. I will be 145 years old, I will have a lot of dirt on top of me. I'm passing it on to my sons and my grandsons, and I don't want to be part of that.

MR. de ROCQUIGNY: I would like to speak from experience, not from hitting a tower, but the possibility of hitting one if the tower would have been in my field. In one of those quarter sections that I mentioned the line was going through, we were seeding in the spring, canola, and I am still in calving during the seeding time. My brother mostly does the seeding mostly with my nephews. So they needed a replacement in the afternoon, early afternoon, so I went to replace my brother, and he can testify to that, he was there, he knows what happened. I fell asleep, I fell a sleep on a tractor that has auto steer. And I was relying on the beep of the auto steer to wake me up at the end of the field. I never heard it. The next thing I knew I was going through a fence line and down the ditch when I finally hit the clutch. While I was hoping nobody would have saw it, but my brother did see

the tracks. Now, imagine if that would have been a Bipole III tower. Now, I don't know how many towers get struck during the year, but I really want to know if it does happen, if we do have it across southern Manitoba.

MR. FRIESEN: When taking a look at strikes with equipment as far as my farm goes, I would quite comfortably say that our equipment probably strikes stationary objects up to four, maybe six times a year. Now those stationary objects may be shelter belts, they may be MTS mushrooms that are on the roadside, just into the field, they may be rural line Hydro poles where we take a nick out of the side of the pole. Hopefully I am not going to get a bill for that after saying that.

I guess my point is that equipment strikes with stationary objects on the side of the field happen to us every year. And what would make these towers any different than anything else that is positioned in the field? When we have operators, and you tell them to stay away, get away from that, and two days later, you have got a problem, like can you guys bring me a tractor, we have to pull this off? Pulling it off means that

we haven't just skinned the pole, we have hit it, and we need to put that out and then sideways to get away from it.

We have not done any serious damage to date, other than to maybe uproot a couple of trees in the shelter belts, but it does happen. Again, what would differentiate to make a Bipole tower in the field any more safe to work around than any other object that is already there?

Number two, once in my career in 20 years, I have had a wire strike with an airplane. Again, I hope I don't get a second bill from Hydro after admitting to that also. But I think that this panel over here would have a much easier time to actually answer that question of how many wire strikes there are from aerial sprayers, or mystery wires down that aren't reported in a given year in the southern crop zone that I work. But I certainly know there are wire strikes every year, every year. And it might be a rural line, and because it is a rural line that operator is getting out of there safely. The point is, a wire is a wire is a wire, whether it is that big or that big. That one we are not flying through, not that this one makes it any better.

MR. KAPLAN: Thank you.

THE CHAIRMAN: Ken?

MR. GIBBON: I wanted to thank the panel for their presentations, I found them all very informative. That said, I'm only going to put questions to two of the panelists. So no offence to those who are not getting questions, it is probably a compliment, I think I understood everything you were saying, as best as I could.

Like Brian, I'm not a farmer, my time outside of the perimeter, and I do spend a lot of time out there, it is spent either hiking, going to the beach or playing golf. And I play golf in many of the communities where farms are, in fact, a very big part of the economy. But I suppose also, I'm originally a small town boy, so there is some sympathy there I suppose for the concerns of rural communities.

That said, I still wouldn't mind a bit of clarification on some questions that would help me better understand the points being put forward. And if I could start first with Mr. Berrien?

Mr. Berrien, there was a photo, well actually a series of photos in your report starting with photo 8, having to do with

irrigation. And I'm not sure that I fully followed what the concern might be with the proposals that Hydro has put forward. I think the photographs themselves are quite helpful in terms of what practice should be. Can you give me a sense of what you think the practice would be if Manitoba Hydro went forward with the kind of placement that you think they are going to be doing?

MR. BERRIEN: Part of my discussion, sir -- Mr. Gibbons, you never clarified as a small town boy whether you were in the dance hall or outside?

MR. GIBBONS: I'm not from Souris so I am not going to comment on that question.

MR. BERRIEN: I just thought I would give you an opportunity to clarify.

Anyway, the issue for me in terms of the irrigation was brought to its most prominence, most prominent point by Mr. Nielsen talking about initiating a study to see if you could put pivots in fields where there was a 42 metre inset of the line. And my comment in respect of that is that if you, with the span of 480 some metres, you can actually do a plot where a quarter section pivot

spiked directly in the middle, there was a pivot point right in the middle, could actually turn within that if those towers were exactly at the perimeters of the circle. But the significance of that is, if I can get you to look at the pictures that we were talking about, photo 8, if you look at photo 8 on the right-hand side, you will see what is called a corner system. And by the way, I'm very familiar with these things, I have actually built them, I have managed farms with irrigation pivots, so I know of what I speak. You could put those two towers there as long as they were very precisely located, that of course is a function of where the towers are further out beyond them. You can stay in the middle of the pivot, but what you do is you sacrifice a corner irretrievably if you were to do that. That means that even if you went to a corner system, the corner system could not go out into those corners because of the physical obstruction. You could build the line 42 metres in, and still run a circle only if the towers were very precisely placed, and then you still wouldn't be able to run corners.

I think in one of the IRs early on was

whether Manitoba Hydro had in fact taken a visit to Alberta to see all the power lines that are there. There is pictures of power lines in Alberta adjacent to irrigation. These can be run through irrigated areas. But why in the name of heaven you wouldn't put it on the quarter line so that you don't create any of these types of constraints, where you either have an engineering challenge to sight the tower at exactly the right location, or in fact limit the future "irrigatability" of the balance of the quarter section, for me it just makes no sense that where you have the option you would not choose a quarter line through an area that is or might be "irrigatable". So that is the issue with respect to irrigation.

MR. GIBBONS: If I could just fine-tune that a little bit more, my experience of irrigation seeing it from the edge of the golf course at Portage la Prairie, for example, in the pivot system, which is fairly common, aren't the corners lost anyway, given that you are doing a circular irrigation in what is a square piece of land, I suppose?

MR. BERRIEN: Seven acres is lost in

each corner as a routine matter, 132 acres is your typical pivot scenario, okay. The way you get to seven acres is by having an end gun that hangs out past the last tower. That end gun not only creates physical length of the pipe itself, but it has a gun that will shoot an addition 30 or 50 feet, depending on psi and all the rest of it. When you get into a tower that would be precisely placed at that thing, now you have limited the end of the end gun, you can't have that thing sticking out. All you can have is the last wheel. So, yes, you do lose it on just straight, but you lose only seven acres. When you go to a full corner system, you can get up to 150, 54, 55, 56, just depending, you virtually eliminate the corners with corner systems. And you can see how this leg will work it's way out, you can see how long it is. It actually goes out to the point where the end gun on the corner system will virtually spray to the very corner itself.

MR. GIBBONS: Thank you, that was helpful.

Second question for you, sir, and it has to do with the notion of gross impact.

MR. BERRIEN: Yes.

MR. GIBBON: And again, it is more than anything else a clarification of your basic point. And I think I see a useful reference, at least from my perspective, on page 35 of your report. This is the one that isn't about caribou but about traplines.

MR. BERRIEN: Yes. I didn't give you all of the things, that is in the report, but wherever there was an issue that I perceived to be essentially irrelevant to the issue of routing a power line through agriculture area, and if it was in fact rated, I considered that to be an inappropriate, or in fact what we call a ghost impact. It is there, it is helping to drive the rating system, but it is not really an impact that one would consider to be relevant to an agricultural area.

MR. GIBBONS: What I'm trying to pin down, just for my own understanding, is in the cross-reference to caribou you were saying the caribou was represented by dashes, hence not part of the calculation?

MR. BERRIEN: Correct.

MR. GIBBONS: Is the point you are making that the traplines were not indicated

dashes and instead were given a low rating, and therefore included in the calculation, is that the way it --

MR. BERRIEN: They didn't generate a number, but they were rated low. Why were they rated when there was no --

MR. GIBBONS: As opposed to nil?

MR. BERRIEN: Exactly. But there were others where there was rating that I perceived to be other gross impacts, but that's a perfect example of what I'm talking about.

MR. GIBBONS: That's helpful to me to understand that earlier point. Thank you.

Then for Mr. Collinson, and I will refer to the slide show rather than -- at least I hope I'm doing that. My notes are getting a little jumbled, but these fall within the slide show rather than to the report itself. The question that I had about slide 23, and it may be, sir, that you may have described this, but it may have sailed passed me because I'm writing notes at the same time. I don't think that I can multi-task as well as I used to when I was younger. But the reference to the breaking point at 65 per cent being too simplistic, on that

particular point, can you elaborate briefly on what you meant?

MR. COLLINSON: Yes. Within the caribou report they indicated that when the key habitat got down to 65 per cent, the chances of caribou herd surviving were pretty much nil. My point is that the 65 per cent is too hard a figure. The implication is that at 64.9, they are gone, if it is 65.1, it is okay. And there needs to be some thought given, and in may come out of the monitoring as time passes, but there need to be some thought given to some points above the 65 per cent that represent a cautionary range. In other words, it may be 65 to 70 per cent, 65, 75, something like that. Because the 65 per cent is sort of like Humpty Dumpty sitting on the wall, and at 65 per cent he is gone. At 66 per cent or 65.1, he is still there quite happy. So there needs to be a cautionary range that triggers something that says, hey, we have to look at this really carefully. And I think just a number above 65 is not sufficient, I think there needs to be some range that drives some additional concern before it is too late. That's the point there.

MR. GIBBONS: Thank you for that, sir.

The other, another question relates to slide -- to me slide 39 and 40 are in some respects connected, at least as far as this point is concerned.

The third bullet on slide 39 said environmental problems can be reduced significantly by other routes that also avoid the east side. And then you do refer to an idea of an underground line from the Yellowhead Highway south to Winnipeg. But it did say other routes, plural. Were there any other routes that you had in mind that we haven't heard about yet?

MR. COLLINSON: What I was trying to get at was that if you look at a map of Manitoba and you say, okay, caribou, birds, severe weather, agriculture are the issues that jump out from the current proposed route. So are there places where this would be much less of an issue? And I look at a map and I say to myself, okay, other than the Pen Island caribou herd, which is the coastal herd which runs right through along the southern coast of Hudson Bay into Ontario, other than that herd right near the last generating station really, right down the east side there are no caribou herds until you get down to the Charron herd which is in the Poplar River area. That whole stretch,

all the way down the northeast side, the upper northeast side of Lake Winnipeg, there are no caribou. So that tells me something, if the caribou are an issue over on the west side, which I believe they appear to be. That's one.

Birds, the Mississippi flyway does not extend as a flyway per se east of Lake Winnipeg. There are birds there and they nest, but they are not a key part of the migration route, that's Interlake and west. Sorry, yes?

MR. GIBBONS: Sorry, sir, what I was referring to was the idea that there were other routes also, routes plural, that avoid the east side. But you are referring now to those that would be on the east side?

MR. COLLINSON: No, I am sorry, my understanding is that the concern on the east side in terms of protected area is the boundaries of the proposal that have gone through the World Heritage Committee, and that's north of Poplar River. There is a stretch of probably 50 miles, 40 miles, 50 miles north of there up to, if you would like to draw a line east of Warren's Landing that's outside of that area.

So what I'm looking at is, if caribou

and birds are one of the key issues, well, here is an area that is much less a concern. No caribou and the birds are local birds that are nesting as compared to migrating through, so that reduces the number there.

Then the problem, of course, is how do you get from there over to the Interlake without getting too close to the existing lines? And while there is various ways to do it, one of them is to ask the question, is the severe weather such in the northern -- I'm talking Grand Rapids north -- is that such that it is the same security issue as it is in let's say Gladstone, Portage area, from there to Winnipeg? I don't think it is as great a security issue, but it is something that Manitoba Hydro has identified, and that is fair enough, it is something -- but it is something that can be calculated, risk is something that you can calculate. Uncertainty, you are in trouble because you can't calculate it.

There are all kinds of examples where lines have gone underwater. I know there has been some investigation of this, but there is now a major proposal that is about to begin, from what I understand, down Lake Champlain and the Hudson

River. So, okay, if it can work, there may be there is something worth exploring, I stopped there, something that may be explored.

If then you could do that, there is one caribou herd in the Long Point area, just south of Grand Rapids, that goes to the west, it probably comes pretty close if not include the existing Bipole lines, and then south maybe another 40 miles. But you could cut across the lake in such a way that you would enter the northern part of the Interlake in an area where there are no caribou, or you would run into some of the domestic upland game birds that you would find on the other side, but could be avoided in terms of identifying the Lek's in advance. And when you get down to the primary agricultural area, you would probably be somewhere, if you drew a line from Gimli over to Teulon, that's about where the class 3 agricultural land ends. So then if you needed to go underground or something to avoid Oak Hammock Marsh and Netley, it is not a very long distance to go underground.

So, you know, if you want hypothetical possibilities -- all I'm trying to do is identify some of the areas that do not have the kinds of

impacts that we are seeing on the west side, that also avoid the east side that's been identified as to be protected. So, okay, this meets the criteria of both, and why not take a look at it? That's my point.

MR. GIBBONS: Thank you, sir, that's all.

MS. MACKAY: Yes. Mr. Collinson, I have just one question. You reminded us that Syncrude got into some difficulty over the death of some ducks in their settling ponds, and drew our attention to the possible problems with Bipole III. Are you aware of any legislation anywhere in Canada, particularly in Manitoba, that would make a hydro company liable for that currently?

MR. COLLINSON: The answer is no and very slight possibility together. There is no specific legislation that I'm aware of to that effect. However, there is federally the Migrating Bird Convention, and there is the Act that gives the Federal Government the authority to sign that convention. The convention takes on obligations on the part of all signatories to protect habitat. The legislation that allows that signing to take place has a clause in it that protects habitat.

So the answer is, yeah, there is something there. Quite frankly, my observation is that the Federal Government at this point has just turned their head on it, they have not taken a look at it, a serious look at it. So I don't know what the answer is in terms of where they stand. But it strikes me that migratory birds are a Federal responsibility. I agree it can be delegated, but they still carry the responsibility in terms of end results, and they are the ones that are signatory to the agreement.

MS. MACKAY: Are you aware that any other countries, particularly the Americans, are expressing concern or are enforcing this in any way, with hydro lines?

MR. COLLINSON: No, I'm not aware of that specifically. From time to time you get statements from both the U.S. government and the Mexico government about the importance of this convention. I'm not aware of specific actions.

Now, there are some local ones in the southern U.S. where there is winter habitat for some of the larger birds. But it hasn't come up as an international issue. There are meetings under the convention, so far it hasn't come up,

which is -- I guess there are so many environmental issues floating around that nobody wants to bell the cat. So the short answer is, no, it hasn't come up. The other answer is, yes, there is a legislative authority there that in a surprising kind of way seems to have been set aside.

MS. MACKAY: Thank you.

THE CHAIRMAN: I have a handful of questions.

Mr. Friesen, what size fields do you typically spray?

MR. FRIESEN: It depends where in the trading area that I'm working. If I go west of the Red River, the fields open up, they are much larger. If you go east of the Red River all the way to let's say Steinbach, as you progress a little bit further east, they progressively probably get a little smaller and a little more chopped up. I would say that my average field size -- that my average field size in a year, and I'm just working this through my head, would probably be about 80 acres.

THE CHAIRMAN: 80 acres?

MR. FRIESEN: 80 acres.

THE CHAIRMAN: And what would be the smallest?

MR. FRIESEN: Certainly not on a commercial basis, but on a good customer that has given us a lot of work, I have gone in and actually sprayed five acres, seven acres.

THE CHAIRMAN: Wow, that small?

MR. FRIESEN: Yes, it is literally going in and giving it a puff. I certainly wouldn't think that that's the way I could maintain a living.

THE CHAIRMAN: How wide is your boom?

MR. FRIESEN: The boom width on the airplane probably doesn't exceed -- one plane is slightly larger than the other. I believe it would be around 42 feet would be the boom width, but my effective spray pattern coming out of that airplane would be, the smaller one at 4 gallon rate per acre is running at 64 feet. And the larger aircraft that I'm using is operating at around 71, 72 feet, at a four gallon rate.

THE CHAIRMAN: So on an 80-acre field, which would be quarter of a mile wide --

MR. FRIESEN: Depending, but typically an 80-acre field would be a quarter mile by a half

mile.

THE CHAIRMAN: Yes.

MR. FRIESEN: They do take different shapes and forms.

THE CHAIRMAN: They would take a number of passes?

MR. FRIESEN: Pardon me?

THE CHAIRMAN: You would do a number of passes at 60 to 70 feet a pass?

MR. FRIESEN: If I was fresh out of the season, I could tell you exactly how much passes it would take -- 19 passes I'm just told.

THE CHAIRMAN: Thank you. Changing the subject, still Mr. Friesen, in your report on page 9, you talk about potential cost consequences. Now, are these as a result of not being able to spray?

MR. FRIESEN: I am sorry, what page?

THE CHAIRMAN: Page 9?

MR. FRIESEN: Sorry, what was the question?

THE CHAIRMAN: The potential cost consequences, you are talking about the revenue per acre and then 30 per cent loss of revenue. So these losses would occur if a farmer is not able

to spray, or could occur?

MR. FRIESEN: Now, this loss is an estimation factor, okay. Because what we don't know is what the commodity prices of any given crop, or what crop it will be. As I expressed earlier, the fields that are parallel to the field can be sprayed. I estimate that at least 50 per cent of them can't. When doing that calculation, based off of $1,000 of gross, gross profit per acre, or revenue per acre, at 25 to 30 per cent, within the parameters of what I've described is what I believe the problem to be, that's the amount that it will come to. Now, again, mother nature is --

THE CHAIRMAN: That is, again, that's a given. If a farmer isn't able to spray, it might have this impact?

MR. FRIESEN: Yes. And again, we are not talking about 100 per cent loss on the field.

THE CHAIRMAN: No, I understand. And I just want to pursue this half mile line a little bit with three or four of you, but I will start with you, Mr. Friesen.

You answered it partly to Mr. Motheral earlier. But if the line is on the half mile line

and not 42 metres in, but on the half mile line, will that make your life any easier, the spraying?

MR. FRIESEN: Yes.

THE CHAIRMAN: It would, okay.

Mr. Berrien, if I can really oversimplify your presentation and recommendations, it would be that the world would be a lot better for these farmers if the line were to follow the half mile line?

MR. BERRIEN: Absolutely, sir.

THE CHAIRMAN: Now, would that -- we have heard today, in Niverville, and in Portage la Prairie, and I think one evening here from Manitoba farmers, who have, I think almost unanimously, I don't think that anybody came out in favour of it, they stayed home if they have no objections to this, but we have heard from a lot of people who were opposed to the line. And I can't expect that you would have spoken to each and every one of these people, but would most of them, or would most of their concerns be addressed by moving to the half mile line, in your view?

MR. BERRIEN: To the extent that you could perhaps minimize a lot of the issues, a half mile line does it. If I might, just a small

story, I was talking to Rick here down at the end, and he said, no, putting it on the half mile line is just -- I don't want it there. And what he was doing was conveying to me that he didn't want the line at all. When I said, you have to understand the base case is that there is going to be a line. Where should it be that it will create the least impacts with your operation? And at that point in time, I turned to you, Rick, and said -- he is nodding his head, yes -- if it has to go somewhere, on that half mile line is going to create the least amount of problems for my operation.

Sir, that's the overwhelming result of work -- remember, most of -- not most, at least half the work I do is for farmers, not for power companies. So this is the kind of feedback that you get. Folks, let's understand there is going to be a power line, potentially where should it go to create the least impact? Half mile line, half mile line, half mile line.

THE CHAIRMAN: Mr. Nychuk, do you agree?

MR. NYCHUK: Well, like Mr. Berrien said, the best thing is not to have a line at all.

With consultation with some of my neighbours, yes, the half mile, if we have to have it, that would be preferred -- or non-preferred from my point of view.

THE CHAIRMAN: Thank you.

Mr. de Rocquigny, I think Mr. Berrien might have answered this question earlier, but when you were making your presentation and there was a map up showing the area around your farm, around St. Claude, is it?

MR. de ROCQUIQNY: Yes, around St. Claude.

THE CHAIRMAN: Did you say that the line was going to be 42 metres into your field from the half mile line?

MR. de ROCQUIGNY: Yes, that's what I said, yes.

THE CHAIRMAN: Why is that?

MR. de ROCQUIGNY: On the map it looked like it was 165, but when Evolve came around, it showed it was 42 metres. And the reason why they went, actually it is right here, and I'm glad Ms. Mayor brought this forward. Chapter 7, appendix 7, the permanent preferred route adjustments on section 10. Number 37, RM of

Grey, south St. Claude, towers 54 and 55, general stakeholder feedback, study team, consider precise tower placements to the half mile lines to minimize potential impacts. On half mile there is numerous fence lines and shelter belts, also in very close proximity to a residence.

Now, I read that, and the response to it was they were going to offset for PPR offset from the half mile line to minimize effect to fence lines and shelter belts and create a separation from residence.

So when I read that just a little while ago, I said, Hydro must have stood there and saw all of this fence line and this one residence that's a couple of hundred feet off to the south side of the half mile, and said, hey, this would be a lot easier if we put the line right through the farmer's field and have him deal with it rather than us deal with the fence line -- and the shelter belts is actually trees that have been growing in the fence, it is not even a shelter belt -- and to move that one residence, and let's put it for five miles. The effect, what would that be, 10 quarters sections?

MR. BERRIEN: It would be on both

sides, 20 quarter sections.

THE CHAIRMAN: So it is going to run 42 metres into your property for the whole --

MR. de ROCQUIQNY: Well, for the eight quarters that we own along that line. And actually the west quarter section, it actually turns it, it comes in from the north and it turns east and it will be affected on two sides.

And actually section 10, number 36, south St. Claude west RAC point 28 and 50, input source, landowner. The landowner has a natural park on the property and would like to see the PPR moved off their property. There are fences located on half mile line. Response: Adjustment was done to move the PPR to the east of the half mile line which will also avoid winter cattle shelter belt.

Well, I read that. Hey, this is my neighbour, I'm not going to knock him, but first of all, the fence is not even on the half mile, it is on our side, it is totally crooked. And for winter cattle shelter belt, the poor guy never owned a cow in his life. All he has is four or five horses. Now we have got to have this line 42 metres inside our property on two sides.

THE CHAIRMAN: On two sides?

MR. de ROCQUIGNY: On two sides, the west side running north to south and on the south side running west to east.

THE CHAIRMAN: Thank you.

We have canvassed this quite a bit, but I'm going to ask it again. On compensation, and with the proviso, as Mr. Berrien and Mr. Nychuk have already stated that you don't want it, but if you have to have it, would you prefer a lump sum or an annual?

MR. de ROCQUIGNY: You are asking me?

THE CHAIRMAN: All three of you, actually, the three farmers?

MR. NYCHUK: First of all, again, don't want the poles, but definitely we would want it annual, revisited every year. There is computers, there's technology, Manitoba does numbers. We have a thing called the school tax rebate, it is done to every piece of land in Manitoba, so when --

THE CHAIRMAN: Farmland.

MR. NYCHUK: Yeah, farmland. So when Mr. Gray and the other gentlemen said it would be a nightmare, well, we get a thing called a tax

bill every year, I don't pay his taxes, I pay my own. We can send in each year to Hydro, they can re-issue our cheques per year. We have real costs every year.

I just would like to add one thing about -- when they were flying over our area, there is the thing called the Z dyke that the government owns. I wonder if they looked at that and try to put poles on the land they own? That is only two, three miles away. So if Mr. Nielsen looked over to the right or left, he would have seen that, and that thing juts also south as it is going by there.

MR. de ROCQUIGNY: I'm totally agreeable with Rick on having yearly compensation. They tell us that this line will exist 80 to 100 years, agriculture changes a lot in just 20 years, so imagine 80 to 100 years. What we get compensated today, it doesn't at all come close to what we might need in the future if this line ever comes to be an issue, or will be an issue. So, yes, as Rick said, compensation yearly and to be revised.

MR. FRIESEN: Again, I agree with Rick also. I don't think that there is anything

acceptable here, other than revisiting where this line is being placed, should it have to be placed on the west side. I think that Hydro has to step up and they have to cover the crop losses and expenses every given year. The commodity prices have changed dramatically in the last two years. That's not to say they may go back down, but they do fluctuate up and down. One thing is for sure, what we are getting paid today for our crops is not what we are going to get paid next year, the year after, 20 years from now, 50 years from now. They have to make that adjustment. It is the only fair -- it is the only right thing to do, when you are coming through and you are disrupting everybody's business in the agricultural zone in that two mile corridor.

MR. NYCHUK: I forgot one important point. Our family farm goes through eight quarters, two sections, 1,200 acres, or 1,300 acres. We as a farm, and a family farm, cannot afford also the money, we cannot afford the loss in crop insurance. That is a real cost, that is a cost that we incur. When we take a hit, if I can't hire this gentleman to fly my fungicides on, I better be able to get my money that I lost, and

they better be able to go to MASC, our crop insurance, and explain why. Because they are not Santa Claus, these are costs that go on my long term average. And this is totally out of my control, this is totally out of my control. I can't pull the poles down and say, Reg, come and fly and we will stand them up. I can't do that. These are things that will cost me, it will cost my children. And these are costs that really have to be looked at, year in, year out. When it is wet, tramping of crops with hi-boy sprayers when I can use an aerial application, whether it is dry or wet, there is a cost to do this business, a real cost. And they can not just say, oh here Mr. Nychuk, and my wife, here is a cheque, see you in eight years. No, no. We lived once in '68 -- I was only a young boy, I wasn't even farming here -- we will not make the mistake again.

THE CHAIRMAN: Mr. Berrien, you had a comment?

MR. BERRIEN: I'm not going to get into the farmer's area. Just as a matter of practicality, I will advise the Commission that AltaLink has some 10,000 individual landowners who receive annual compensation. ATCO has about

3,000. In Alberta the legislation is every five years there is a review. It is just done as a matter of course, it is all computerized, it is not really the technical nightmare. I understand there is 450 landowners in this scenario, there are companies who do these be kind of things. Evolve would be happy to handle the paperwork and that kind of thing. It is really quite doable, sir.

Like I say, on a five year review, at least you can establish your rotations and you can deal with instances like flooding, and the fact that a given year wasn't sprayed, and set up a bit of a pattern that would allow you to establish reasonable compensation. And the big thing is these unsprayable areas, and it particularly applies to this portion of Manitoba agriculture. We don't have the same nature of problems, at least in Alberta, that you folks are likely to have here because of these issues of wet soil and flooding and things like that, and the row crops that don't need irrigation, and the fungicides and herbicides and insecticides that all require multiple applications. I just thought I would give you a little bit of experience, I do those

things, by the way, routinely, in and out, they are not that hard to figure out.

THE CHAIRMAN: Maybe you can tell me from your Alberta experience, who gets the benefit? Is it the landowner or renter? We know that an awful lot of Manitoba farmers rent. In fact, I think, Mr. Nychuk, you said you rent some lands?

MR. BERRIEN: Once you establish there is a payment, it becomes a matter of negotiations between the landowner and the renter. A lot of times when there is a crop share arrangement, what you will find is that on the crop share, the adverse effect, which is one component of the payment, will go to the renter. And a portion of loss of use goes to the landowner. If it is a cash deal, then oftentimes the renter gets all of the money because the landowner gets paid on 100 per cent of the land he is renting. So there are routine matters as to how this is dealt with, but it is an individual scenario, and the company will write the cheque to whoever it is directing it be written to.

THE CHAIRMAN: Thank you.

Mr. Friesen, you have -- well, everybody is

getting anxious up here.

MR. FRIESEN: The only thing to add to that is that quite honestly, speaking as a farmer now, not as a crop retailer, I don't find five years as an acceptable term. I find every year as the acceptable term, because I may have a crop in that field on that given year that was very high producing and very expensive to grow, and I don't want to take a five year average on it, because my losses were that year kind of thing.

Number 2, number 2 with this thing, I have to reiterate, that with Hydro coming through, these losses are being occurred to the farmer, not the landowner, in a case such as compensation kind of thing. Now, I believe that that is probably something that the landowner and/or the renter or lessee have to work out. But the point of the matter is that the payment and the loss of income and revenue has to be addressed every year. Because it is a loss. If somebody comes and picks your pocket, and you know that they are going to do it every year, it would really, really make you mad. And especially if you knew that there was nothing that you could do about it. That's just my opinion.

THE CHAIRMAN: Thank you.

Mr. Collinson, did you wish to add something?

MR. COLLINSON: Just very quickly, the time period gets into the differentiation between risk and uncertainty. And the pace of change in agriculture is so fast that anything beyond ten years is getting into uncertainty. There is just no way to be able to calculate it. So that's the reason for my comment being, if you are going to do something like a present value, you can't project ahead more than ten years, and it probably should be well under that.

THE CHAIRMAN: Thank you. Did you have another question?

MR. GIBBONS: Sorry, I didn't originally intend to ask this question, but it came up in the context of the answers.

I think probably it relates to something Mr. de Rocquigny said, but it also applies to the aerial spraying issue. It had to do with the shelter belt and the placement of towers because of a shelter belt and so on.

This question has come up before, and that is to what extent can a reasonable shelter

belt, a useful shelter belt be maintained under the wires, because the trees, small trees can grow to a certain height, et cetera, so can that be a useful shelter belt, A?

And B, does that cause more or less problems, from your experience, having the shelter belt under wire?

MR. BERRIEN: If the shelter belt was maintained under the wire, it would have absolutely no effect on aerial spraying, because the tower is your greater risk. So I can dispense with that immediately. You can grow, in fact, shrubbery under the towers. There is minimal elevations that the trees can grow to.

We have actually dealt with this issue in ATCO on a number of cases. But the reality is, and I have done studies on this, the distance that a shelter belt, I'm talking about a real shelter belt, a properly cultured one, not one with gaps in it, not just trees that have grown up, big wooden weeds, as I described them, but a real shelter belt will only protect from 10 to 20 heights. So if you have a limitation on a shrubbery or, you know, some type of vegetation that only grows to a limited height, the limited

benefit from that is really starting to get doubtful.

The big thing that shelter belts did, back when Reg was hoeing and all the rest of it, it was providing wind erosion protection when cultivation wasn't called keeping your stubble up. We have almost gotten away, not completely, but almost gotten away -- in Alberta and parts of Saskatchewan we want shelter belts that will create accumulations of snow down in the field, and the more snow there is, as opposed to it blowing away, the greater moisture there is for spring time. This is not an issue in this part of the world. So one of the fundamental criteria for shelter belts -- the first part is taken away by keeping stubble up, keeping away the erosion of soil. But the second benefit, which is accumulation of snow, is definitely something that's not a benefit in this part of the world. So once you get past the emotional attachment to the shelter belt and look at the economics of it, they are probably of pretty limited benefit.

The other element that happens is, in a dry year, should that occur, it is called a sap strip, where the actual plants that make up the

shelter belt will begin to pull moisture away from the crop, and you actually get the perverse situation where the crop is thinner where the shelter belt is having its influence. So that's a short lesson on shelter belts.

MR. MOTHERAL: Thank you. I do have another question, every question and answer leads to another question.

This is back to the annual payment or the once in a life time payment. There is two different -- there is several compensations, there is the one with the right-of-way, the 66 metres right-of-way. Are you saying you want that as an annual payment, annualized or something?

MR. BERRIEN: Sir, let me help you with that. There is what is called the first year payment, at least in the Alberta scene, which takes into account land value and first year adverse effects and general disturbance, and of course in this case, separately, but dealt with construction damages. So there is a bunch of things, which is to acquire the interest in land, you have to pay for it. Manitoba Hydro has offered one and a half times the appraised market value. We set that aside, together with whatever

general disturbance issues, like you have to move your cows out of the field, that type of thing, set those aside. What we are now talking about is the recurring or new events that will happen to the production side. That's what makes up the annual. In Alberta it is the two factors, loss of use and adverse effect, as those two things are seen annually, that's what makes up the annual payment.

MR. MOTHERAL: I understand that. That's what I thought it was, but I just wanted to get clarification.

MR. BERRIEN: I just wanted to make sure I described it properly.

THE CHAIRMAN: I think that brings it to the end of our questioning. Mr. Meronek, did you have anything more you wished to add?

MR. MERONEK: No, sir. Thank you.

THE CHAIRMAN: I would like to thank all of you for your input today. Thank you for the work you did in preparing your presentations and then taking the time to come in here and present them to us. So thank you all again. We will stand adjourned until --

MS. JOHNSON: Not quite yet.

THE CHAIRMAN: Sorry, forgetting about document registration.

MS. JOHNSON: BPC number 1 will be the CV package submitted on September 17; number 2 is the Coalition expert reports; number 3 is Mr. Berrien's report; and number 4 are the appendices that go with his report; number 5 is Mr. Collinson's presentation; and number 6 is the presentation from Mr. de Rocquigny, Nychuk and Friesen.

(EXHIBIT BPC 1: CV package submitted September 17)

(EXHIBIT BPC 2: Coalition expert reports)

(EXHIBIT BPC 3: Mr. Berrien's report)

(EXHIBIT BPC 4: Appendices to Mr. Berrien's report)

(EXHIBIT BPC 5: Mr. Collinson's presentation)

(EXHIBIT BPC 6: Presentation by Mr. de Rocquigny, Nychuk and Friesen)

THE CHAIRMAN: Thank you. I think that takes care of all of our business. Now we will stand adjourned until 9:00 a.m. tomorrow morning.

(Proceedings adjourned at 6:00 p.m.)

OFFICIAL EXAMINER'S CERTIFICATE

DEBRA KOT CECELIA J. REID, duly appointed Official Examiners in the Province of Manitoba, do hereby certify the foregoing pages are a true and correct transcript of my Stenotype notes as taken by me at the time and place hereinbefore stated to the best of our skill and ability.

Debra Kot

Official Examiner, Q.B.

Cecelia Reid

Official Examiner, Q.B.