

# PRINCE EDWARD ISLAND LEGISLATIVE ASSEMBLY



Speaker: Hon. Francis (Buck) Watts

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## Standing Committee on Infrastructure and Energy

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**DATE OF HEARING:** 23 FEBRUARY 2017

**MEETING STATUS:** PUBLIC

**LOCATION:** COMMITTEE ROOM, J. ANGUS MACLEAN BUILDING, CHARLOTTETOWN

**SUBJECT:** BRIEFING ON POWER CABLE PROJECT

**COMMITTEE:**

Chris Palmer, MLA Summerside-Wilmot [temporary Chair]  
Dr. Peter Bevan-Baker, Leader of the Third Party, MLA Kellys Cross-Cumberland  
Kathleen Casey, MLA Charlottetown-Lewis Point (replaces Pat Murphy, Minister of Rural and Regional Development, MLA Alberton-Roseville)  
Bush Dumville, MLA West Royalty-Springvale  
Jamie Fox, Leader of the Opposition, MLA Borden-Kinkora  
Sidney MacEwen, MLA Morell-Mermaid  
Hal Perry, MLA Tignish-Palmer Road

**COMMITTEE MEMBERS ABSENT:**

Sonny Gallant, Minister of Workforce and Advanced Learning, MLA Evangeline-Miscouche  
Pat Murphy, Minister of Rural and Regional Development, MLA Alberton-Roseville

**MEMBERS IN ATTENDANCE:**

James Aylward, MLA Stratford-Kinlock  
Darlene Compton, MLA Belfast-Murray River

**GUESTS:**

Maritime Electric (Ron LeBlanc), PEI Energy Corporation (Kim Horrelt, Mark Victor)

**STAFF:**

Emily Doiron, Clerk Assistant (Journals, Committees and House Operations)



The Committee met at 1:30 p.m.

**Clerk Assistant (Doiron):** Hello, everybody. Sorry, I'll begin the meeting today as we have two subs filling in for two members of this committee. Kathleen Casey will be filling in for Pat Murphy, and Richard Brown will be filling in for Sonny Gallant, who is our Chair.

We have a temporary absence of a Chair. I will be presiding over the election of a temporary Chair for today's meeting. I'll put forward nominations for a temporary Chair for today's meeting.

**Mr. Dumville:** I would nominate Chris Palmer.

**An Hon. Member:** Chris Palmer.

**Clerk Assistant:** Chris Palmer, all right, any other nominations? All right, as nominations are closed, all those in favour of Chris Palmer as the temporary Chair for today's meeting, please signify by saying 'aye.'

**Some Hon. Members:** Aye.

**Clerk Assistant:** Contrary minded, 'nay.'

Welcome, Chris.

**Some Hon. Members:** (Indistinct)

**Mr. Dumville:** They always give you a rough time on your first time (Indistinct)

**Chair (Palmer):** That's all right. I can handle it today.

**Mr. Aylward:** Did you say that Richard Brown's temporary today?

**Clerk Assistant:** He'll be attending in a few minutes.

**Mr. Aylward:** Oh.

**Chair:** I'd like to get the agenda adopted, so if I could have a motion?

**Mr. Dumville:** So moved.

**Chair:** Bush.

**Leader of the Opposition:** Seconded.

**Chair:** Seconded by Jamie, okay.

Today, we're going to have a briefing on the power cable project. We have some guests here today that are going to tell us all about this. Kim, thank you; Kim Horreht, Mark Victor, and Ron LeBlanc. Thank you very much for coming here today.

The only housekeeping thing that I need to mention is the microphones we have here are to record your voice. It doesn't amplify it. You can take it away.

**Kim Horreht:** Thank you. Thank you for asking us here today. As you mentioned, Mark Victor is with the energy corporation and he's been working on the cable project since inception. Ron LeBlanc with Maritime Electric was project manager on the job. We also have John Gaudet and Kim Griffin here from Maritime Electric. Kim worked quite diligently on the project, as well, with respect to consultation with First Nations and fishers and so on.

Mark is going to do the presentation because he's the expert at it, and Ron, as well. If you have any questions please feel free. I think it's totally up to you if you want to ask questions during the presentation, you're welcome to do that, or we can have a question and answer period at the end of it. I'm going to hand it over to Mark to go through it.

**Mark Victor:** Sure, thanks Kim.

Yes, as Kim had mentioned feel free if something comes up through the presentation that you have a question and you want some clarification or further information just let me know.

For the benefit of those, that maybe aren't familiar with the cable project and some of the history and background, I've just got a couple of slides to cover off that just to put things into context, I think.

The existing interconnection that Prince Edward Island has with New Brunswick is currently two 100 megawatt cables that were installed in 1977 when the Island's peak load was about 95 megawatts. We have two cables. Essentially, one was installed as a redundant cable, at the time.

The cost at the time, for that initial cable connection, was about \$36 million, and at the end of the day it was fully funded through federal contributions. Initially, there was an \$18 million grant from the federal government, and there was a loan taken out for the other \$18 million.

In 1985 there was an agreement reached where the federal government essentially relieved the province of the loan and covered off the outstanding amount. It was, essentially, 100% funded by the federal government, the initial cable. That was about 40 years ago, now. That's beyond now what was originally the engineering-design life of that cable interconnection. I think it was around approximately 35 years.

That doesn't mean that those cables are no longer useful. They're still in use. They're still useful. The intention is to continue to use them as long as they continue to operate effectively.

Since that initial interconnection was built, the Island's peak load has increased now to over 260 megawatts. I think, Ron, it's about 264?

**Ron LeBlanc:** It's 265.

**Mark Victor:** Two sixty-five?

That tends to increase a little bit each year going forward. I think we've had a mild winter so far this year. I don't think we've hit a new peak this year.

**Ron LeBlanc:** We did in January (Indistinct)

**Mark Victor:** The volume of electricity, as well, not just the peak, but the amount of electricity consumed through the year also increases. It's increasing somewhere in the 2% to 3% range annually.

What we're finding or what the reality is now with quite often through the winter the needs on the Island surpass 200 megawatts. What that means is with just a 200 megawatt interconnection, in order to meet all the electricity needs we need to run on-Island generation on days when there's not enough, when there's essentially not enough wind generation happening.

There are certain days when we've got all kinds of wind generation happening on PEI, we're over 200 megawatts and we don't have to run oil-fired generation. But, on those days when there is little or no wind we need that on-Island generation to keep the lights on, basically.

**Mr. MacEwen:** Chair?

**Mark Victor:** A little bit on I guess the planning that went into the cable project, as well –

**Chair:** Can you hang on for a second, Mark?

**Mark Victor:** Yeah.

**Chair:** Go ahead, Sidney wants to ask a question.

**Mr. MacEwen:** Sure, thank you.

Mark, just with your last slide, "The volume of electricity consumed by Islanders is also increasing at a rate of around 3%..."

Is that rate in itself increasing? Is it averaging 3% a year over the last couple of years or is it 1%, 1.5, 2? Do you understand what I'm saying with the –

**Mark Victor:** Yeah, it's –

**Mr. MacEwen:** – with more people heating –

**Mark Victor:** – 3% per year essentially. Two to 3% per year –

**Mr. MacEwen:** Do you expect it to stay at that, too? It won't be 5%, 6%, 7%?

**Mark Victor:** I think the last three or four or five years with – there has been a move to heat pumps for heating so there has been probably even a little bit of a higher shift over that time period. That seems to have dampened a little bit just recently. I think the price of oil keeps that change from going at a faster rate, but if the price oil, again, increases you'll probably see. You can see that.

Essentially, on average 2% to 3% annually in terms of the volume that is used.

**Kim Horrealt:** That might increase as we start to electrify our system.

**Mark Victor:** Yeah, I (Indistinct)

**Kim Horrealt:** I don't know if we get into electric cars or more electric heat, just it's hard to predict.

**Mark Victor:** I think it's more likely that, yes, it will, the trend will continue to increase as opposed to see it on the down slope, yes.

**Chair:** Go ahead.

**Leader of the Opposition:** Mark, you mentioned oil fired a minute ago.

How many hours are we running the one, two and three – the CT units?

**Mark Victor:** I'll look to Ron. He'd have those numbers right off the top of his head.

**Ron LeBlanc:** I can talk about the hours, but it's been operating nearly every day in January –

**Leader of the Opposition:** All three of them or –

**Ron LeBlanc:** No, not all three, usually just one.

The problem comes on really windy days the wind can shut down almost instantaneously so when you're at really high winds you have to have generation on for that eventuality. Usually, we can get away with one unit –

**Leader of the Opposition:** How many hours does that one unit run?

**Ron LeBlanc:** – and it would operate a couple of hours in the morning and a couple hours at supper time. The rest of the time we usually don't need it.

**Leader of the Opposition:** That's CT1?

**Ron LeBlanc:** Usually, we run the one that's most efficient. We look at how much we need because we have a 15, a 25 and a 50. We do an economic dispatch based on the loading and take the cheapest.

**Leader of the Opposition:** What would the other ones run if you toggle that back and forth between one and two, what would the other –

**Ron LeBlanc:** Usually, we try to get one unit to cover –

**Leader of the Opposition:** Right.

**Ron LeBlanc:** – everything, as opposed to starting more than one unit. It all depends on if our load is 220 and there is 10 megawatts of wind we'd probably run CT1, which is the smallest unit.

**Leader of the Opposition:** So, can you (Indistinct)

**Ron LeBlanc:** Now, if our load was hitting 260 and there was a small amount of wind we'd run the combustion turbine with Charlottetown which is –

**Leader of the Opposition:** How many hours a year would the three of them run?

**Ron LeBlanc:** I don't have that off the top of my head, but we can get that for you.

**Leader of the Opposition:** If you wouldn't mind.

One other question with those CT units, are they – is there any scrubbers on those to deal with the emissions of carbon outtake?

**Ron LeBlanc:** No.

**Leader of the Opposition:** There's no –

**Ron LeBlanc:** There are no scrubbers, no.

**Leader of the Opposition:** Thank you.

**Mark Victor:** A little bit on the planning for the interconnection upgrade project. We looked at a variety of routes and configurations including the interior and the exterior of the bridge. The question always comes up is: I thought that the cables were going in the bridge, and why did you end up going in the water?

It was believed that the high-voltage cables, back around the time that the bridge was built that the utility corridor of the

Confederation Bridge could possibly be used for the next cable interconnection.

That was ruled out by bridge engineers. There was an organization called Buckland & Taylor that did a study and they brought up some concerns with putting cables inside of the bridge. It was just really – it made it very difficult. Essentially, we would have had to either prove that these concerns were negligible, and they wouldn't provide – put the bridge at risk in terms of whether it be some type of fault of the cables inside the bridge or accelerated corrosion enough to pose tension in cables, this type of thing –

**Chair:** Can you excuse me for a second. Jamie, go ahead.

**Leader of the Opposition:** In the Buckland & Taylor report specifically dealt with inside the bridge. Was there ever a study or a report done on installing the cables outside the bridge on the sides?

**Mark Victor:** Yes. We did look at the outside of the bridge, as well. In fact, Buckland & Taylor came back with concerns that they had, as well with the cables on the outside of the bridge, some of them the same in terms of electro-magnetic fields.

Damage from a cable fault weren't quite as big an issue because it wasn't a confined space when you're on the outside of the bridge, but you're still confined on, probably, two sides. The underside of the deck and the one side of the bridge, but it was a different issue.

We also looked at the economics, both the construction and the operating costs. We tried to consider everything. In fact, my next slide talks about – we did eventually decide that two 100 megawatt submarine cables was the preferred option looking at security and liability, reliability issues, maintenance and repair issues. The risk management, there was concern around just having all of your critical infrastructure in one place, be it your communications, your power and your transportation links all together.

There were service life issues, and then cost certainty construction and operation. One of the – essentially, the cables on the side of the bridge, it would be, basically, a one-off

project and there would be a lot of issues that would have to be sorted out and figured out as you went.

Whereas, submarine cable installation is a relatively known technology, we have one here, ourselves that has been quite reliable and quite successful for a long period of time. We just felt that given the – weighing all the different factors that the submarine option was preferred.

With the submarine option we also looked at different locations, as well. We looked at West Cape to Richibucto. We looked at Wood Islands to Caribou. We looked at the existing route that the existing cables are on, which is Fernwood to Murray Corner. We chose where we are now.

We had to come to a decision point in May, 2014. We knew that we had to come to a decision point in the spring of 2014 because we wanted to get an application in for federal funding and we had to make a decision on what the project was.

What we have here is, what we decided on is that what the project would consist of would be an expansion of the Maritime Electric's substation in Borden-Carleton; a submarine link of two 180 megawatt cables. They would land in Cape Tormentine at what we call a riser station. Essentially, we're pretty much at the location where the ferry terminal was in Cape Tormentine in terms of where we're landing.

Then from there, there was a build of new transmission from Cape Tormentine to Melrose. That was twin transmission lines that had to be built. Then, from Melrose from Memramcook, kind of the final phase of the project, if you will, was the addition of one more transmission line from Melrose to Memramcook. There are two lines along that route now. We basically just had to expand the transmission corridor and add one more section, or one more line to it. Essentially, when I'm talking about the interconnection upgrade project, that's where we landed and that's what was applied for and that's what's being put into place now.

Just to give you a sense of the project timelines that we're working with and it goes back even before 2014, the need for a

new interconnection has been known for quite some time now. I know that they're even – Ron, I believe and others have been working on trying to get a project and funding off the ground since probably, I think, around 2006. Each year as the cables got older the need to act got more and more – grew more and more.

In 2014, as I had mentioned, we knew we were at a decision point in the spring. The energy corporation engaged Maritime Electric as what we call our construction agent. Essentially, the general contractor for the project and we initiated some preliminary work, basically, started looking at how the system could have been configured, and those types of things. We pulled together a funding application requesting 50% of \$142 million, which was the estimated project cost. That's still what we're targeting for, for the project cost today. That application was submitted to Infrastructure Canada in the middle of June, 2014.

Given that it takes some time you have to do a fair bit of upfront work, technical work, to get the information to be able to do a project like this, like marine surveys to map the seabed of the Northumberland Strait and pick your route; environmental survey work, not just in the Northumberland Strait, but you have to remember we've got, I believe, about 57 kilometres of transmission that are being built, as well. That's a linear path through New Brunswick with various environmental studies required. All of that work was initiated in – or some of that work was initiated in summer of 2014, so we had to proceed with getting some of that preliminary information.

Moving into 2015, by March we had a federal announcement that we were going to get \$50 million from the Green Infrastructure Fund, that's Infrastructure Canada's Green Infrastructure Fund, which wasn't quite as much as we had initially had – not quite what we had requested, but was enough to get the project moving, obviously, because it had to.

Then, we moved to put out an RFP for cable supply and installation. Ultimately, a company called LS Cable & System, they're a South Korean company, was selected as the cable supply and installation contractor.

I believe the contract with LS Cable & System was entered into – or a decision was made around August of 2015. That fall, we had enough information to make our application under the Environmental Impact Assessment process, and that was submitted, as well.

I should mentioned the need to identify the cable supply and installation contractor so early on is simply because there is a long lead time to get the cable manufactured. We had about 34 kilometres of cable this size that had to be manufactured, so you have to get into the manufacturing schedule. Then, the various equipment that you need to do the installation needs to be secured and scheduled, as well, and you need the appropriate lead times.

From the period where we submitted our environmental application, the fall of 2015, and through the winter, the first few months of 2016, there was extensive consultation both on Prince Edward Island and New Brunswick with First Nations, fishers, municipal officials, government regulators and the general public.

As much as it's one bullet for a fairly long period of time, it was literally a travelling road show from week to week. We were on the road and there was a lot of consultation. I'll give Kim Griffin an awful lot of credit. She organized the lion's share of it. She did a lot of the communication for us. We're mostly engineers, so we're not necessarily the best communicators, so she was a great help in that regard. Essentially, what we did in a very short period of time is we built relationships with these – with the various groups that we met with.

Like I say, there are several First Nations groups in New Brunswick. We also dealt with the Mi'kmaq Confederacy on Prince Edward Island, as well; fishers groups in New Brunswick and on Prince Edward Island; municipal officials from the community of Cape Tormentine, were very much involved; Borden, the town of – Borden-Carleton municipal officials were involved, as well; and then the general public. Again, I say we had a long transmission line that was being built, so we met with people right all the way up to Memramcook.

We had about a six-month period, a six or seven-month period, to get our environmental impact assessment, through which we were successful. We had our EIA approval pretty much near the end of April, just on time to get working into the water the first of May.

What we needed to do – and the idea was is what we would do is we would get the end, the near-shore areas in both Cape Tormentine and Borden ready for a cable installation in the fall. What we had to do the first of May was start what we call pre-trenching.

I'll just show you a little – a few pieces of equipment. This excavator here was called the Starfish. Essentially, that could go out and dig into up to two metres of water. It would – we started, I believe on the New Brunswick side and it had to dig two trenches from the shoreline out into the water to about two metres. I think that took it out approximately two kilometres roughly, it's fairly shallow –

**Ron LeBlanc:** Oh, a little less than two.

**Mark Victor:** – a little bit less than two kilometres. Two trenches a little bit less than two kilometres long on the New Brunswick side. You can see there, this is the New Brunswick side, and you can kind of see where we've got a spoil pile to the left of the excavator. The same thing, he had a trench to the right as well, so you can see the two spoil piles that were created at the time.

**Ron LeBlanc:** The two trenches are between the two spoil piles.

**Mark Victor:** Yes. As I had mentioned the pre-trenching went out to, in New Brunswick, it went to a water depth to eight metres, and on PEI it went out to a water depth of 12 metres. Basically, just because on PEI it goes down, it gets deep very quickly. From the two metre water depth out to either the eight metre or the 12 metre water depth that trenching was done with barge-mounted excavators.

We had two; a smaller one and a larger one. This is one, here, it was what is called the IV 8, it was the smaller of the two. The one in the foreground here is the OBB. It was the

larger of the two. Those were used in the deeper water.

Just to give you a sense of what it kind of looked like from the shore, this was the PEI side. This is the Starfish out working in close to two metres of water here, not a whole lot of excavator still showing. This is one of the two dredges out a little bit further. Just to give you an idea of what the pre-trenching looked like.

**Chair:** Mark, can I excuse you for a minute?

**Mark Victor:** Sure.

**Chair:** Bush.

**Mr. Dumville:** Just curious, Mark. When he disturbs the soil in his first scoop, how does he know? Can he see? How does the operator see?

**Mark Victor:** Everything is pretty much controlled with computer screens. Everything is GPS controlled. He knows exactly where his bucket is. They're bang on in terms of where they want to be with their digging and exactly what elevation everything is at, yeah.

**Ron LeBlanc:** They know the depth of the bucket. They know every point on the bucket's location in 3-D space. The depth of the dig, so –

**Mr. Dumville:** Amazing.

**Ron LeBlanc:** – there's nothing left to chance.

**Mark Victor:** Then, everything is recorded so when they have to go back because, at the end of the day, we had to – I'm kind of getting ahead of myself, but we have to go back and backfill those trenches once the cable is installed. Again, they know where everything is specifically, right, which is great because you don't want a bucket hitting a cable, especially (Indistinct)

**Mr. Dumville:** Wouldn't want him to fall into his own trench, either.

**Mark Victor:** No, that's right.

**Ron LeBlanc:** That's true.

**Mark Victor:** The other thing that started not so much in the spring, but early summer were the land works in both Prince Edward Island and New Brunswick.

This is the Borden side. This is – let's see here if I can find my pointer. Maritime Electric substation is down kind of the bottom left-hand corner kind of working – if you look, obviously, the water is here. This is the area where the cables are coming up into the substation, but this was essentially the initiation of where the substation expansion was installed for Maritime Electric.

We've got, at the end of it I've got a video with some drone footage that shows the overview of the site. It's pretty impressive. You'll actually see it was a major civil project. Especially, the substation expansion project in Borden, it was a lot of earth moving that had to be done in order to get things to design.

That just gives you an idea at the start. This is a shot that was taken through probably a few weeks into construction, a month or a month and a half, probably. The foundations were poured and then the – you can see the rebar in place. Once the concrete was put into place, then, actually all of those footings are buried and everything is brought up to grade, sort of thing.

Again, a lot of earth moved. This is another shot, even a little bit further along when some of the structural steel was starting to be put up in the substation.

A lot of this civil work was done by Island contractors. Island Coastal did a lot of the work. Fitzgerald & Snow was involved. The steel was McDougall Steel Erectors, so I think at the end of the day, with a lot of the – where there were opportunities for Island contractors to work I think that they did just simply because their prices were right and the work was – they're good workers they were, the ones who were chosen to do it.

This shows on the Cape Tormentine side. This is what we call the riser station. Again, fairly early on in construction just to give you a sense that on the Cape Tormentine side the size of the project wasn't nearly as big in terms of the substation expansion. Essentially, it was a place for the cables to

land and then come up to where they transitioned to overhead transmission.

You can see in the background here, you can see some poles starting to be put up as part of the transmission line. This gives you an idea of the extent of, this is when we're building the transmission line. That's kind of what needs to be done. You need to do the clearing and so there is a considerable amount of work especially in this section from Cape Tormentine to Melrose where it was new transmission. We're not sort of going on the edge of an existing corridor. You're going through, so upfront work was acquiring the easements and doing the negotiations with landowners and all of those types of things, as well.

**Leader of the Opposition:** Mark?

**Unidentified Voice:** Yeah.

**Leader of the Opposition:** How long was the – what's the distance from Cape Tormentine to Melrose?

**Mark Victor:** It's what? About –

**Ron LeBlanc:** It's 16.4 –

**Mark Victor:** – 16, I guess.

**Ron LeBlanc:** – kilometres. We were lucky, just as an aside. When we started investigating this, the easement was actually obtained in 1967 when New Brunswick and Maritime Electric, at that time, had planned for an interconnection. Then, by the time 1977 came along and they had changed the route, get that easement for 12 kilometres of that 16.4 was obtained in 1967. It was found when they started doing the title searches, so that helped.

**Leader of the Opposition:** Was that a cost saving?

**Ron LeBlanc:** A slight cost saving. The amount of the obtaining the easements is a negligible amount compared to the project.

**Mark Victor:** The pre-trenching work was basically wrapped up in kind of around mid-July, I believe, when we finished up with that. The land works, obviously, started in the early summer and continued on through into the fall.

Just in terms of, just to give you a shot again, this is much later on in the – probably just to get an idea, you can just kind of see the complexity of what’s in there. This is the controls building here. Just in terms of just the engineering that is inside that building in itself is impressive, but it was a very large project and it has all gone very well.

This is what the riser station on the Cape Tormentine side looks like and you can start to see, or you can see that there are conductors strung on the transmission lines. It’s a little bit hard to see in that shot, but I’m not sure exactly when that picture was taken, but it was probably taken in November or early December.

**Leader of the Opposition:** With that picture there, do I understand right that the cable right now is strung from that station to Melrose?

**Mark Victor:** Right now, there’s – the cable terminates here at – the submarine cables terminate at this station in Cape Tormentine. The overhead transmission, though, from Cape Tormentine to Melrose is strung on transmission line 11-40, T-11-43. One of the two lines that were being built, it’s completed in terms of the transmission is there. The other one, 12-44 it was, it’s not quite done, yet. Probably, it would have been done except for, I believe, the ice storm in –

**Ron LeBlanc:** Ice storm.

**Mark Victor:** – New Brunswick. Some of the crews that were working on it were allowed to leave that project and go and help get power back on in New Brunswick. It’s a little bit behind. Essentially, with the one transmission, it allowed, if necessary, that cable to be energized. The connection, the electrical connection is there and in place to energize the cable.

**Chair:** James.

**Mr. Aylward:** Thank you, Chair.

Mark, could you go back to the previous slide, at the Borden side?

**Mark Victor:** Yeah.

**Mr. Aylward:** I think you had another – is there another?

**Mark Victor:** I can go, yeah – there are earlier ones –

**Mr. Aylward:** No, that one would be fine, actually.

**Mark Victor:** Okay.

**Mr. Aylward:** But if you could zoom in a little bit. I’m just trying to get a better feel for the elevation above the shoreline.

**Mark Victor:** It’s hard to tell from that one. We may be able to see some from some of the other, but what – Ron, what would it be? It’s roughly –

**Ron LeBlanc:** I’d say it’s like 35, 40 feet above sea level.

**Mr. Aylward:** Okay. I guess my concern, and only question would be – and my family has a cottage not too far from there, just down the shoreline a little further. Over, particularly, the last 20 years, the amount of erosion that we have experienced and then, and we’re always talking about global warming now and tidal surges during extreme weather events.

Is there anything being done to ensure that this asset is protected from such instances?

**Ron LeBlanc:** Actually, that’s further on in Mark’s presentation, but we did install rip-rap in Borden-Carleton. That has been completed and this week we started the rip-rap installation in Cape Tormentine to protect the bank and the coverage of the cables.

**Mr. Aylward:** Okay, thank you.

**Mark Victor:** The other thing, and probably the piece that gets all the attention, is in the fall the cable-laying vessel, Isaac Newton, arrived in – landed in Charlottetown. Then, it headed to the Northumberland Strait to begin with the cable installation where both the cable laying and the post-lay burial work.

I’m sure many of you have seen, either pictures, or this ship in real life over the last few months. This is just a shot just inside the

ship. There were two spools. There was a spool on the upper part of the ship, but at this point, as you can see, the cable has been laid across the Strait, and it's pretty much at the end.

In this shot here, the upper spool is emptied of cable, but that's because it has been installed.

This was a shot when the ship was in Charlottetown, just from the lower, below deck the second spool of cable.

This is a shot of, I believe, this is in New Brunswick, one of the New Brunswick side pull-ins. What happens is there is basically a winch set up on the land on the New Brunswick side and a wire is taken out to the ship, connected on to the end of the cable. Then, that cable then is slowly, the winch slowly pulls the cable towards shore. As it comes towards shore they put floats on, obviously, to keep the cable above water, slowly pulling it into shore, situated above what was pre-trenched, essentially, over the majority of the areas sitting over what is pre-trenched area.

Then, what they will do – what they do then, is they proceed once the cable is pulled all the way into shore up to the point where it's going to be terminated at the riser station. They then go and one by one take these floats off and the cable will drop into the trench that has already been cut.

This shot – just it's hard, obviously, because when this piece of equipment is working you can't really see it underwater because – just because of the sea bottom conditions. This is just an animation just to give you an idea of what it looks like. This is what we call the TROV trencher. It's used for post-lay cable burial.

What it does, once the cable – so as you saw, we connected the cable on the New Brunswick side. Once it was connected on the New Brunswick side, that ship then went across the Strait with the cable spooling off the ship laying on the sea bottom until it got over to the PEI side. Then, it would lay, it would float the remainder of the cable that needed to be pulled up onto the PEI shore.

Then, once you had both ends to where they were going to sit then, the cable was ready

for what we call post-lay burial, which is to trench in between from where the pre-trenched area finishes from one side to where the pre-trenched area on the other side starts basically. It's in the deeper water, essentially. It's in water depths of basically from New Brunswick, it was in water depth greater than eight metres, and then all the way over and then to the point where the water depth was greater than 12 metres on the PEI side.

The difference is in the pre-trenched area the cable is being buried to approximately six feet to protect from ice scour, near-shore ice scour, that type of thing. In the deeper water really the purpose of burying the cable is to protect it from scallop drags, the threat of ice scour isn't there, but it still needs protection from scallop drags and other physical hazards that may be out there.

This is what we call the TROV. This gives you – this is what it looks like in real life. It's kind of hard to get a real sense of it just given it's an awful lot of metal and pipes and hoses and everything else, but it gives you a sense.

The way that this is set-up, this trencher can cut the cable in with a variety of different methods. The main method that was being used for this project was essentially a chain-cutter. That's what this is. This actually looks like a big chainsaw. When this unit is going along, essentially the chain-cutter will drop and it will cut a trench and then the cable will come behind, or it will have picked up the cable, and then as it moves along the cable falls into the trench as it moves.

It can also bury a cable using what's called jet swords. That's another option. It just really depends upon the nature and the materials where the cable is being installed, if it's – the majority of the sea bottom across the Northumberland Strait is, would be glacial till material, so it's of a hardness that it would dictate that we wanted to use, that they wanted to use the chain-cutter.

There was a section in New Brunswick that was primarily sand. Sand dunes, actually underwater, and that's more conducive to using the jet swords and that is what was done there.

**Leader of the Opposition:** Mark, any ideas how much (Indistinct) this is to animal life or marine life that's actually in the water? Does it disturb them very much? Is there a concern there?

**Mark Victor:** Yeah well – obviously we did extensive environmental impact assessment work. In the process of getting the project approved, so there was modeling done, there was ground proofing up the modeling in terms of sediment disturbance, that kind of thing. It was assessed. DFO considered the project not to cause serious harm in terms of impact on the marine, essentially, the marine area. It was seen to be a short-term disturbance.

Obviously, you are, there is a little bit of disturbance whenever you are digging in a marine environment or cutting, no question. But, it's relatively short-term, but it was all taken into consideration. Obviously, there is still some work to be done. It's still a consideration as we move forward.

Then, the other thing in the fall, which was good news, we did have – we were successful in securing some additional federal funding for the project to actually get the funding level up to 50% of eligible project cost. There was another \$19 million, essentially, that the project secured.

Current status, where we are now: I say 2017 winter because we basically worked pretty much through into December and even into January, there was work being done in the Northumberland Strait. Actually, there is still work being done now in terms of rip-rap work in Cape Tormentine.

The construction of the Borden-Carleton substation and the Cape Tormentine riser stations are complete. The construction of the transmission line, as I had mentioned, 11-43 in New Brunswick between Cape Tormentine and Melrose is complete.

The cables are laid on the seabed in the Northumberland Strait so they're connected and terminated at the substation in Borden-Carleton and the riser station in Cape Tormentine. They're laying and backfilled in the trenches, the pre-trenched trenches, they're in those. They're backfilled. There is a little bit of backfill work left to do on the New Brunswick side in the deeper water.

The cables are terminated and tested to specified requirements by LS Cable & System, so they tested good. Cable shoreline rip-rap protection is now, I believe, completed in Borden-Carleton, which is finished.

Now, there is some work, as I had mentioned, still ongoing through the winter period. Work on transmission line 12-44 is still ongoing, basically stringing the conductor to complete that between Cape Tormentine and Melrose, and the cable shoreline rip-rap work in Cape Tormentine is just getting underway, actually I believe yesterday, so that has started, as well.

Remaining work for the spring and summer, and some of this work was always intended to have been done in spring and summer, but there are a couple of pieces there. The trench backfilling in the NB side near-shore section, some of the pre-trenched area essentially from, I believe, it's probably from about three metre water depth out to about the eight metre water depth in New Brunswick, we still need to backfill those trenches.

That's what those barge-mounted excavators – pretty straight forward would work. It's just a matter of getting into the water and getting it done. I wouldn't say, it probably might be two or three weeks, amount of work to finish that off, pretty straight forward.

The cable post-lay burial operations in the deeper water. The water is depths are greater than 12 metres. There's some work yet to be done. I have got a following slide here to talk a little bit more about that.

Also, we have got obviously, still some construction sites, restoration and landscaping work to be done to return – we fairly, extensively used some of the property over in Cape Tormentine that is owned by the development corporation that needs to be restored back to what it was like before the project started. As well, some restoration work in Borden-Carleton, as well.

Obviously, then there's also the transmission line construction from Melrose to Memramcook, which was always scheduled to be done in 2017. That work is yet to be done. I believe the tender for that work is

closed now. It's just a matter of scheduling it and getting it done. It should be fairly straight forward.

This slide here, I'll zoom it up a little bit just to give – oh, maybe I can't. I'm not sure if I can zoom that in, but just to give you a sense of sort of where we are with the cable. This is Cape Tormentine here, this is Borden here, Confederation Bridge here. The green is basically the cable is in place and the installation is complete, except for in New Brunswick a small stretch probably from about here to here.

This area here needs to be backfilled, but there is already, even in that area there's gravel protection over those cables. The cables are protected through the winter. It's just a matter – it's more to remove the mounds that were placed there, the sub-surface mounds in – just to put them back into the trenches. That's like I say, that's fairly straightforward.

Then, from the pre-trenched area this is the area where I mentioned that it's a fairly sandy area. This is from minus 8 metres water depth out to probably about the minus 12 metres water depth. This was jetted in by that remote trencher, so it's buried to the required depth by the trencher. I think most of that was down to the six feet –

**Ron LeBlanc:** No, that was 1.6 metres in that area.

**Mark Victor:** – 1.6 metres, yeah, but deeper than sort of the essentially the two-foot of cover that we want in the deeper water.

On the PEI side this green that is completed is what was the pre-trenched area. It was all pre-trenched, the cables are installed and the cables have been backfilled. Those pre-trenches – sorry, I guess, in some cases, they've been backfilled out to where they had to backfilled. We've had some discussions with the fishers and there was a decision made where they were interested in leaving some of the mounds for habitat purposes in that area. Not all of this was required to be backfilled. It is protected, however, with gravel. The cables are protected with gravel in that area.

That leaves us with our deeper water area, which essentially is the minus 12 metre

water depth and greater. You can see along here the orange section is where the remote trencher has cut. It has cut into the sea bottom. It has done some pre-trenching.

The cable, in some parts, is buried to depth, but in other parts it isn't. That was one of the challenges that we ran into that, is that while the trencher would cut the trench we were finding that the cable didn't always get into the bottom of the trench. One of the reasons being that, essentially, what was happening was the trench was filling back in before the cable could drop back into it. This cable is fairly stiff and where it touches down is probably about 20 metres behind the trencher.

With the nature of – there was some soft material on the top. What they found was that it was filling back in before the cable could get to depth. What we did along that, recognizing the problem, there was a stretch of about a kilometre where it was cut in, it didn't get to depth, and they went back.

What they did was, they tried, essentially, it was, what they call it, it was an excavation where they put some water under pressure to basically fluidize the material that the cable was sitting on in the trench, fairly well directed towards that material. What they found was with a couple of passes that that cable would then drop to the required depth. As long as the material was cut through with the chain then they could go back and get it to depth with the, either with the jet or with the water flow.

Where that leaves us is there are sections along here where we need to go and complete, where it has already been cut, and get that – sorry, get that – get the cable to depth. The red areas still need to be cut and the cable need to be gotten to depth.

The contractors in the process also are making some modifications to the trencher. They're hoping that with some of these modifications, it may not take – it'll likely take two passes to get it, but what they're hoping is that they won't need three passes, but at this point, time will tell, I guess, in terms of when they get back out there whether it's one cutting and one jetting pass or one cutting and a couple of passes to get it to depth. That's kind of where that is right now in terms of moving forward. Now –

**Chair:** Mark, does that mean that it's just laying on the sea floor, now?

**Mark Victor:** It's just laying on the sea floor right now in the deeper water. In the near-shore areas where we were concerned about ice scour over the winter that was the main threat to it so it's in the trenches and it's buried and fully protected.

But, in the deeper water – our concern in the deeper water is more, it's more fishing activity in spring when the scallop season start up, is impact to the cables from scallop draggers. That's obviously part of, going forward, one of the things that we've got to deal with in terms of dealing with the various stakeholders that are out there.

The challenges and some of the means that we're going to meet those challenges, obviously, is with methodology with the multi-pass approach to the post-lay burial involving cutting and jetting. The equipment, the remote trencher, as I have mentioned, there has been some –

**Leader of the Opposition:** Mark.

**Mark Victor:** Sorry?

**Leader of the Opposition:** Just before you go too far ahead, there. Can you just go back just about 30 seconds ago, you made a comment about working with the stakeholders?

**Mark Victor:** Yeah.

**Leader of the Opposition:** Can you just explain that?

**Mark Victor:** All of the various stakeholders that we met with all the way through the project whether it be dealing with the First Nations, dealing the PEIFA, fishermen's association, the NFU, trying – I mean we've – those have been, in terms of the marine work, we've met with them regularly to keep them as much informed as we could. If we have new information we pass it along. We meet with both the executive and the general memberships of those groups.

**Leader of the Opposition:** Given where we're at right now and what you've told me, where are we at the cost?

**Mark Victor:** We're still on track. We're still looking at the original project budget, which was approximately \$142 million. The remaining work that has yet to be done was work that was all contracted through the supply and installation contract.

**Leader of the Opposition:** There's a contract locked in at that price?

**Mark Victor:** There's a contract, yes.

**Chair:** Are you okay?

**Leader of the Opposition:** Yeah.

**Chair:** Peter.

**Dr. Bevan-Baker:** Thanks.

Mark, so with the fact that we have the exposed cable laying for the majority of the width of the Strait there, I'm assuming that part of your mitigation is that there will be a moratorium on any sort of dragging or shipping or laying anchors within a certain distance of the cables.

**Mark Victor:** Yeah, and I guess first of all, it would depend upon how quickly we can get in the water and how quickly we can get the work done, would be one thing.

Realistically, yes. There probably will have to be some sort of management approach taken to protect the cables from fishing activity.

One thing I should mention is under the contract, the protection of the cables is the responsibility of the installation contractor. Obviously we will be working very closely with them in terms of achieving how that protection gets achieved. But yes, it is quite possible that some activity will have to be restricted in that area.

**Dr. Bevan-Baker:** If the responsibility lies with the company laying the cables, obviously they can't come forward with any rules or regulations or legislation to enforce that. Who will actually be saying no draggers within whatever distance of the cables until they are properly buried?

**Mark Victor:** We're just in the initial stages of talking with DFO and the fishers groups and how things are going to proceed in the

spring, so I think it's probably a little bit premature yet to say exactly how all of that is going to play out. But, everyone is aware right now of the need to go back into the water and obviously the concern around protecting the cables through that period. I think we will just – we will be working through those issues.

**Dr. Bevan-Baker:** Okay. Thanks, Chair.

**Chair:** Sidney?

**Mr. MacEwen:** Thank you, Chair.

It looks like there's a pretty good way to fix the problem that was going on, but is there any – are we able to figure out what kind of cost overruns that this company is going to have, and part B: Is there any way that they can get out of that contract because of – can they come up with something to get out of that contract? I'm concerned about that.

**Mark Victor:** You mean in terms of the contractor –

**Mr. MacEwen:** They're going to have significant cost overruns, right, to having to come back in the spring and is there any – has there been any talk about them coming back to Maritime Electric or to government looking for some kind of compensation or some way around their contract because of what has happened this fall?

**Mark Victor:** Yeah, I mean there's always the possibility. No question that there may be – the contractor may come back looking for extra costs. There are provisions in the contract for how extra costs are dealt with in terms of notifications and applications for extras in these types of things. We're still working very closely with LS Cable & System and through LS Cable & System with their subcontractor, DMM, meeting with them still very regularly and we're – I guess all of those discussions are ongoing. Obviously they are always a part of it, but they kind of go parallel with – there are the operational issues that are dealt with and then there are commercial issues that are dealt with and both are being worked through at this point.

**Mr. MacEwen:** Chair? Like you said earlier, we have a contract with them to do it but is – but you're saying talks are ongoing

with it too. Has the company actually reached out to you guys at all and said: No, the conditions of us laying the cable weren't as we thought so we are going to try and renegotiate it. Or you are very confident that that contract is set? These guys have to come good for it?

**Mark Victor:** Well I mean –

**Kim Horrelt:** There's risk. There's always risk.

**Mark Victor:** Yes.

**Kim Horrelt:** We feel we have a strong case and we're not there right now –

**Mr. MacEwen:** Are they – but when you say you've got a strong case, is there something going on right now where they are actually trying to – not get out of that contract but are trying –

**Kim Horrelt:** They're not trying to get out of the contract.

**Ron Leblanc:** There have been no talks on extras for having to come back at this stage, but are they staying quiet on it? Are they –

**Mr. MacEwen:** Yeah, I guess yeah.

**Ron Leblanc:** It hasn't come up and we've indicated –

**Mr. MacEwen:** (Indistinct) probably expecting something like that because –

**Ron Leblanc:** – and we have told them that we do not expect to pay for them to come back to finish the job.

**Mr. MacEwen:** Is it premature to ask what potential – what it might cost them? Is it really significant or is it not too bad percentage wise on the total for them to have to come back? Because it was supposed to be done, right, by now?

**Ron Leblanc:** It was supposed to be done, yeah.

**Mark Victor:** Yeah. I think it's – yeah, I wouldn't want to hazard a guess or throw a number out there at this point because like as Ron said, we haven't been presented with

anything at this point so we really don't expect –

**Mr. MacEwen:** Well, it's good to hear that you guys have said that, too, that we still expect it to be this because I'm expecting it's a fairly significant cost overrun and they will attempt something. I don't know, no doubt.

**Kim Horrealt:** They were contracted to have that cable buried (Indistinct) –

**Mr. MacEwen:** Yeah.

**Kim Horrealt:** – so they are obligated to bury that (Indistinct)

**Mr. MacEwen:** Yeah, I hope so, but I was just – I'm concerned for you guys that they would try and find something to say in the initial conditions that, it wasn't what we expected so that's why we can't do it –

**Kim Horrealt:** That's why there was a lot of work done on (Indistinct) conditions.

**Mr. MacEwen:** Well, that's good then. I'm glad you guys are (Indistinct). Thank you.

**Chair:** Jamie?

**Leader of the Opposition:** With Sidney there, when was it actually supposed to be completed, done? Are we talking December? How long was the Isaac Newton here working after?

**Mark Victor:** Yeah, I think it was around the middle of December was when we were hoping that the Isaac Newton would be finished, or if you can correct me if I'm wrong –

**Ron Leblanc:** Yeah, early December.

**Mark Victor:** – but it was early December, somewhere in that range.

**Leader of the Opposition:** How long were they here after working?

**Ron Leblanc:** They left on the 5<sup>th</sup> or 6<sup>th</sup> –

**Mark Victor:** I think it was the 5<sup>th</sup> of January – the 5<sup>th</sup> or 6<sup>th</sup> of January.

**Leader of the Opposition:** And you indicated earlier, I think, that – so, in the spring – the ship is docked right now in Halifax?

**Unidentified Voice:** Yes.

**Leader of the Opposition:** How long do you figure – how many week window or whatever is there going to be in the spring that they are going to be required to come back for that ship?

**Mark Victor:** When they actually get back in the water will depend on ice out, for one thing. It will also, as I have there, it will depend on sort of regulatory approvals in getting whatever modifications or extensions are to our existing approvals that are in place and part of that will depend upon some of the discussions with the stakeholders.

In terms of the amount of extra time in the water, what's the number that they were giving us? It was somewhere –

**Ron Leblanc:** Their very optimistic estimate was 30 days so you're probably talking more a 40-day window.

**Leader of the Opposition:** Any idea what a cost to operate this ship a day?

**Ron Leblanc:** We weren't given that information. We were given a lump sum from LS Cable & System and they subcontract it with the installer, so we don't – we're not privy to that.

**Leader of the Opposition:** Are we allowed to transmit any power across the one cable that is hooked up right now, with the one line that's from Memramcook or wherever it's from to Melrose and (Indistinct)

**Ron Leblanc:** We're capable of transmitting power, but at this point our load has started to diminish so we're hitting to below the 200. At this point, just to keep contracts, because it was a turnkey, we want to wait until the contract is finished before we take ownership of the cable.

The other thing, if we did start to use it today, when they go to bury it we would have to de-energize it. They have to lift it up. They have to bury it and damage could happen. If we took ownership early then

there is a liability, a warranty issue, so we're trying to avoid it.

However, if push came to shove and there was a potential of an Island blackout we would use it.

**Leader of the Opposition:** You could turn it up?

**Ron Leblanc:** But if we don't have to, we're staying away from it for those reasons. Again, once we do that, like Mark mentioned that the cable was terminated and passed all the electrical tests, all of that will have to be repeated because once they start handling the cable again there's potential there, damage. We want the ownership of the cable to remain with the installer until the job is complete, just from a warranty, liability point of view.

**Chair:** You good?

Kathleen.

**Ms. Casey:** Great. Thanks, Mr. Chair.

Mark, you mentioned earlier in your presentation that the old cable or the current cable –

**Mark Victor:** Yes.

**Ms. Casey:** – that we have has been pretty reliable over the last 40 years. What lifecycle or maintenance plan is required with the new cable to ensure its reliability, probably for another 40 or 50 years?

**Mark Victor:** Sure. Well, I will let Ron talk a little bit about the (Indistinct) and maybe just a touch on sort of how they have managed to have that existing interconnection last for so long and still be in good condition, and kind of how that same approach will be taken for the new interconnection.

**Ron Leblanc:** With the – what kills a cable is heat and what generates the heat is loading of the cable. We baby the existing cables. They have never seen a second of overload above their regular capacity. We take great care not to because we only have so many extension cords and we can't afford to have one break, and we do – we monitor the oil pressure in the cables. They are oil

filled, so that is done continuously so if the oil pressure dropped, there is something wrong. We get an alarm right away.

We also inspect the cables. We do a walkabout. We actually get divers without fins, they put on three or four weight belts, and they physically walk over the cable looking for areas where the sand may have shifted and it's not covered, which would be subject to small boat anchors and things like that. If they find those sections they rebury it. What's even worse if it becomes undermined, so then the cable is sort of suspended and there's a hollow underneath and we'll fill in there.

When we did have that small leak in 2012, which was from a splice area, we did test the oil and the insulation and the cables and they're still at 100% insulation. We see they probably have another, at least another 20 years of life.

Our treatment of the new cables will be the same. They will not be overloaded. There is less to do because there is no oil in the new cables. They are solid insulation, but we do plan to continue to inspect them, walk over them every five years.

The other thing that we added with the new cables is there is fibre optic in the cable. We have 36 strands of fibre per cable. We're going to take two strands from each cable for temperature monitoring, so we're going to have real time temperature monitoring at one-metre intervals over the full 17 kilometre length of each of the cables.

If we see a hot spot developing, which is what kills the cable, then we'll still have the other three. We can back off on the load, investigate, and find out what's happening. We expect to get, as well, longer than the design life of 40 years out of it.

**Ms. Casey:** Thanks.

**Ron LeBlanc:** This one we'll have a look into the future with the temperature monitoring.

**Ms. Casey:** Thank you.

**Chair:** James.

**Mr. Aylward:** Chair, I think, actually, pretty much all of my questions were answered. I was similar to Kathleen. I wanted to just know about the existing two cables and when this project is completed if they're being decommissioned.

**Ron LeBlanc:** No.

**Mr. Aylward:** As you said: At least another 20 years life through them. Thank you.

**Chair:** Hal.

**Mr. Perry:** Thank you, Chair.

A question I have is regarding the installation of the cable. Is there a contracted date of completion?

**Mark Victor:** There was. It was – there was – again, there was a date of, I believe, of January 24<sup>th</sup>?

**Ron LeBlanc:** January 23<sup>rd</sup>.

**Mark Victor:** – 23<sup>rd</sup>.

**Mr. Perry:** Twenty-third, okay.

You had mentioned earlier December 15<sup>th</sup>. That was an anticipated date?

**Ron LeBlanc:** No, the December 15<sup>th</sup> was for installation complete, then they have to do as-builds and provide survey documents showing where the cable is –

**Mr. Perry:** Okay.

**Ron LeBlanc:** – what the actual depths and burial levels are along the entire cable. Then, there another month for that work to get done –

**Mr. Perry:** Okay.

**Ron LeBlanc:** – so the final completion date was January 23<sup>rd</sup>.

**Mr. Perry:** We'll go back to the December 15<sup>th</sup> date. They're not, and you said it might be another month to 40 days, possibly. What was the delay?

**Ron LeBlanc:** They had trouble, as Mark mentioned earlier, they could cut into the sea

floor, but they couldn't get the cable because the cable –

**Mr. Perry:** Was filling in behind –

**Ron LeBlanc:** – touched down 15 to 20 metres behind and the sides were collapsing, so they weren't getting the cable buried. That was the delay.

**Mr. Perry:** But, in the preliminary work and when they were doing their quote would they not have known that? That this could happen?

**Ron LeBlanc:** Should have, (Indistinct)

**Mr. Perry:** And allowed for time for that? Okay.

**Ron LeBlanc:** What they're doing now, is they're looking at other methods. They're improving the injectors to – so that the material just doesn't stay there. It's going to be sucked out and put on the side. They are making modifications to the trenching equipment. That's ongoing as we're speaking. They're hoping to improve the cutting method, and then the addition of some water to fluidize the material that is remaining in the trench, which will allow the cable to sit.

**Mr. Perry:** Okay, thank you.

Thank you, Chair.

**Chair:** Darlene.

**Ms. Compton:** Thank you, Chair.

Back to the Isaac Newton, you had mentioned that LS Cable & System contracts the vessel right?

**Mark Victor:** Yes.

**Ms. Compton:** It's sitting in Halifax idle and they're going to have to pick up that cost, is what we're assuming.

**Mark Victor:** Yes (Indistinct)

**Ms. Compton:** I mean we can ignore it, but they are going to have to pick up the cost and a vessel like that is going to be \$80,000 a day, \$50,000 to \$80,000 depending on, maybe there are minimal crews, so bare

boat, \$50,000. Who knows, it's a specialized vessel, maybe \$75,000 so somebody is losing a lot of money with this delay. That is, I guess, a concern that I would have for the province, for Maritime Electric, for whomever is involved. Are we ready for that?

Someone mentioned that earlier about, are we ready for some kind of a play as to, you take a vessel that's, let's be generous and say \$50,000 a day from now until they're ready to start again and it's – I would say it would be a concern and I'm just wondering. There doesn't seem to be any conversation about that.

**Mark Victor:** Sure. When the subcontractor demobilized from the site, it was their decision as to where they go with that vessel and what they did with it over winter period. If they choose to go to Halifax and work on their equipment, we have no control over that.

We're even removed from the subcontractor through – because our contract is LS Cable & System, actually. No one asked us can we go to Halifax and work on the vessel for the winter, or work on the equipment. That's totally on – as far I'm concerned that's their decision to do that.

**Ms. Compton:** Again, I'm just putting it out –

**Mark Victor:** Yeah (Indistinct)

**Ms. Compton:** – there. I'm sure you're well aware of that, but to have a specialized vessel like that sitting idle is pretty expensive for whomever owns it.

**Mark Victor:** Sure.

**Ron LeBlanc:** We did have the conversation with LS Cable & System and said – we indicated that we do not intend to pay for this. They haven't come back and said: Oh, yes you are.

**Ms. Compton:** Okay, good.

Thank you, Chair.

**Chair:** Thank you.

Jamie.

**Leader of the Opposition:** With that, there possibly could be a significant cost overrun to the province and the taxpayers at the end of the day.

**Kim Horrelt:** We don't feel that there will be a cost –

**Leader of the Opposition:** But there could be.

**Kim Horrelt:** There is risk with every project.

**Leader of the Opposition:** Okay.

**Kim Horrelt:** We think we have a good contract.

**Leader of the Opposition:** Yeah.

**Kim Horrelt:** And (Indistinct) project.

**Leader of the Opposition:** Something that I'm interested in is my understanding right now is that all the wind energy, renewable energy that we do generate that that is used within the grid of Maritime Electric, and that we don't – we have transmission capacity that brings power over, but we have no agreement that we have capacity to send back across or export. Am I right in that?

**Kim Horrelt:** We can export.

**Leader of the Opposition:** We can export.

**Kim Horrelt:** (Indistinct) has exports (Indistinct)

**Leader of the Opposition:** So with these new cables, is the same means in place, or agreement with New Brunswick that we can, if we increase our wind renewable, that we will be able to export through these two cables the same agreements will apply over cable one and two?

**Ron LeBlanc:** Yes. It's like a highway. You can go either direction equally.

**Leader of the Opposition:** I wasn't quite sure is that –

**Kim Horrelt:** These are our cables, so we can –

**Ron LeBlanc:** Yeah.

**Kim Horrealt:** – do it, but somebody has to purchase that energy –

**Leader of the Opposition:** That’s right.

**Kim Horrealt:** – on the other side, so –

**Leader of the Opposition:** Is there –

**Kim Horrealt:** – that’s (Indistinct)

**Leader of the Opposition:** How does that work going through New Brunswick? Do we have to pay to transmit that power through that capacity, or is there –

**Kim Horrealt:** You already have your purchase grid, but yeah if you’re saying you’re going to sell your wind to New England, you’ve got to get it there.

**Leader of the Opposition:** And we have to pay a tariff going through New Brunswick.

**Chair:** James.

**Mr. Aylward:** Thank you, Chair.

Just curious, LS Cable & System was the successful bidder on this significant contract. How many companies would have bid on the contract?

**Mark Victor:** Do you remember, Ron?

**Ron LeBlanc:** Six companies bid.

**Mr. Aylward:** Six?

**Ron LeBlanc:** By the way, there are six high voltage cable manufacturers on the planet.

**Mr. Aylward:** Okay, so –

**Ron LeBlanc:** They all bid.

**Mr. Aylward:** Everybody that was capable of did so. These six companies bidding on a significant contract such as this, would they have sent their own people, their own engineers, here to do research on the sea floor to see what kind of composition is down there or would that be information that the province or our own experts would provide in the –

**Ron LeBlanc:** We provided that information as some of the work that was done in 2014. As Mark mentioned, we engaged Canadian Seabed Research out of Nova Scotia. They did geotechnical surveys of the sea floor from the bottom up to a certain depth. That was supplied in the RFP package that went out for the cable.

Then, once LS Cable & System were successful they then engaged their own consultant who redid the survey. When we did it we took a fairly wide swath because we were also using it for route selection.

**Mr. Aylward:** Right.

**Ron LeBlanc:** Then, once the route was selected they zeroed in on that path to get more accurate readings.

**Mr. Aylward:** Could the company that was engaged to do the research on the seabed or the sea floor and the composition of what’s down there, if there are considerable cost overruns could they be held liable if the information that that provided, the research they provided isn’t quite accurate as to what this company that came in, LS Cable & System and their subcontractors came in to actually to do the work, if they came back and said: Look, the information you provided to us, the research, it didn’t match what we experienced when we tried to do the job.

**Ron LeBlanc:** We believe that what was in that initial geotechnical is what’s out there.

**Mr. Aylward:** Okay.

**Ron LeBlanc:** We haven’t seen anything to dispute it.

**Mr. Aylward:** Contrary.

**Ron LeBlanc:** Now, it did come and say, if you cut a trench 16 inches wide and so many feet deep how quick it’s going to collapse or anything like that. We said: There’s so much sand, there is so much glacial till, there is so much bedrock, and the strength of the glacial – it’s like a pile of gravel. You can have big pieces, you can have little pieces. We just said it’s gravel-based glacial till and it can range from a hardness of eight to a hardness of two and anything in between.

There were also provisions in the RFP that it is up to the bidders to verify the accuracy of the data, that they cannot – that it's there for information purposes, but if they had any concerns that they should conduct their own surveys.

**Mr. Aylward:** Chair?

One other question: Back in 1977 when the two existing, the original cables were laid, was a similar technology used for laying these cables or trenching?

**Ron LeBlanc:** No, they were plowed in at that time, which gives a much bigger environmental footprint. It was more of a brute force.

**Mr. Aylward:** Okay.

**Mark Victor:** They would have done, I believe, a pre-trenching near the shores and then the plow would make the trench and then the cable would be laid in –

**Ron LeBlanc:** The plow would be –

**Mark Victor:** – a furrow plow –

**An Hon. Member:** Yes.

**Ron LeBlanc:** – hauled behind a large ship, a large –

**Kim Horrelt:** They didn't have the environmental regulatory that we had to go through today.

**Ron LeBlanc:** Yeah.

**Mr. MacEwen:** (Indistinct) breath.

**Mr. Aylward:** Yeah, exactly.

Great, thank you.

**Chair:** Peter.

**Dr. Bevan-Baker:** Actually, James asked my questions there, Chair.

**Chair:** Last one with us was Hal.

**Mr. Perry:** Perfect. Thank you, Chair.

I'm just (Indistinct) you had mentioned earlier, at the present time, is there any – do we export any energy across the Strait?

**Kim Horrelt:** We don't, the energy corp, but Suez does have a contract.

**Mr. Perry:** But they don't, but there is not actually energy going across, they just, they –

**Kim Horrelt:** If it needs to be used here, the actual electrons probably don't go across, but they're contracted for energy. They get paid –

**Mr. Perry:** But there's no actual energy going across the cables –

**Kim Horrelt:** No, not if we –

**Mr. Perry:** – right now –

**Kim Horrelt:** – use it here.

**Mr. Perry:** – if I were to go up to the substation in Summerside –

**Kim Horrelt:** But there are times when –

**Ron LeBlanc:** There have been times where –

**Kim Horrelt:** – there is.

**Ron LeBlanc:** – the flow on the cable has been the reverse and –

**Mr. Perry:** Yeah.

**Ron LeBlanc:** – PEI was a net exporter, meaning that the total amount of wind generation on PEI was higher than the actual load on PEI.

**Mr. Perry:** Okay.

**Ron LeBlanc:** That happens five or six times a year.

**Mr. Perry:** One other question, and this goes on a different topic about the protection, the shoreline protection. The rip-rap: Can you just elaborate on that, on how that's – the construction of that?

**Kim Horrelt:** Is that in your video?

**Mark Victor:** No, we don't. The video doesn't have the rip-rap, yet.

**Ron LeBlanc:** Rip-rap is just preparing the shore to – rip-rap is placement of rock and there are different sizes of rock, so it dissipates the energy from wave action.

**Mr. Perry:** Yeah.

**Ron LeBlanc:** I know a lot of cottage subdivisions; they just piled up rock on the shore. It was engineered in this case. We actually built toe, so we dug down into the beach X number of metres then you let the sand come back and it's – the size of rock – I'm not a rip-rap specialist at all.

We changed the size of the rocks as it builds up and we make sure it's higher than the traditional waves heights in that area, and also that it sort of places the energy out so then the – it's sort of curved and the energy just goes back into the ocean as opposed to beating up against the shoreline.

**Mr. Perry:** Okay, I just wanted to make sure that wasn't something like West Point, or that kind of a set-up.

**Chair:** You good, Hal?

**Mr. Perry:** I'm good, thanks.

**Chair:** Jamie.

**Leader of the Opposition:** Thanks, Chair.

I'm interested in, Mark or Kim, when was government made aware of the – us being behind on this, or the project being behind? When were they made aware of this?

**Kim Horrelt:** We've been following the project all along. We've been – Mark has been actively engaged in the project and Maritime Electric keep us –

**Leader of the Opposition:** But when did government, I'm talking the actual –

**Kim Horrelt:** You mean the actual information go up the line?

**Leader of the Opposition:** Yeah.

**Mark Victor:** We brief periodically. I know that there was information around that

period of early December when it looked like there was a possibility that we may be into working in the spring.

**Leader of the Opposition:** Have you had meetings since after the mid-December point there with government on where we are and made them aware of what's actually going on?

**Kim Horrelt:** They've had a briefing note on –

**Leader of the Opposition:** Pardon me?

**Kim Horrelt:** They've had a briefing note on where we are. They aren't as up-to-date as you are now with the new – with what's happening in the spring, but they will be shortly.

**Leader of the Opposition:** Thank you.

**Chair:** Are you good?

Bush.

**Mr. Dumville:** I'm just curious about the building procedure with Suez in the game. Does Suez bill you for electrons that are staying on the Island and what's –

**Kim Horrelt:** We don't have a power purchase agreement with Suez. New Brunswick power does. They're totally independent from us, Suez.

**Mr. Dumville:** Okay.

**Kim Horrelt:** They sell their energy to New Brunswick power.

**Mr. Dumville:** So the line from up west to Borden, who owns that line?

**Kim Horrelt:** Maritime Electric.

**Mr. Dumville:** Does Maritime Electric charge Suez for the use of that line?

**Kim Horrelt:** They have an (Indistinct), a maintenance operation agreement with Maritime Electric on that line.

**Mr. Dumville:** Suez's electrons are all going across the Strait?

**Kim Horrelt:** Not physically.

**Mr. Dumville:** No? Okay.

**Ron LeBlanc:** Contractually.

**Kim Horrelt:** Contractually.

**Mr. Dumville:** Contractually only.

**Ron LeBlanc:** Yes.

**Mr. Dumville:** Okay.

**Ron LeBlanc:** I always use the analogy if you have 10 hoses filling a swimming pool then you grab a glass of water, whose water did you take? You don't know.

**Mr. Dumville:** Yeah.

**Ron LeBlanc:** It's the same with electricity. It's all being dumped onto the grid, so it's an accounting process to account for all of the electricity; where it's going; where it was generated; and where it's being used.

**Mr. Dumville:** Yeah.

**Ron LeBlanc:** Contractually, all of the Suez energy is being exported off-Island contractually.

**Mr. Dumville:** What percentage of electrons would actually go across that cable in say, in a year?

**Ron LeBlanc:** It's a very small number.

**Kim Horrelt:** Yeah. Like I said, it only goes that way only probably four or five times a year.

**Ron LeBlanc:** Yeah.

**Mr. Dumville:** So we're down to 5%?

**Ron LeBlanc:** Not even that.

**Mr. Dumville:** Or none? Two?

**Ron LeBlanc:** I'd say yes, but it's a small number.

**Mr. Dumville:** You don't care, so it's really negligible. Okay, thank you (Indistinct) thank you.

**Chair:** Jamie.

**Leader of the Opposition:** Where does Summerside electric now fall into this? Where they provide 12% roughly of the power to the Island, where does Summerside fall into access to the cable or any use of it?

I remember back, I think I brought it up last year that negotiations or talks should be taking place between Maritime Electric, the government and Summerside, but we never heard really where they had gone after that.

**Kim Horrelt:** We have—

**Leader of the Opposition:** Where are we on that?

**Kim Horrelt:** We have a committee actually set-up with the Maritime Electric and ourselves and the City of Summerside. We've met several times. We've also met with them several times regarding the cable project. Actually, we are in the process now of trying to hammer out an agreement with—

**Leader of the Opposition:** Would that—

**Kim Horrelt:**— debt recovery and (Indistinct)

**Leader of the Opposition:** Could they be possibly looking at access to the cables, then?

**Kim Horrelt:** Yeah.

**Leader of the Opposition:** Thank you.

**Chair:** That's it for my list.

**Mark Victor:** What I can do here, just to give you— it's just a couple of minutes. I can just kind of run through this video. It just gives you— I think it helps you put things in perspective—

**Mr. Dumville:** Am I in the way?

**Unidentified Voice:** No, you're good.

**Mark Victor:** When we talk about the cable project, everybody focuses on the cables themselves, but you can get an idea of the scope of some of the work that happened on land, as well, and the amount of work that has been done in a relatively short period of time.

[A Video was played]

**Mark Victor:** This is Cape Tormentine. This is some of the site work in Borden, essentially the cut area where transmission line in New Brunswick – this would be kind of the pre-trenched area with the cable being pulled in –

**Ron Leblanc:** Cape –

**Mark Victor:** That was Cape Tormentine? This is Cape Tormentine as well, a cable being pull-in. You need fairly good weather for the pull-in operation. Borden sub-station.

**Kim Horrelt:** New Brunswick.

**Mark Victor:** Yes, that's Cape Tormentine again. This is a fairly large civil project; a lot of earth was moved back and forth to get it done. You can see the spoil piles from the pre-trenching. This would be early in the Borden sub-station construction.

**Ron Leblanc:** It's pretty deep there.

**Mark Victor:** These were the spools of spare cable that came in to Summerside harbour and then were trucked from Summerside.

This is the – you can see, again, the Borden sub-station and the cut area and then the actual construction area.

This would be the – when I talked about site restoration, that's one of the things I talked about is where the work that was done in Borden bringing it back to getting it **seeded** and all that type of thing.

This spare cable, that's in the event – those are just stored on-site in Borden-Carleton and Maritime Electric in the event that something happens to the cables in the future, that they can be prepared. Ideally, those cables are stored there and never accessed.

Again, the pull-in on a fairly calm day. So off-shore, how far, Ron, when they are doing the pull-in in New Brunswick they are off, what? A couple of kilometres?

**Ron Leblanc:** 2.1 kilometres is the pull, 17 tonne- pull.

**Mark Victor:** You don't want winds to pick up and that type of thing during a pull so you need a fairly good weather window to do it in.

**Mr. MacEwen:** Do they worry about tides –

**Mark Victor:** Sorry?

**Mr. MacEwen:** Do they worry about tides (Indistinct)

**Mark Victor:** They do, yes.

**Ron Leblanc:** (Indistinct) time it with the tides and winds and water currents (Indistinct)

**Chair:** Jamie?

**Leader of the Opposition:** Two things there: What do you think now the impact is going to be on the harbour? I think back in the past when we talked before that we thought there was going to be no impact on the harbour; it wasn't going to hamper any future use going forward. Is that still the case that the harbour still would be able to be used for any industrial use down the road and all that kind of stuff?

**Mark Victor:** Yes, nothing really changed from what was planned in terms of where the cables went and how they were installed.

**Leader of the Opposition:** Okay, thank you. Chair, I would like to thank – I would actually like to thank Angus Orford there – back, I guess it was two months ago he gave me a tour down at the site and stuff like that and I was very impressed with it and he was very detailed in what he told us, and I appreciate Angus for doing that.

I appreciate very much you guys and gentlemen, and ladies, coming in today and presenting to the committee. It's something I'm very interested in and of course it is my district and stuff like that, but I think it's very important to the sustainable growth of the economy going forward in the province.

Thank you.

**Chair:** Thank you.

Bush?

**Mr. Dumville:** I'm just curious; the sizing of the cable is quite a loop there. How do you adjust or tighten it after you get it in the final stage?

**Ron Leblanc:** It was cut to length.

**Mr. Dumville:** Okay, this one I've got to hear.

**Ron Leblanc:** They did it and they took in the imperfections of the sea bottom, into account and they – I think the hardest thing for me in this whole project was signing off on the lengths before it went to the manufacturer for construction (Indistinct) 10 feet short (Indistinct).

Anyway, but then once it is on the boat it's easy when you start, but when you get to the other end it's still on the spool and at one point they've got to make a decision and say, okay, cut it. Then they pull it to shore and I think for the first pull they cut it close. They only had about 15 metres extra, and that's close –

**Mr. Dumville:** That's close.

**Ron Leblanc:** – in this industry –

**Mr. Dumville:** But on that length, that's close.

**Ron Leblanc:** Again – and for the second one, we had 40, which was more where they want to be.

**Mark Victor:** Yeah, the route that was selected with the dog legs, (Indistinct) obviously ideally you would just go in a straight line from point to point, but that was selected based on the work that was done on the sea bottom conditions with the idea that that was the best location to achieve burial of the cable.

To achieve burial, it's a bit of – yes, the soft material caused us some grief in the installation, but at the same time you don't want to be coming across bedrock either because even that cutter is not cutting into bedrock so you're looking for softer material because you know you can achieve your burial. It's a balancing act in terms of what you're trying to find or what you're trying to meet.

**Mr. Dumville:** Just one other question. The installation on the Borden side, it seems awful close to the water. Is that for cost purposes or could you pull that infrastructure back a little from the – on the bank because of – I know you've ripped it and all that sort of stuff, but –

**Ron Leblanc:** We've ripped it and we have taken it –

**Mr. Dumville:** – it looks too close to me for that kind of an installation.

**Kim Horreft:** It actually looks further back when you're there.

**Mr. Dumville:** Does it? Okay.

**Ron Leblanc:** We also do have – there are two samples of the cable on the table. They are the same cable, one is just they call it a desktop and that's a slice of the cable and then this is called a telescopic where we show each of the individual components coming up and it's quite heavy. It's 92 kilograms a metre, so 210 pounds for three feet so it's – I was tired after carrying it here.

**Kim Horreft:** It doesn't bend easy.

**Ron Leblanc:** It doesn't bend either, very – so all that has to be put into the design, the pull-ins.

**Chair:** James?

**Mr. Aylward:** Thanks, Chair.

(Indistinct) I guess it's just more of an inquisitive question on my own part. You said when you were talking about the pull, how many tonnes is the pull?

**Ron Leblanc:** 17 tonne.

**Mr. Aylward:** A 17-tonne pull?

**Ron Leblanc:** You had two kilometres of the cable floating in the water –

**Mr. Aylward:** Yes.

**Ron Leblanc:** – and you also had 400 metres of cable on rollers –

**Mr. Aylward:** Right.

**Ron Leblanc:** – because you were 400 metres back in Cape Tormentine so the winch was back there past the riser station. You also had an angle, a bend, on the ground which adds resistance and then you did have to take into account there, because it takes two days for a pull, so you're going to have some tides.

So whenever there's a tide, and it's exponential what it adds to the pull amount because you've got to keep that in a straight line and you may have noticed in some of the video or pictures, we had a bunch of boats that would latch onto the cable –

**Mr. Aylward:** Yeah (Indistinct)

**Ron Leblanc:** – trying to keep it in a straight line to reduce the amount of the pull.

**Mr. Aylward:** Chair – Ron, on-shore, what actual type of equipment would you use for that pull?

**Ron Leblanc:** They brought in some massive winches and they actually had to build concrete anchor blocks to anchor the winches to keep them from being – otherwise the winch would just pull itself to the water. The pull-in was engineered as well and the anchor blocks.

**Mr. Aylward:** That would be something to see. Thank you.

**Chair:** That's it from us so I would like to thank you very much for the presentation.

**Ron LeBlanc:** Thank you.

**Chair:** It was terrific. I think we all learned a lot and thank you very much.

**Kim Horreht:** Thanks.

**Unidentified Voice:** Thanks.

**Chair:** Do we just wait for a minute or go into new business now or –

Is there any new business?

**Ms. Casey:** Mr. Chair?

**Chair:** Kathleen.

**Ms. Casey:** I would –

**An Hon. Member:** Oh, sorry.

**Ms. Casey:** – it's okay (Indistinct) present, no worries.

Mr. Chair, I would like to see this committee have the minister of transportation come in just to talk about the energy programs that are going on in the province. Maybe, efficiency PEI maybe come in and talk about the programs that are going on.

**Chair:** Sure. Do we need to move a motion for that?

**Clerk Assistant:** Do you want me to address that?

**Chair:** Okay, sure.

**Clerk Assistant:** Actually, at the last meeting it was agreed that the minister would be invited in to discuss the PEI Energy Strategy once that strategy has been released.

**Ms. Casey:** Okay.

**Clerk Assistant:** That letter of invitation has been sent to the minister –

**Ms. Casey:** Okay.

**Clerk Assistant:** – already.

**Ms. Casey:** Do we want to add this, to talk about the energy programs, or, to that?

**Clerk Assistant:** So –

**Ms. Casey:** Something in –

**Mr. Perry:** In addition to the –

**Ms. Casey:** – addition to.

**Clerk Assistant:** Okay, sure. It would be, I guess, agreement of the committee.

**Chair:** Okay. Is there – do we – is James on the committee, or is he just a guest?

**An Hon. Member:** (Indistinct)

**Chair:** Okay, so was there agreement on the committee to –

**Mr. MacEwen:** Absolutely, in addition to say when you come in could you also be prepared to speak, or have somebody here with you to speak to –

**Ms. Casey:** Yeah.

**Clerk Assistant:** Excellent.

**Ms. Casey:** Thank you.

**Chair:** Is there anything else?

If not, I'll ask for adjournment.

**Mr. Perry:** (Indistinct)

**Ms. Casey:** So moved.

**Chair:** Hal, thank you very much.

The Committee adjourned