COMMISSION OF INQUIRY
RESPECTING THE MUSKRAT FALLS PROJECT

Transcript | Phase 2 Volume 64

Commissioner: Honourable Justice Richard LeBlanc

Tuesday 2 July 2019

CLERK (Mulrooney): All rise.

This Commission of Inquiry is now open.

The Honourable Justice Richard LeBlanc presiding as Commissioner.

Please be seated.

THE COMMISSIONER: All right, good morning.

All right, Mr. Marshall, you remain under oath at this time.

And, Ms. Muzychka, if you'll just give me one second.

All right, when you're ready.

MS. MUZYCHKA: Thank you, Commissioner.

Just before we start, I have some new exhibits to enter. They're: P-04414 to P-04419.

THE COMMISSIONER: Right, those will be entered as numbered then.

MS. MUZYCHKA: Okay, thank you.

All right, good morning, Mr. Marshall.

MR. S. MARSHALL: Good morning.

MS. MUZYCHKA: I'd like to start with P-02633 at tab 7. That would be book 1.

This is a proposal for reinstatement of services from SNC, dated June 2016. We understand, of course, that originally SNC was engaged as an EPCM contractor, and then by April of – or certainly March of 2013 SNC was removed from that role and provided engineering services and provided support to the integrated management team at Nalcor.

So this document, are you familiar with it?

MR. S. MARSHALL: Yes, I am.

MS. MUZYCHKA: Okay.

Why was there a proposal or what led to a proposal coming from SNC with respect to reinstatement as EPSM – CM?

MR. S. MARSHALL: In early June of 2016, at a time when I was talking to as many people as I could, two gentlemen from SNC, senior people, came to see me. We had a good chat and I discussed with them how they thought we should proceed, especially if they wanted to get more engaged in this.

So I asked them to do a proposal, I think this may have been around the 3rd of June. And about a week later they came back with this proposal.

MS. MUZYCHKA: Okay.

And why did you decide not to reinstate the services?

MR. S. MARSHALL: Well, basically if you read through it, the way I read it, it's a proposal to make a proposal. So it would take them –

MS. MUZYCHKA: Yes, to get a –

MR. S. MARSHALL: – three months. I didn't have three months, I had to go immediately.

MS. MUZYCHKA: So this was a proposal to take three months to reintegrate as EPCM.

MR. S. MARSHALL: Well, take three months to read a study how to do it –

MS. MUZYCHKA: Oh okay.

MR. S. MARSHALL: – right?

So my objective was to get out to the – all concerned by the end of June in terms of, you know, where we were. And we had an immediate problem with Astaldi, so it really was a matter I didn't really have time.

MS. MUZYCHKA: What was your assessment of SNC's performance on the project when you first came on board?

MR. S. MARSHALL: When I came on board they had already been removed as the, you know, the main EPCM contractor and were just doing the engineering. I mean, I had a history of dealing with SNC-Lavalin; they had done work for me in my former job. They've always had good engineers, but it was at a time where they were having severe senior management problems that everybody was aware of.

MS. MUZYCHKA: But in terms of their engineering services that they were providing to the project – because that's what they would have been doing when you came on –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – were they still experiencing difficulties?

MR. S. MARSHALL: Right.

And, like I said, I dealt with SNC-Lavalin previously. They've had some tremendous engineers. I have no questions whatsoever about their engineering skills, but I did have real concerns about their – where they were corporately.

MS. MUZYCHKA: Okay.

Did you have any concerns with respect to the changeover from an EPCM with SNC-Lavalin, to an integrated management team so soon into the project?

MR. S. MARSHALL: Yes, it was an obvious question to what had happened. You also have to say that since they were selected for this work, if you were the owner you would not have changed your scope, diminished their scope, unless there was serious problems. I mean, there's a great risk in doing that.

MS. MUZYCHKA: Yes.

MR. S. MARSHALL: So I took it from what had happened that there were serious problems. I mean, you would never want to have to do this otherwise, because of the risks involved.

MS. MUZYCHKA: Yes.

MR. S. MARSHALL: So I accept right up front that, you know, they hadn't been performing. I mean, why would the project management team want to replace them otherwise and take on the risk?

MS. MUZYCHKA: Given your experience with EPCM contracts, were you surprised that the EPCM model wasn't working? It just, you know, seems some might question, well, you had an experienced company, engineering company like SNC-Lavalin, and then the –

MR. S. MARSHALL: Well, I've never done a project this big – involved with a project this big. And I'm not – as I say, my strength is not in construction management –

MS. MUZYCHKA: Megaproject, yeah.

MR. S. MARSHALL: – you know, it's more general management. And I had never experienced a situation where this occurred, but maybe it happens all the time as far as I know. But, you know, it's a matter of concern but, like I said, when it comes down to it is that they had been selected by the – you know, Nalcor and the project management team for this work and now they're removed, which represented a serious risk, and you wouldn't want to do this unless you had to.

So I took it from that that they had to. I'm prepared to accept that. Now, of course, that's what the management team said as well.

MS. MUZYCHKA: Right.

And so when you were presented with the proposal to reinstate SNC, you were satisfied that the management, or the PCM parts of the project, were being handled well by the integrated management team?

MR. S. MARSHALL: Yeah and the risks going back now was every time you make these big changes, again, you incur, you know, disruption. And as we know, SNC-Lavalin's problems at the top have carried on.

MS. MUZYCHKA: Okay.

I just want to go back to Astaldi because when we were – you were giving your testimony on Friday, you did talk about how Astaldi was the number one problem that you had to deal with when you arrived, and it was your top priority.

Can you take us through your experience when you determined that – once you determined that it was too costly to replace Astaldi? Because you did mention that on Friday that you had consulted with Westney about that in terms of what the cost, et cetera – you were afraid of years delay. So what, sort of, steps were undertaken at your direction, in terms of trying to improve the situation with Astaldi?

MR. S. MARSHALL: I was prepared to replace Astaldi if I had to.

MS. MUZYCHKA: Yes.

MR. S. MARSHALL: Make that clear. But all the advice I was getting and just, intuitively, the best alternative, if we couldn't do it, was to have them carry on and provide some extra – they would require extra compensation.

So we did several types of analysis, you know, looking at what we thought it would cost them to finish. We looked at how much we could extract from them in terms of paying – carrying the – sharing the burden, as it were, sharing the pain. The expression I used was sharing the pain. How much pain could they share without reaching their covenants – national covenants?

So those became – you know, how much would it cost to bring another contractor in? So those are the factors went in to the negotiations. I made it quite clear to Astaldi up front that, you know, we were not going on paying for labour.

The two principles were: We would take a step-by-step approach to see if we can make this work through 2016 and then, presumably, carry on if it worked; and the other principle was sharing the pain. You know, yes, they were obviously incurring a loss, but they had contracted to do it at a certain price and they were no longer prepared to do that at price, nor could they, financially.

So taking those factors in consideration – and like I say, when you – when I say share the pain, it was quite clear that they had suffered and made serious mistakes in terms of the execution of the dome, for example. They acknowledged that and so we were not prepared to pay – we had already paid for that, in essence, by paying for the labour.

MS. MUZYCHKA: Right.

MR. S. MARSHALL: But that had to be deducted, in essence, from anything going forward; it'd be part of the pain that they had to incur.

So there was a series of negotiations went on for some time. At one point, they indicated that they were prepared to break-even on the contract and I said: If that's as far as you're going to go, then we would never get there. And then it was indicated, no, they were prepared to – or the negotiators on behalf of Astaldi were prepared to go further. So that's what proceeded.

And through 2016 we had this interim agreement which allowed them to carry on. And the way we structured that is that we had the engineers look at the work and as they performed certain blocks of the work on time, then we'd pay them extra in terms of, you know, what was on – beyond what was in the original contract, but it wouldn't be for input, it'd be for the output. In other words, we're no longer paying for labour directly; we're paying for the work that was achieved on time.

MS. MUZYCHKA: It's on progress –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – of the project.

MR. S. MARSHALL: And so that's how we went forward. It worked – seemed to be working reasonably well. And the thing I had to be confident of was, you know, the people under the project were telling me that Astaldi had improved their performance throughout '15 and '16, particularly in '16 – or '15 rather. And I wanted to see that for myself, that – in fact, that they would carry on in a very efficient way.

And so we got going in 2016, carried on, saving that construction season – it's nothing else. And they were doing reasonably well until we had the interruption at the site in October which, of course, was not their fault.

MS. MUZYCHKA: And then that caused delays and what happened next?

MR. S. MARSHALL: So that caused a serious problem. And then we had to – back in December of 2016 we re-engaged in terms of negotiation. And I felt at that point in time that we could negotiate a package now which would see us through, based on the principles I'd outlined earlier. And so we did, we signed an amending agreement and carried on.

And throughout 2017 and into '18 Astaldi did perform well, aside for the incidents we talked about like, for example, the collapse of the draft tube forms and the tipping over of the crane. But those were isolated incidents.

MS. MUZYCHKA: Yes.

MR. S. MARSHALL: Generally speaking, they performed well.

MS. MUZYCHKA: But, ultimately, Astaldi was replaced and we heard evidence about that.

MR. S. MARSHALL: Right.

MS. MUZYCHKA: That Pennecon was hired to take over the project and complete the balance of plant.

MR. S. MARSHALL: Right.

Right from the outset, like I said, one of the principles was sharing the pain. And they would have to incur a loss to finish the contract. So that was calculated in an interim agreement in 2016 and 2017, and even the – I think we had negotiation at the end of 2018. And, so at some point in time, they would have to recognize that loss.

And with the financial troubles that its parent was having, they had simply run out of cash in late in 2018. We had advancement of funds, but by the time they were removed from the site, we had advanced them something like 90-odd-millions of dollars in advance, which was covered by an advanced letter of credit. So we were covered by the letter of credit from the banks.

To go any further we would have to risk losing ourselves, so that's when we refused to go any further with them.

MS. MUZYCHKA: Okay and that was in 2018.

MR. S. MARSHALL: 2018.

MS. MUZYCHKA: All right.

I'm going to just bring you to a CBC article from June 24, 2016. It's P-04343, and it's at tab 12, book 1.

Okay, so this, obviously, was written shortly after you took over the helm. But on page 3 we can see that one of the headlines there is: "**Lack of experience a factor, says Marshall**

"Another part of the problem was a lack of experience by Nalcor and its contractors working in a cold, northern climate, Marshall said, adding that Nalcor has not built a power project in a very long time."

So, I guess, it's fairly obvious as to how that lack of experience manifested itself. But to what degree do you think that it was a factor?

MR. S. MARSHALL: Well, it has many facets to it. It starts off, you know, the fact – as I said, when they undertook this project earlier on, none of the key people involved had been ever involved in a major hydro project. You know, people who were involved in them back in the '60s and '70s had retired or died. So the way they approached this was not the way a utility would approach it, and that utilities are very, very conservative in how they do it, and always focusing on the impact on our customers.

And I think, as I indicated on Friday, the first thing, people were getting confused of what the responsibility of the project team was, the company and the government. And, you know, people were talking about, you know, in the company and the benefits to the province. Well, that's for the province to take care of. The company can be focused on, you know, their cost and benefits and the impact on the customers.

MS. MUZYCHKA: So –

MR. S. MARSHALL: The government can be talking about, you know, the taxes paid, wages paid and those sorts of things.

MS. MUZYCHKA: Right.

So I guess it's a –

MR. S. MARSHALL: And, also, like, we talked about on Friday, you know, the fact that you got these two big projects with different skill levels involved – different types of skills involved and, you know, the failure to see that and opportunities, it just – there was no utility culture at Nalcor.

MS. MUZYCHKA: Right.

So is it – was it a two-part inexperience issue: Inexperience on the part of Astaldi working in cold northern climates, perhaps, the decisions they made with respect to the ICS; and then, on Nalcor's part, in terms of not approaching the project with the same utility experience? That would've been –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – essential, from what I'm gathering from your evidence.

MR. S. MARSHALL: Well, on the part of Nalcor, it's how you look at these estimates and whatnot, and the credibility you've assigned to them. And when you decide to go forward, you know, do you go forward with 25 per cent of your engineering done?

In a utility, we wouldn't do that. That's more of a – well, it'd be fairly common in the oil and gas sector, quite frankly, but not in the utility sector. So the approach was – is different.

MS. MUZYCHKA: Okay.

Now, we had some evidence from Don Delarosbil. I don't know if you –

MR. S. MARSHALL: No, but I should add, there's two points to your question; I didn't address the second one, that was Astaldi.

MS. MUZYCHKA: Yes.

MR. S. MARSHALL: Astaldi was a, you know, world-class construction firm, but not familiar with – in Labrador. I mean, obviously they're building plants in South America so they should be used to the cold, but a big difference – not just cold, snow levels would make a big difference. If you're building a plant where it's dry and cold, it'd be entirely different than where it's cold and vast amounts of snow, for example.

So anybody who's not particularly – who's not experienced in that particular jurisdiction would always encounter some problems.

MS. MUZYCHKA: Right, and would it come out in terms of estimating how much they should bid for a project or –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – manpower and –?

MR. S. MARSHALL: And the other thing is like, you know, early on I got the feeling that, you know, contractors from southern Europe had a different approach to bidding than what we're used to in North America. And I've asked various engineering firms, as I went along: Was this the case? And it seems to be generally the case that firms from southern Europe approach, you know, bidding different than we would.

MS. MUZYCHKA: Did –

MR. S. MARSHALL: I mean their laws are different. I couldn't quite describe whether it's the laws are different, the culture is different, the languages are different, but there is a – seems to be a different view if you're a contractor from southern Europe.

MS. MUZYCHKA: And can you elaborate in terms of would they come in lower with the hope that they would pick it up in terms of change orders or extras or …?

MR. S. MARSHALL: Yes, well, all contracting firms come in with the view that –

MS. MUZYCHKA: They can (inaudible).

MR. S. MARSHALL: – we're going to have change orders and extras, that's how we're going to make our profit. So that's common throughout the industry. But, for example, in my early negotiations with Astaldi, they kept talking about value creation, as if the contract – for example, in our – in the common-law world of North America, if you agreed to a contract for a set price, whether it costs three times that amount or not, you are committed to building for that price.

Whereas it seems that southern European contractors – and maybe it's a different law – that if you create something of greater value, they focus on the value creation. That somehow they think they're entitled to the greater value and that became a real obstacle in the early part of negotiations. They kept coming back to the value and I said, well, you're ignoring the contract. The contract says you had to do it for one. Now you're saying the value is three, I'm entitled to the three. That's not the way the law works –

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: – in common-law jurisdictions anyway.

MS. MUZYCHKA: Right. So I guess the difference in philosophies –

MR. S. MARSHALL: There's something underlying it, whether it's the difference in laws or culture or whatever it is, but that was a real obstacle earlier on with Astaldi. They kept coming back to, well, yes, we're – we agreed to build it for a billion, but we're providing $2 billion worth of value, so you got to pay me $2 billion. And I said that's not the way it works.

MS. MUZYCHKA: Okay. All right.

So, as I was about to say, we were – we heard evidence from Don Delarosbil when the crane incident happened, the one you just mentioned when it tipped over. There was some uncertainty as to whether Brian Chaput, who was Astaldi's safety manager, would be removed from site.

Mr. Delarosbil talked about assurances that you had given him that Mr. Chaput would be able to remain on site but, ultimately, Gil Bennet and Scott O'Brien had him removed. Can you provide any comment on that? Were you aware of –?

MR. S. MARSHALL: Yeah, I'm at a loss with this one. I can't remember – I mean that's pretty low down. I wouldn't normally engage in that type of conversation, so I don't know where that came from.

MS. MUZYCHKA: Yeah, okay.

MR. S. MARSHALL: There have been some language used somewhere that he took it from that, but that's not – because I don't engage with that type of conversation so low down.

MS. MUZYCHKA: No. I guess that you wouldn't have had direct conversations with Mr. Delarosbil, would you, over the course –

MR. S. MARSHALL: Oh yes, he was frequently on site when I was there. And, you know, he – his primary responsibility is to – you know, he is commercially oriented; I mean he's very capable. But him and George would – I mean their principal task was to extract more money.

MS. MUZYCHKA: Hmm.

MR. S. MARSHALL: I'd do the same thing if I was in his position, so I don't fault him for that. That's normal.

So I spoke to him generally when he was on site.

MS. MUZYCHKA: So this may have been a conversation, if it happened in passing, while you were on site.

MR. S. MARSHALL: It could well have been. I can't remember the conversation.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: But it would not be the sort of thing I would engage in or a promise I would make, simply because it belongs to other people.

MS. MUZYCHKA: Yes.

Okay. All right.

I'm going to talk a little bit about GE Grid Solutions; we did talk a little bit about it on Friday. But if you can just take us through your experience with the GE contracts when you came on board, they probably were just coming under – on stream, and what situation you were faced with GE when you came.

MR. S. MARSHALL: Yes, GE had two main contracts: One was on the, you know, the transmission system, the converter stations; and the other was, you know, in the terminal stations, the synchronous condenser, this sort of thing. So there was two major contracts: One on the power side, one on the grid side. For the most part, the one on the power side went relatively well. They had some problems – we had some problems on the synchronous condensers we're working through.

On the grid side, when we made the decision that we wanted to get this thing back on track, you know, they agreed that this was – you know, could be accomplished. But their record, basically, has been to over-promise and under-deliver on that side of the contract, which carries on until today, right? Because we're still dealing with them, I don't want to go too far there because of the commercial thing, but they have problems.

It's interesting, you know, to think that the two contractors we've had a lot of problems with, Astaldi and GE, both of them clearly are incurring losses in the work that's performed or incurred losses. Both of them clearly have corporate problems at the parent level and they're struggling. So it – that makes them very difficult to deal with in any particular contract site and that's what we experienced.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: So on GE's side, on the grid side, you know, when things started to drag, John MacIsaac, who was the person involved there, he tried to do what he could, and eventually he asked me to intervene and talk to the CEO of GE responsible for that division, which I did.

And I remember the first meeting we had, you know, the CEO, we had their vice-president responsible for it out of Paris and the person responsible for executing the work. At times it was almost in disbelief in that sense that, you know, they didn't seem to be aware of what was really happening on the ground. They had made commitments and, you know, we did everything we could to help them; we were making progress bit by bit. That was – but they had serious problems.

For example, in 2017, when we were anxious to get the converter stations operating properly, getting the software, we discovered – this work had been done in Stafford, England. We discovered that basically all the key people were taken off to work for another project that they were working on in Germany.

So, you know –

MS. MUZYCHKA: There were challenges.

MR. S. MARSHALL: There – look, this whole project was one big challenge, and GE was certainly a large part of that.

I have to say, though, however, that – and we went through several amending agreements with them, trying to encourage them to get there and provide some incentives and give them some relief. In the current year, since signing the latest agreement in January, I would say that I think they're generally trying. They're putting resources on to it. We seem to have gotten their A team. We engaged two independent observer parties: One on the HVDC side and one on the software development.

They're still struggling but they're – I think they're putting in the effort.

MS. MUZYCHKA: Okay.

One of the amending agreements that we heard from John MacIsaac was with respect to the decision to do it monopole to take advantage of the power from Churchill. Did that cause –?

MR. S. MARSHALL: Yeah, GE had a strange way of developing the software here, you know. It's – like it's all or nothing and it's all unique to the particular contract. You know, I attribute it in part to the fact that people who are in GE days – GE these days the last number of years are not engineers, they're financial engineers. You'd – it's hard to envisage how you proceed with software development this way but, in any case, that's what it is.

MS. MUZYCHKA: Hmm.

MR. S. MARSHALL: So we were anxious – we were completing the transmission system in – the end of 2017. We wanted to energize that line and start testing the hardware and software, so we asked them to development a monopole package that allowed us to do that and bring in power from the Upper Churchill.

MS. MUZYCHKA: But that would've been a change in scope for –

MR. S. MARSHALL: That was a change in scope. Rather than try to go for the whole enchilada – you know, bipole, one time start-up and try to sort out all the problems – we went to a separate package for monopole for pole one.

If I was dealing with this, I would say that's a natural way to progress, you know, energize your line, start sorting out your problems, going from the simple to the more complex; however, that's not the way they proceed. GE is now changing their process, by the way, that they're going to a more generic software package.

MS. MUZYCHKA: Mm-hmm.

MR. S. MARSHALL: So by allowing – using the monopole system, like I say, we were able to energize. We went four weeks without interruption at one point; bring power in. You know, at full load we could save about $330,000 a day bringing power in to displace oil at Holyrood.

But it allowed us identify a lot of hardware problems, a lot of software problems, which now are incorporated into the new package. So it's a great benefit, not only in terms of if you – if it operated properly to save on power, but it also allows you, in the early stage, to sort out those problems and address them early and – so they will have the benefit of that in the bipole package now of identifying certain problems.

MS. MUZYCHKA: Right. And I understand that they're moving towards the software – and I'll get to that in a moment with respect to the bipole.

MR. S. MARSHALL: Right.

MS. MUZYCHKA: We also were advised that Growler Energy was hired to assist Grid Solutions with their testing and installation of the P&C software in Stafford. This company, Growler, we also know was started by Greg Fleming, who was formally with Nalcor on the project.

MR. S. MARSHALL: No, not –

MS. MUZYCHKA: Or he was –

MR. S. MARSHALL: Well, Nalcor in the sense that he had been working on the Strait of Belle Isle crossing.

MS. MUZYCHKA: He was a former project manager with the HVDC specialities.

MR. S. MARSHALL: Right, but he – I think when I first encountered him he was just, you know, working on the Strait of Belle Isle crossing.

MS. MUZYCHKA: Yes.

MR. S. MARSHALL: Which went very well, on time, on budget. So, again, if you're looking for project managers and you needed those skills –

MS. MUZYCHKA: Right.

MR. S. MARSHALL: – it seemed to be logical to bring those over now – that they're finishing up on SOBI, to bring them over and work on the transmission side.

MS. MUZYCHKA: Right.

MR. S. MARSHALL: Because we wanted to escalate that and get that done.

MS. MUZYCHKA: But – and we understood – we heard from Mr. MacIsaac that he had picked Mr. Fleming, based upon his experience with SOBI and –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – as that was winding down, it was a natural fit for him.

MR. S. MARSHALL: Right.

MS. MUZYCHKA: But, subsequently, he left the project and started Growler, or with another company called ATCO or with people from ATCO in Alberta.

MR. S. MARSHALL: Yeah, these were always independent contractors –

MS. MUZYCHKA: Right.

MR. S. MARSHALL: – whether they're working on SOBI or, subsequently, as Growler. So whether they were one company or another, you know, is of no interest to me. What you're really looking for is their skills of project management. And so they went out and brought in people from ATCO, who had been working on an HVDC in Alberta, which is beneficial. And –

MS. MUZYCHKA: So this was necessary for Nalcor to retain Growler because the expertise didn't exist in-house, correct?

MR. S. MARSHALL: Right, but they had demonstrated their project management skills, as far as we're concerned, on the SOBI project, so …

MS. MUZYCHKA: Yes.

MR. S. MARSHALL: You go with the people you know, in those circumstances.

MS. MUZYCHKA: Okay.

If Growler was necessary because Nalcor didn't have the HVDC experience to provide the oversight to GE and the P&C testing, should Growler have been engaged prior to your involvement in the project, like at an earlier stage than they were ultimately –?

MR. S. MARSHALL: Well, I think on Friday I've indicated that, you know, when I came to the project, one of the reasons I bifurcated was that this whole transmission component was, you know, a lack of resources and a failure to appreciate the complexity of the work involved, and they were the key into the (inaudible) operations as well. So, yeah, they were – we were late in the overall scheme of things.

But I think the view was, at the time, that, you know, if Muskrat was going to be two years late, well, transmission is not on a critical path so why bother. You know, it's a failure to, I think, appreciate that. Again, it goes back to what I said earlier, the lack of, you know, utility experience.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: There are people in Nalcor who knew the difference, but they didn't seem to have a voice.

MS. MUZYCHKA: All right.

I understand that with the last amending agreement in January 2019 that you wanted third party validation, so you retained two experts in software development and HVDC. So can you tell us a little bit more about that?

MR. S. MARSHALL: Well, it goes back to the conversations I was having with the CEO of GE. You know, you'd go out and talk to them and they'd be like – seem to be unaware of what was actually happening. For example, they'd say, well, what's the dispute here? You know, the – your software is tested at the factory and then we'd point out, yes, but it failed. So, you know, that's a big difference. So there seems to be what John MacIsaac referred to as a data discrepancy here. You know, you couldn't even agree on the facts.

So, going forward, we wanted to make sure that, you know, someone could validate whatever was actually happening so that when we met, between ourselves and GE, somebody would be there to say, no, you've done this or you haven't done this. And so we initially proposed that there'd be sort of an arbitrator – someone to arbitrate the things. They didn't – GE didn't want that, so we ended up with – choosing two people to do aspects of the work – one I think had worked with GE before – just to – they would just be independent observers. And their comments were not binding in the sense that, you know, like an arbitrator would be, but then we'd have somebody to validate what the facts were.

MS. MUZYCHKA: Right.

And so has that been useful in terms of your relationship –

MR. S. MARSHALL: It has been extremely useful and, like I said, I think GE has had a change in heart too. They've given us now their A team and they're working on it diligently, which makes me optimistic in terms of – I still don't think they'll meet the deadlines, but we'll get there where we need to be at some point. But it – these people have, on a monthly basis, make a report outlining where the software development is, what the functionality is, and GE has been taking their advice and we're moving along. So I think it's been very beneficial.

MS. MUZYCHKA: Okay.

So now we're halfway through 2019 and winter is coming, but not too soon hopefully. What is the current status of the version 17 of the software installation?

MR. S. MARSHALL: Well, version 17 is history, we're working on the bipole – they're working on the bipole now.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: They – after we shut down the end of April, so – well, they had a different version of 17 – I think 17C – just to test some functionality in there. But now, all the work was concentrating now on bipole.

So we've shut down the system, turned it over completely to GE so there'd be no questions that they couldn't – they could claim, you know, that we interfered with the work. They have total access to the system. They can install a different piece of software, they can test it, it's completely up to them.

MS. MUZYCHKA: Okay. So that is well underway then, the –

MR. S. MARSHALL: It's well underway. I mean, GE is slipping slightly, it's not fatal, but – and not unexpected from my point of view.

MS. MUZYCHKA: When can we expect a completely operational bipole?

MR. S. MARSHALL: Oh, that won't be 'til next year. We don't need it until next year, but we need a version this year to take us through the winter. And in the worst case we'll go back to 17C – C, is it, yeah – that we used last winter.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: But I – my expectation is that we'll have a version of bipole that will – with not all the functionality we'd need in full operation, but we won't be in full operation this winter. They'll have a version that we can bootstrap and get through the winter for our purposes and test it further.

MS. MUZYCHKA: Okay.

You had indicated on Friday that the transmission is on the critical path now. And you've also said that – in an interview, that if the transmission is delayed further, we'll be in a horror or nightmare situation where the bipole will not be ready in time when the Muskrat Falls units start coming online.

MR. S. MARSHALL: I mean, the worst situation is if you had no functioning software going into the winter –

MS. MUZYCHKA: Yes.

MR. S. MARSHALL: – with two units coming on stream, I mean, it just real a challenge. What do you do with the power? You can send some of it back to Churchill and export it fully on the AC line. We have about 250-megawatt capacity on the Hydro-Québec system.

So we have to be prepared to do that but it's not in my expectation that's the way it will go. The expectation is that we will have enough software development to get us through the winter.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: With some additional – like we did last winter when we had an early version of monopole, it will require more manual operators, more manual intervention, but it'll get us through the winter.

MS. MUZYCHKA: So what would you say the delay of risk is happening? The delay of a risk happening, is it –

MR. S. MARSHALL: Sorry, could you rephrase the question?

MS. MUZYCHKA: I said: What is the risk of a situation where you could find yourself without functioning?

MR. S. MARSHALL: I think the risk is very low that we won't be able to function, you know, operate the plant. I think that's very low.

MS. MUZYCHKA: Very low. Okay.

MR. S. MARSHALL: Yeah, we have plan B and plan C.

MS. MUZYCHKA: Okay, that's – was going to ask you next. Is there an alternative to mitigate against that –?

MR. S. MARSHALL: Right, plan B would be go back to an earlier version of the software we used last winter. We did operate last winter in a monopole configuration. Plan C would be to put it back through the Upper Churchill and export it through Quebec.

MS. MUZYCHKA: Okay.

We just talked about the fact that you had expert consultants involved with that. Are you getting reports from them on a regular basis as to the status of where GE is now?

MR. S. MARSHALL: Yes, monthly.

MS. MUZYCHKA: Monthly. And can you tell us –

MR. S. MARSHALL: I just indicated that there's some slippage, but that GE is really putting their shoulder to the wheel trying to get this done.

MS. MUZYCHKA: Okay. All right.

Okay, now I want to just ask you a few questions about the North Spur. And we've heard evidence, of course, that there are concerns with the stability of the North Spur's ability to withstand the full pressure of water in the reservoir. There are concerns expressed with the research that Nalcor has undertaken with respect to responding to the concerns raised by Professors Bernardin [sp. Bernander] and Elfgren. Do you have any concerns with respect to the stability of the North Spur?

MR. S. MARSHALL: No.

MS. MUZYCHKA: Why not?

MR. S. MARSHALL: Well, as I indicated on Friday, when I first came on to the project I asked for an update on all the issues that I was aware of; one of those was the North Spur. So my review started there.

So I read the information that was provided to me, asked my own team. Then I met with the chief geotechnical engineer for SNC-Lavalin, Régis Bouchard, I think his name is. So I met with Régis and two or three of his other supporting geotechnical engineers. I asked them as to whether they had any concerns, any questions, whether they're aware of any others that throughout this process who expressed it other than this chap, Bernander, is it?

MS. MUZYCHKA: Bernander.

MR. S. MARSHALL: From Norway.

THE COMMISSIONER: Bernander.

MS. MUZYCHKA: Bernander.

MR. S. MARSHALL: And, my understanding, he's – this guy from Norway is a senior gentleman who'd never really visited the site and, you know, he's theoretical based.

So it took – that's where it started with the SNC-Lavalin folks – senior geotechnical engineers, and more than one of them, reviewed – and then I read the report from Hatch, the cold eyes review of that. I did, at one point, speak to a dam safety engineer from Hatch and he had no concerns. When we were putting in the cut-off wall I visited the North Spur to observe what we're doing and talked to the project manager there, who was a chap from Mississippi or Louisiana, who does this work globally – very specialized work. Then we had – and I read this

– and there's quite a number of reports that have been done on this – this has been studied for – since the 1960s.

Typically, you know, engineering problems are things you don't anticipate. It's like Y2K. Everyone going into the year 2000 thought, you know, the system was going to collapse. Engineers know these things; when they know the problem and they focus on it, it is very, very unusual that you're going to (inaudible) problems. It's the unexpected that gets you.

So this thing had been studied since the '60s. Many geotechnical engineers had reviewed it. But then we did ask for another panel to review it, three folks – I think one is from Laval, one from Memorial and one from Norway, I think it was.

MS. MUZYCHKA: Hmm.

MR. S. MARSHALL: And they were highly critical of the – this Bernander statement. They were absolutely confident in the work that had been done. And (inaudible) the piece, multiple geotechnical engineers, giving their assurances that this was a good design, a good execution, so – and working with engineers and being an engineer myself, I mean – you know, you accept that.

MS. MUZYCHKA: Right. So you –

MR. S. MARSHALL: The fact that one person or a couple people from another jurisdiction, who hardly – are not really familiar with the site or the details of the work, have a theory. We all have theories.

MS. MUZYCHKA: Right. Okay.

MR. S. MARSHALL: So I'm – your question was: Am I confident? I'm absolutely confident.

But then I would say to them, and I've said to many people: Supposing you're wrong. You know, people – you know, the person on the street thinks dams, you know – dams of this nature just fail. They don't. Modern dams, if they fail, there's a mechanism of failure. That's studied as well – the dynamics of that. I mean, there's monitoring facilities in the North Spur to measure the water pressure. And typically what would happen, with an earth-filled dam or natural dam, is that the water levels will build up, would become fluid and then you'd have movement.

So there's monitoring on the site – many monitoring stations that will measure the build up of water. You can take measures, if you've observe that, either through pumping or lowering the water level or – so it would take a long period of time. You would notice it for months. It would go on for months and months with nothing happening if you have any kind of failure at all.

MS. MUZYCHKA: Yes.

And I guess it's a valid concern, though, for those people that live downstream.

MR. S. MARSHALL: Oh, absolutely. And I understand, you know, people who are not familiar with it. You know, I'm not a geotechnical engineer, but I know the basic science behind it. I'm absolutely confident and I have no problem camping in the North Spur any month of the year.

MS. MUZYCHKA: Okay.

Despite the concerns of those that –

MR. S. MARSHALL: Be hard in winter, but …

MS. MUZYCHKA: – that have concerns with the stability of the North Spur, there was some suggestion that perhaps a comprehensive assessment of the stability of the North Spur should be undertaken.

MR. S. MARSHALL: It's been done many times over and over and over and over. You have to ask (inaudible) the question: At what point does it stop? I mean, if I had – found evidence that, you know, there had be questions among the different professionals involved here, yes, I would do – go further. But it's been studied to death.

MS. MUZYCHKA: So, I guess, the answer is: No, you don't plan to do any further comprehensive studies?

MR. S. MARSHALL: I don't plan on doing anything further, it's pointless.

MS. MUZYCHKA: Okay.

And you're confident then that the monitoring systems that are in place will provide Nalcor with the information required should there be any signs of –?

MR. S. MARSHALL: Right, and don't forget, we raised – we already raised the level of the reservoir to 25 metres. So, you know, we've done that, they've taken measurements to see what's happened thus far; it's all as predicted. There's very little change.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: So it's not like you've got to do (inaudible), you're already up – you only – you're going to the 39 metre level – elevation; you're at 25 metres, nothing is happening. And there had to be a natural stability in that Spur, I mean, it's lasted since the last ice age – 10,000 years. So it's not as if it's going to wash away tomorrow.

MS. MUZYCHKA: Right.

And I guess – and part of the concern, I guess, is the fact that the dam is not an entirely man-made structure, but it's also reliant on the natural damming effect of the North Spur.

MR. S. MARSHALL: Oh, yes. But if, you know – again, geotechnical engineers have taken all of the precautions. They've changed the grades on the thing. They've put in materials upstream, protective layers upstream. They put in this cut-off wall to make sure that there's no – to restrict the flow of water through there. All these monitoring stations – the North Spur is quite stable. No question.

MS. MUZYCHKA: Right.

When you came to Nalcor, it appears that a risk report prepared by SNC in 2013 came to light. Can you tell us how you became aware of the report and under what circumstances?

MR. S. MARSHALL: So when I came in in May, June of – well, I came in in May of 2016, really, my door was open to any of those who had working relationship on site, initially. A chap, Brad Chaulk, came to see me. I didn't know him. He introduced himself and he said that he had worked for SNC-Lavalin for five years in engineering and construction, and that he – you know, we talked about it generally – he referred to two reports. One was the independent engineer report. I asked him for a copy and he (inaudible) that. Oh, yeah, and then he referred to an SNC-Lavalin report that had been done in 2016 – '13, 2013. I asked him for a copy; he said he didn't have a copy. So I said fine.

After he left, I asked my assistant if she could go into our archives and get a copy of the report; came back and said they were – couldn't find it. I asked around, I asked Gilbert Bennett and others whether they were familiar with it and they – nobody even seemed to know what I was talking about. A few days later, some senior people from SNC-Lavalin, these are the people I referred to earlier, came to see me. I think it was around the 3rd of June. I asked them about it and they said yes, they said that they had prepared a report in 2013 and that had – as far as they knew that they had presented it to Ed, but Ed refused to accept it.

And I asked if I could get a copy of that and they said they would get me a copy. And I think within the following week – they were back the following week, and they may have given me the copy when they came back the following week. I can't remember actually how it got delivered to me. So I got it and read it, and then I took it to Gilbert and said: Gilbert, this is the report I was asking about. And he said he had never seen it. And so I read it, and of course it's in – I think it's in – on file now here, so …

It just showed me that, you know, back as early as 2013, people were aware of the risk, that the thing would be a substantial overrun, maybe $2 billion. But by the time I saw it in 2016 it was all history. And Gilbert said to me that, you know, he looked through it as well and said that – at a subsequent time, I can't remember when he came back – but he said that, yeah, the risks had been identified and there's nothing really new in it. So I put it in my drawer and left it there.

MS. MUZYCHKA: Okay, so nothing – was there any benefit to you having reviewed that report in –

MR. S. MARSHALL: No.

MS. MUZYCHKA: – 2016?

MR. S. MARSHALL: No. It just confirmed what I already knew, that, you know, people knew or ought to have known early on that the costs were going to be much higher – the risks were there and the costs would probably be much higher than they had been estimating.

MS. MUZYCHKA: Okay.

So this came about, the – your knowledge of the report came about because the SNC individuals had told you about it.

MR. S. MARSHALL: Right.

MS. MUZYCHKA: They raised it.

MR. S. MARSHALL: Yeah, I have to tell you, when I did read it, I was a bit – I was suspicious.

MS. MUZYCHKA: And why were you suspicious?

MR. S. MARSHALL: Well, in my view, SNC-Lavalin were principal architects. Rightly or wrongly, my belief at the time was they were the principal architects of the estimate. They had been recently removed from their major role, diminished, so I said: Why was this prepared?

And then Gilbert pointed out to me that on the front page that Scott Thon hadn't even signed it. So I'm saying: Why was this prepared and why was it brought forward this way, you know? Is it an attempt to cover your rear end or is it an attempt to, sort of, try to muscle your way back in?

Now, it just didn't – I was suspicious about it and I wasn't anxious to, sort of, broadcast it. But over the following year, I'd mentioned it several times in the conversations I had. Not specific. I'd say, you know, I'd seen reports that done this sort of thing.

And then in, I think it was 2017, when I was – I think it was when I was preparing for an update then, that Greg Mercer, the Premier's chief of staff, said: You know, you've been talking about this report, you know, can I see it? And I said, yes, I said but, I said, it's not my – it's not a Nalcor report. So I said: By all means, go over and read it. But if you want a copy or want to use it, you need to contact SNC-Lavalin to get independent validation from them that this is your report and that it was presented, which he did and then that's when it came out.

I think if there's – I think the record shows that it's 2017 we came out and I did issue a public statement when the press started asking about it. But, yeah, I think the Commission had heard now that, in fact, he didn't present it to Ed. That's my understanding so, you know, just in summary.

MS. MUZYCHKA: I guess what you're questioning is the motives of preparing such a report.

MR. S. MARSHALL: Right.

MS. MUZYCHKA: But –

MR. S. MARSHALL: Exactly.

MS. MUZYCHKA: – did you have any concerns about the validity of the –

MR. S. MARSHALL: Data?

MS. MUZYCHKA: – conclusions and the data that you had –

MR. S. MARSHALL: No, I had no reason but to think that it was good data.

MS. MUZYCHKA: Okay.

When Paul Harrington testified about the report, and when that came to his knowledge – and we understood that he learned of it in 2013, shortly after it had been prepared and –

MR. S. MARSHALL: Yeah. I was unaware of that until I heard it – a report coming back from the Commission.

MS. MUZYCHKA: Yes. And so – and he had refused to take it because he thought that there –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – was no new information in that. But I think the difference between the reports may have been that SNC had actually put numbers on the risk contingency for the various risks that they had identified, in contrast to the risk report that Nalcor had commissioned through Westney that didn't necessarily have the numbers there for the various risks.

Do you find it unusual that someone in Mr. Harrington's position would have refused to review a –?

MR. S. MARSHALL: I find the whole thing unusual.

MS. MUZYCHKA: – I won't say independent report, but another risk report a year after the first one was prepared and, you know, information –?

MR. S. MARSHALL: I find the whole thing unusual. I mean, if someone comes to me with some information, I want to hear it and use it. And so the whole thing is unusual.

MS. MUZYCHKA: Did you ever have any discussions with Jason Kean or Paul Harrington about the SNC report, or was it just between yourself –

MR. S. MARSHALL: No, I think –

MS. MUZYCHKA: – and Gil?

MR. S. MARSHALL: I think – like I said, I did – the only one I raised with it directly was Gilbert and I presume that Gilbert must, at some point, given it to Paul. And I think Paul, at some time, did indicate to me that the SNC-Lavalin report – because it became public in 2017 anyway. And it may have been in 2017 that Paul said, yeah, there's no new risks there, just confirming what Gilbert had told me.

MS. MUZYCHKA: Okay.

We turn to tab 18, which is P-01847. This is the analysis that Mr. Harrington had hired Westney to do. I think it's book 2.

MR. S. MARSHALL: I have it.

MS. MUZYCHKA: Yes. You're familiar with that document, are you?

MR. S. MARSHALL: Yes, I am.

MS. MUZYCHKA: Okay.

And this is a PowerPoint titled: "An Analysis of SNC-Lavalin's Risk Assessment Report" and it's dated December 2017. Did you know that Paul Harrington had engaged Westney to do this report as a follow-up?

MR. S. MARSHALL: No, but I expect them – these folks on the project to go out and, you know, get assessments done periodically anyway.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: So I would not have been aware at the time that they commissioned it, but that's not surprising.

MS. MUZYCHKA: Right.

And were you surprised by the conclusions, that essentially no new risks had been identified and –?

MR. S. MARSHALL: That's what was told to me when I – back in '16, so I wasn't surprised.

MS. MUZYCHKA: Okay.

And we talked a little bit about Jason Kean's involvement in that on Friday when you were testifying. But Mr. Kean testified that Mr. Harrington had asked him to do some work to look at the risks in the SNC report and compare them with whether they were the same as the key risks that had been identified in the Nalcor reports from the DG3 QRA assessment.

At that time, of course, we know Mr. Kean had left Nalcor and was doing limited scopes of work, and I know you did touch on it on Friday when you were talking about the relationship with Mr. Kean after he left. But I just wanted to ask you again, in terms of knowing the amount of time and involvement that Mr. Kean had with the development of the DG3 QRA and having him come back, you know, six, seven years later to provide assistance to another organization, to comment on the risks in another report – competing report, we'll say – you had indicated that it was a conflict of interest.

MR. S. MARSHALL: Yeah, I think you said years. I think it's maybe five or six months later.

MS. MUZYCHKA: Five or six.

MR. S. MARSHALL: Months later Jason Kean came back to work at Nalcor.

MS. MUZYCHKA: Oh, yes. No, but I was meaning in terms of he was coming back to review a report that he prepared or he'd been involved in the preparation of in 2012.

MR. S. MARSHALL: Yeah, I can't remember the circumstances. I can remember that, you know, the time, the actual time. I know that it was John MacIsaac who made me aware that Jason had been involved in some report. I couldn't say right now it was this report, but there's some report that comes from Westney that Jason had worked on.

It wasn't – I wasn't aware of the amount of time or effort had gone into it by Jason, but I just, on principle, thought that he should not be involved in a report that we were relying on as being independent. And that's when I called in Gilbert and it was Gilbert, myself and John agreeing that this was not to happen again.

That I made it clear – yeah, for factual information because of the record, we'd probably have to go to Jason and say, well, what happened. It's a fact in some instances. I got no problem with that, but in terms of when I was looking for independent advice, for it to be independent, it – you couldn't have people involved in it who had problems with the management team, you know. And it could have been this report, I can't say for sure.

MS. MUZYCHKA: Right. No, okay.

Do you present this Westney report to the public – or, sorry, not to the public, to the board or to government, or was that kept as an internal Nalcor document?

MR. S. MARSHALL: I think the actual report was done internal but it went into preparing the updates that we give to the board and to the government.

MS. MUZYCHKA: Would it have been released to the public?

MR. S. MARSHALL: I don't think so.

MS. MUZYCHKA: Is it something that you would ordinarily release or …?

MR. S. MARSHALL: No.

MS. MUZYCHKA: No. Okay.

MR. S. MARSHALL: Like I say, this is the information that you use to develop your presentation.

MS. MUZYCHKA: There had been an email exchange, if we go to tab 3 of your book, P-03367.

And this is an email from – an internal EY email from David Steele to Paul Hickey regarding a meeting with the Premier and this goes back to April of 2016. And if we look at the middle of the page – just keep going, please – right there – where the Premier discussed his current thinking regarding a communication strategy and next steps, he says: "At first he indicated to us that he would almost take Westney's results as final for public release. We cautioned (based on influence by Nalcor and general history) that EY should review this."

This, I don't know, perhaps suggests a concern being raised by Westney's independence and reliability given the close relationship and influence by Nalcor – or at least the project management team.

MR. S. MARSHALL: Course, this is before my time, but, I had no problem with relying on Westney –

MS. MUZYCHKA: No.

MR. S. MARSHALL: – I mean, they're a very reputable firm, expertise in risk (inaudible) – no hesitation. I'd use them today.

MS. MUZYCHKA: Okay.

So you're not concerned that there was any influence or –

MR. S. MARSHALL: No. The only thing was, you know, Jason's involved in that at one point in time, so …

MS. MUZYCHKA: Okay.

And the project team continues to engage Westney in terms of assisting with the QRAs?

MR. S. MARSHALL: Yeah, and actually, towards the end, you know, this kind of analysis is less and less useful.

MS. MUZYCHKA: Right – I guess as you get closer to the end of the project.

MR. S. MARSHALL: Yeah, these types of analysis are good when you have a lot of variables, like I was saying at the beginning, but today they're hardly useful at all.

MS. MUZYCHKA: Okay.

Moving to Emera, we had seen a news release in April of 2016 – I had a reference in the binder, but it happens to be the wrong one, so I won't bring you to it.

But in that release, you're quoted as saying that the Emera deal looks very much to the benefit of Nova Scotia. Does it still look that way with you – for you?

MR. S. MARSHALL: Sure.

You have to remember – I shouldn't say remember, but it's clear, I think, when you look at it that this whole arrangement couldn't be done unless Nova Scotia was involved. The federal government wouldn't – probably not get involved with one jurisdiction. So Nova Scotia was instrumental in moving the federal loan guarantee forward. That's the first thing.

If you look at the essence of the deal where they get, you know, a block of power basically for 35 years without payment, directly, in order to build the line, the benefit to Newfoundland would be that, having the line there, you could export excess power beyond what you commit to Nova Scotia, and there might be a benefit of importing power. And we've seen that already.

So, it was a negotiated deal. But, in essence, Nova Scotia gets the power – the analogy I use is, you know, you're allowing your neighbour to take power from your house by bringing a cord and plugging it in. They're paying for it. You know, they're investing $1.5 billion in the Maritime Link. So – but they're getting a reasonable deal, especially compared to what the Newfoundland consumer is paying.

MS. MUZYCHKA: They're getting a better deal?

MR. S. MARSHALL: Absolutely.

But I don't fault Emera in any way. I mean, they negotiated at arm's length, and they got themselves a deal – a reasonable deal.

MS. MUZYCHKA: They pay upfront and they're getting the benefit of 20 per cent of the power for the next 35 years.

MR. S. MARSHALL: In essence, yes.

MS. MUZYCHKA: So it's almost like a lease-to-own situation –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – for Newfoundland.

MR. S. MARSHALL: And so when I came in 2016, part of the difficulty I had was: how do I convey all of this to the consumer? And that's when I got into that presentation talking about cents per kilowatt hour and this sort of thing. Because people don't understand billions of dollars, they don't understand terawatt hours, they don't understand megawatt hours. They do understand cents per kilowatt hour.

And so if you look at the 2013 presentation – the pie charts, for example, talk about cents per kilowatt hour – that was my attempt to translate all of this in terms of – the general public could understand. And it's still valid.

MS. MUZYCHKA: Okay.

Is it your belief that the value –

MR. S. MARSHALL: And there's one other aspect of it you should not forget, and that is also that Emera was allowed to invest in the LIL and basically earn our utility – rate of return on utility on the LIL line.

MS. MUZYCHKA: Right.

MR. S. MARSHALL: And that accounts for why the (inaudible) cost of the LIL seems to be higher than, say, for Muskrat Falls itself.

MS. MUZYCHKA: Okay.

Is it your belief that the value of exports through the Maritime Link have been overstated?

MR. S. MARSHALL: I wouldn't say overstated, but the assumptions used earlier on – you know, the energy prices would rise dramatically in the United States – proved to be incorrect. You know, energy prices in the US dropped. So the value of any exports are greatly diminished from what would've been projected back in 2000 – 2010, sort of thing.

MS. MUZYCHKA: Okay.

In your interview, you had given an analogy where you talked about how the consumers' paying, say 50 cents for the power, and you're trying to sell the rest for, say, 7 cents.

MR. S. MARSHALL: Right.

And this is why I termed the thing a boondoggle. What people don't understand, my reference to boondoggle was not about cost overruns, because even under the original projection, costs were gonna rise to – say if it was 11 cents to 15 per cent – 15 cents a kilowatt hour, the reduction of the load in Newfoundland, even without any cost overruns, would've been up to 17 cents a kilowatt hour because of drop in load. My reference of boondoggle was not so much the cost overrun, but the fact that you're building something that entailed great risks; it shouldn't have been built in the first place.

And so, the way I tried to demonstrate that, if you look at that – those charts back in 2016, I think I carried them on to 2017, the cost of main power at Muskrat Falls is around 7 cents a kilowatt hour, even with the cost overruns. So even with the cost overruns, the cost of generation at Muskrat Falls will be quite reasonable. And if someone were to say here today, we want to build a hydro plant and the cost will be 7 cents a kilowatt hour, you'd say wonderful, let's do it.

The difficulty becomes that you're not taking the power at the bust at Muskrat Falls. And, as I said on Friday, you're investing more money into transmission, and transmission doesn't generate a kilowatt hour. It consumes it in losses.

So, if everybody were paying the same rate on the bust at Muskrat Falls, they'd be paying roughly 7 cents a kilowatt hour. But because of the cost of – if you assume that the cost they're saying – that the cost of transmission is the same as generation – by the time that power got to Soldiers Pond, there's losses and whatnot. So, you're roughly at 15 cents a kilowatt hour.

So, everybody was paying – buying the power at Muskrat Falls and paying the same rate – we'd all be paying 15 cents a kilowatt hour. High, but, you know, you'd say okay – for the next 40 years. Okay. That's not bad either. We're paying that pretty well for power from Holyrood, for example.

So, that's fine. Then – but then the real problem kicks in – if you're – if Newfoundland consumer is only going to take one-third of the power and roughly one-third is going to Nova Scotia and not paying anything – the other one-third is being sold at a very low rate – you just say is – you're getting nothing for it – is a bit of exaggeration – not much. To multiply that 15 by 3 – so the Newfoundland consumer is paying 45 cents a kilowatt hour.

So, my reference to boondoggle is that this construct, which had led to this result, has led to an unreasonable result. And if there's one thing, you know, I've tried and failed to convey to people is that the Muskrat cost overrun is not the boondoggle. The boondoggle is that you took on an extraordinary risk to do this project, when the project was specifically bigger than the Newfoundland consumer required, and the risk turned against you, and you've ended up with a terrible result.

MS. MUZYCHKA: Okay.

And we're going to talk about other options in a moment, but I want to touch on the load forecast for a moment.

And if we turn to tab 27, it would be in book 2. It's P-04353.

MR. S. MARSHALL: I have it.

MS. MUZYCHKA: And if we look – this is an update presentation to the government that was done in June 22, 2016. If we go to page 11, we see the load forecast lines for sanction – for 2015 and then for May of 2016. So, if you look at the lines, it appears that the 2016 line is lower than the 2015 line and even lower from what was forecast at sanction.

I know this isn't something you created, but at a high level, can you explain why the load forecast decreased over –?

MR. S. MARSHALL: I think the principal driver was that the Vale Inco plant took only about half of what they were expected to take; that had a major impact. Then there was other economic drivers here but –

MS. MUZYCHKA: You think it's tied to Vale Inco.

MR. S. MARSHALL: I think a good part of it is Vale Inco.

MS. MUZYCHKA: And that would make that significant a difference?

MR. S. MARSHALL: Yeah, it would have a significant impact there.

MS. MUZYCHKA: Okay.

From your perspective, why is it still reasonable to assume that the Island load forecast will escalate continuously in the future?

MR. S. MARSHALL: Well, you know, this is the problem with long-term forecasts. First of all, it's guess work, right. I'm saying the long-term projections are – they're not useless because you have to use something as a baseline. But this is a risk you get into when you're trying to build big power plants and you're looking at the price of oil, say, for the next 40 years and demand for 40 years, which is why I say you're always better off if you use – to try to get something which gives you some flexibility to respond.

So – but you have to use something. And so you go out for a few years saying: We don't anticipate a few years of growth from what we see now, but at some point in time they will just grow with the normal growth in GDP. But, you know, you can't put much faith in those long-term projections, that's all.

MS. MUZYCHKA: I guess it's difficult to account for all of the unknowns (inaudible) –

MR. S. MARSHALL: The long-term forecast, what you tend to do is go out for four or five years and then you just – whatever the growth is you grow; GDP growth expected, and that's what you get in almost all of these things in Canada that, you know, whatever you're trying to do for the long term. You can't do much more than that. There's no reason that (inaudible) happened 10 years out is going to change your line. So that's why the slope of the line on the green line is the same as the blue line. All you're doing is putting in normal growth.

MS. MUZYCHKA: Okay.

Just going back to your point about Muskrat Falls being a boondoggle. So I guess that means, in essence, that it should never have been built.

MR. S. MARSHALL: Right.

MS. MUZYCHKA: Because it's – the concept of it and the theory behind the benefits, presumably, and so on weren't worth the costs associated with building it.

MR. S. MARSHALL: You're taking on extraordinary risks based upon very long-term projections and the order of magnitude of the risks are such that you're betting the welfare of the province. It's an extraordinary situation.

MS. MUZYCHKA: Right. And again, just talking about load forecast risks and trying to forecast out for X number of years, this particular project required you to forecast for 50 years.

MR. S. MARSHALL: Right, so there's no appreciation of this whatsoever.

MS. MUZYCHKA: Okay.

Having said that, and we have – obviously, the facility is being built – we've heard that Muskrat Falls does have some unique advantages. And I'd like to take you through some of them to get your response.

Is there an advantage to being tied into the North American grid?

MR. S. MARSHALL: Are you asking me if it's at the advantage of Muskrat Falls or the overall scheme?

MS. MUZYCHKA: Well, I guess, it's the overall scheme, the project itself.

MR. S. MARSHALL: There are advantages and disadvantages. Typically, tying together electrical systems is an advantage, because you can share reserves for example. Every system has to have so much capacity and reserve for peak loads and adjoining systems that may not necessarily have the same peak; also for reserve sharing in case of natural disasters.

Again, one jurisdiction may be hit by an ice storm and the other may not. So you can enter agreements to share those. So there are advantages of those, but also a bit of risk then, of course, that problems on somebody else's system could migrate over to your system.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: But overall, when you tie-in different systems it's always hard to justify it economically, but universally the experience is beneficial.

MS. MUZYCHKA: Right.

What about the argument that we were breaking the stranglehold of Quebec by building Muskrat Falls and the transmission –?

MR. S. MARSHALL: Well, I suppose you could've done that by negotiations. But, you know, Quebec has been difficult. There's no question about that. But my experience – and I've dealt with Hydro-Québec in a former life as well. For example, you know, we used to serve, or still do, I think, Cornwall, Ontario. It's not part of the Ontario system, it's taken off the Hydro-Québec line in the States. So the power going to Cornwall in the Fortis system is coming from Hydro-Québec.

Hydro-Québec people, in my view, my – you know, in dealing with them, they are some of the best utility people in the country. Certainly the best Crown corporation. They're tough to deal with but you can – but reasonable at the end of the day. Tough, but reasonable (inaudible).

So I don't fault the people – I mean, it's been a very difficult situation between Newfoundland and Quebec. And one of the things I've done since I came here in the Nalcor role is open up lines of communications. I mean, we talk to each other anyway because we share –

MS. MUZYCHKA: (Inaudible.)

MR. S. MARSHALL: – Churchill Falls, and it's – there's always good business to be done together. And so I've openly encouraged, you know, good negotiations with Quebec, the same way we have good communications with Emera. You know, it's normal business. You need to take the politics out of it if you can.

MS. MUZYCHKA: Yes, okay.

What about the Maritime Link? Does that give the province any negotiation advantage when it comes up to working things out post-2041?

MR. S. MARSHALL: Not really.

Look, one of the great advantages in 2041 with respect to what we're doing is that we're training a new generation of very capable, young Newfoundland engineers, and you're gonna need them going into 2041, and everybody knows that you're not going to wait until 2041 to resolve those things.

MS. MUZYCHKA: Right.

MR. S. MARSHALL: And our problem has been that we typically, you know, we haven't had people up to the quality of Hydro-Québec in terms of knowing the big picture.

MS. MUZYCHKA: Right, and that was gonna be my next point: What about the advantage of building the expertise in Newfoundland and Labrador?

MR. S. MARSHALL: It's tremendous, but – and that's my fear. You know, with all that is going on and the way that these people are treated, the appalling way they're portrayed in public, I mean they – it wasn't their fault they built – we built this project. They're charged with building it, and they're dedicated, take an awful lot of flack, but yet we're gonna rely on these people going forward, and they're as good as people that I've encountered anywhere.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: And it's a great benefit to all this project that people don't talk about it. That, you know, we will have people train in HVDC, we'll have people knowledgeable about the markets, we'll have people knowledgeable about dealing with Quebec in a very direct manner, and Emera.

You shouldn't understate the benefit of that.

MS. MUZYCHKA: Right, okay.

In your interview with Mr. Learmonth and Ms. O'Brien, you discussed what you believe would have been reasonable and more cost-effective alternatives to Muskrat Falls, specifically that you would have put money into gas turbines, expanding Bay d'Espoir or other small hydro in anticipation of 2041. Also, wind may have been another option.

Can you take us through that alternative or other alternatives that you think would have been better?

MR. S. MARSHALL: Well, I think you need to frame this properly. You know, what are your constraints here?

Holyrood is old and needed to be replaced. You got 500 megawatts, the book value is very low today, so replacing it by any 500-megawatt alternative is gonna be – have a major impact on rates. You're gonna have to spend, you know, $2 or $3 billion to do that in any scenario. That's the way the utility business works. When you have to replace a major piece of equipment, it usually drives rates.

Then you know that in 2041 you're going to have a lot of energy available. You might want to consider, say, building a transmission line starting 10 years in advance of that. We know it takes time, but that's an option that's there. You'll say, okay, how do I bridge this? You know, you don't want to be tying yourself into things which go to 50 years.

So and then you'll say if you were to have that line, what would be valuable when the line comes in? Certainly additional capacity on the Avalon, additional capacity, say, at Bay d'Espoir. And the alternative – so you need capacity to replace Holyrood, you need the, you know, 500 megawatts. Holyrood only operates one third at a time, it's peaking, for the most part, and reliable. So you need about 1.5 terawatt hours of energy. If you expand Bay d'Espoir, you're not gonna get additional energy 'cause it – don't spill water there.

You could get energy from wind. Wind has evolved as a technology, so it's reasonably cheap in terms of energy, five, seven cents a kilowatt hour. Windmills, typically, they amortize them over 20 years. So it ties naturally into, you know, a line to Labrador. So you have wind here for 20-odd years. When it's at the end of its useful life, then you've got something else happening.

So it's – and you probably need some additional gas turbines on the Avalon. Of course, Nalcor installed a 125- megawatt turbine at Holyrood there a few years ago at blackout Newfoundland and Labrador anyway. So you got that turbine there now.

So it's hard to say what you would've done. My experience – the way I operate is, when something happens, I go to the – you know, all the planning people, the engineering people, you know, and I'll say, what do you think is the best? Then I'll say, well, here's what I think is the best, would you test it for me? So I would test – and maybe it's not – but I would've tested a scenario where you put in, say, 150 megawatts at Bay d'Espoir – there's a pad there for it really, already. It was contemplated, so you don't need to put in additional dams or anything, 'cause it's pretty expensive; that'll probably cost you a half a billion dollars.

Probably put in, I would've probably put in three or four – 300 megawatts, say, of gas turbines at Holyrood. You already have 125 there now.

And then let's go out get some quotes on wind and have the engineers determine, you know, where to locate the windmills for, you know, the best diversity and tie into the system for most reliable – and I suspect that would've worked. I would think would've worked for a lot cheaper.

MS. MUZYCHKA: What about the cost then? What would the difference have been between, say Muskrat Falls and –?

MR. S. MARSHALL: Well, again, I apply rules of thumb. You know, you're not going to replace the Holyrood for less – well, you got 500 megawatts to replace. You're not going to replace that for – if you had to do it all yourself, for less than, say around $2 billion, yeah. Right? But in wind location, you may not have to invest in; you could've just have private sector do it and bought the power. It was gonna drive rates but not anywhere close. But what you're doing is you're – first of all, you're not investing a lot of transmission like you are with this, you know, project, and you're sizing it to meet your needs.

MS. MUZYCHKA: Right.

MR. S. MARSHALL: And that's where the advantage – even if it costs a few pennies more than your best scenario for the Muskrat Falls Project, the risk is a lot lower. So, even if you – you know, you never end up with the effective, you know, 45 cents a kilowatt hour rate at Soldiers Pond.

MS. MUZYCHKA: Right.

So, I guess, that's where – coming back again to your boondoggle example, is that the alternative –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – was simply not the right one, having regard for all the circumstances.

MR. S. MARSHALL: Right, and I think if you were utility-driven, that's where you'd end up in that combination. I know they looked at some wind combinations, they looked at, you know, some turbine combinations. I didn't see any scenario where they looked at Bay d'Espoir or, you know, say Cat Arm, but I'm assuming someone did at some point in time.

But that would be your – if you're approaching from a utility perspective but – again, going back to who was driving this? Who was driving the bus here? Was it the government trying to make a public policy decision to develop the Lower Churchill? Which they have the right to do, I mean, you elect governments to make public policy decisions. If they come out and said we wanna develop the Lower Churchill, it's going to be difficult but I want Newfoundlanders to bear it, and you drive on. Or, is this a utility thing where you're trying to do what – just focusing on the benefit to your customers and the cost to your customers, and trying to do it from a utility perspective.

They're two different things. I mean, they're both legitimate, but they could lead to different results. I think they would lead to different results.

MS. MUZYCHKA: Right.

So I guess then, the decision to build it, in the circumstances, maybe probably seen as a policy decision on the part of the government.

MR. S. MARSHALL: It would have to have been. I mean, you can't bet the future of the province without being the government making a public policy decision. So it had to be a public policy decision. The question in my mind was, you know, the government probably relied on Nalcor and what advice were they getting in that process. Being the vehicle of the government, Nalcor had the responsibility to give its best advice, but at this point in time, it was not being led by utility people; it's led by other people from the large energy sector.

MS. MUZYCHKA: Right. And I guess that influenced and informed their advice to the government.

MR. S. MARSHALL: Yeah, so what happened there, I don't know, but you can see how that would be a recipe for a problem.

MS. MUZYCHKA: Okay.

Do you believe that the public policy decision to build Muskrat Falls was borne out of the 2007 Energy Plan?

MR. S. MARSHALL: Well, it seemed to be talked about. Now, don't forget, again, you know, I wasn't involved in this but just the whole talk of –

MS. MUZYCHKA: As an outside observer.

MR. S. MARSHALL: – the early talk had been developing Gull Island. And here's another recipe for disaster: you're looking at one project, you're developing Gull Island, and then on short notice, you change from that project to another project. And you've heard evidence from, you know, experts to say that, you know, the way that – to avoid disaster is to put it into the planning.

So when you move quickly from one project to the next, you have to be careful that you, you know, that you haven't spent time studying that specific project.

MS. MUZYCHKA: Okay. Just a few more questions.

We heard this indicated from Cathy Bennett a few weeks ago – and she testified that the province should avoid anymore direct involvement in major projects unless some serious institutional changes are made at Nalcor and inside government. Do you share that same thought?

MR. S. MARSHALL: No, I do not.

MS. MUZYCHKA: No?

MR. S. MARSHALL: I think that this province's – province has to go forward, it has to build the expertise to address that. Even if you just deal with 2041, you have to get the expertise to deal with that. So, I'm not suggesting you rush out today and develop Gull Island but at some point, you will, to maximize your value, develop the province. But you have to deal with 2041 and we bloody well better get better qualified people. And your – whether you call it Nalcor, this province needs a Nalcor desperately.

MS. MUZYCHKA: How so?

MR. S. MARSHALL: You need an organization controlled by the province, that has this core expertise. I mean, these types of projects are not going to be done by the private sector anymore, you know. It has to be done by the province in conjunction with other governments. You – you're going to deal with Hydro-Québec, which is a Crown corporation, very knowledgeable and you have to be as equally as competent. Otherwise, we're going to end up with a province in a desperate – straights again.

MS. MUZYCHKA: Okay.

When Mr. Martin left the project or the corporation in 2016, he felt – or he gave statements that he felt that the project could be done for $8.8 billion and can't understand why we're at 10.1. Do you have any comment?

MR. S. MARSHALL: Sorry, who (inaudible)?

MS. MUZYCHKA: Mr. Martin –

MR. S. MARSHALL: Yeah.

MS. MUZYCHKA: – when he left – and in response to the numbers that were coming out through yourself said that when he left, he thought that the project could have been completed for $8.8 billion and was puzzled by where the 10.1 came from. So I'd like your comment on –

MR. S. MARSHALL: I'm puzzled by his statements, particularly, as I said, in June of

2016 what the numbers were – best as I could indicate, and I had to increase them slightly beyond that because of (inaudible) reasons we outlined earlier.

MS. MUZYCHKA: Yes. So you –

MR. S. MARSHALL: Not possible.

MS. MUZYCHKA: Not possible?

MR. S. MARSHALL: No.

MS. MUZYCHKA: So, to what would you attribute his thoughts that it would be at 8.8? Is it lack of sufficient knowledge of the finances or optimism, or do you have –?

MR. S. MARSHALL: I can't speak for Mr. Martin.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: Like, Mr. Martin's qualifications are known to all. I don't think he lied about this qualifications, so – people have to judge whether he's the right person for the job.

MS. MUZYCHKA: Okay.

Just wanted to go back to your comment about the problem with this project is not so much the cost overrun, but the ultimate cost of the electricity per kilowatt hour to the consumer. Somewhat, they would both be tied, however, because the cost associated with constructing the project is going to be passed on –

MR. S. MARSHALL: Right.

MS. MUZYCHKA: – to the consumer.

MR. S. MARSHALL: The cost overruns didn't help. This is quite clear.

MS. MUZYCHKA: Right.

MR. S. MARSHALL: But in terms of cents per – if you look at, say, going between 2016 to 2017, the cost to customer hasn't changed very much even despite (inaudible) change – because, you know, we're able to get the federal loan guarantee at a lower rate. So, cost overrun didn't help, but the big factor – I think it's quite clear that the estimates were low – original estimate alone. It was never going to be built anywhere close to the original estimate.

MS. MUZYCHKA: So, you would say that's a major factor as to why there are cost overruns?

MR. S. MARSHALL: Absolutely. Quite clearly in my mind, no question, the biggest factor is the estimates were low.

MS. MUZYCHKA: And to what extent –?

MR. S. MARSHALL: And to the degree, for example, that Astaldi made mistakes, well, we're already hearing that they incurred a loss, so, in fact, they've paid for their mistakes. And I'm on record as saying that, you know, if you had to go and develop this project again today, with everybody with perfect knowledge, you probably couldn't build it for any cheaper than it's being built now.

MS. MUZYCHKA: Okay. So, it was a question of misunderstanding or not appreciating the cost associated with –?

MR. S. MARSHALL: The estimates were low. The risks were not recognized properly. If – anytime you build something that's three times bigger than your needs, you're speculating. You're not – I should say, you're taking a big risk.

If you build a house three times the size that you need, and you plan to rent out the later two-thirds, and then you can't rent it out. You know, it's no difference. If you build something suitable to your needs, the risk is low. When you build something beyond your needs, you're incurring a great risk that – you can mitigate. I mean, you could've gone out to Emera and negotiated for the power at the same rate you're paying, or somebody else, you could – there are ways of mitigating this –

MS. MUZYCHKA: Mm-hmm.

MR. S. MARSHALL: – but it was not done.

MS. MUZYCHKA: So, would you say that the cause of the overruns and the delays are a combination of multiple factors from multiple parties?

MR. S. MARSHALL: Correct. You know, you try to piece – once you – the estimates were way low in the execution of the work, the mistakes and delays, which culminated in extra costs.

MS. MUZYCHKA: Okay.

Just wanna touch, lastly, on the lack of support for Muskrat Falls and the impact on the individuals and Nalcor with respect to that. You started to allude to that earlier in terms of the public perception and, I mean, we've heard Brendan Paddick last week telling us we should all put on a Nalcor jersey. Your thoughts on …?

MR. S. MARSHALL: I understand, you know, the reaction of the public. I understand the process of – I mean, one of the first speeches I gave in – I think it was in November of 2016, when I was the interim speaker for the association of electrical engineers – outlined the six stages of a megaproject – and this was 2016 – and it's unfolding just as predicted. You know, they had – you've got – always start – they had big projects start off with wild 'exuberation.' Then desolation sets in, then panic, then the hunt for the guilty, blaming the innocent and the adoration of the uninvolved. Happens every time.

So we're just following a normal course here for these big projects.

You know, the people out there – don't forget, the vast majority of people in Newfoundland supported this. And so when things started to turn bad, as the inevitably will in something this size – problems – you know, it becomes, well, I was misled; I got to blame somebody.

In fact, we're all to blame, aren't we? You're all to blame.

But the people at Nalcor are – many of them – the vast majority of them – are just people doing an assigned task. They weren't involved in the initial decision. They were asked to do a job, which they're doing honestly and to the best of their ability, and you're gonna need their skills, rely on their skills.

And it's terrible to brand everybody. Yes, some people have to assume responsibility here. Absolutely. On the political level and the Nalcor level – they have to assume responsibility. We all have a role to play. But we also recognize that, you know, there's a lot of people – the vast majority of people in Nalcor are just doing their – a good job for them.

MS. MUZYCHKA: Okay.

Do you believe that the lack of public support, as we've seen now, and the low morale at Nalcor has contributed to losses of Nalcor staff and contractors?

MR. S. MARSHALL: Oh, absolutely. You know, it's been – I've spent hours talking to people, just trying to get them off the floor. I mean, the vast majority of people are not used to a forum like this. They're not lawyers. I mean, most are used to working their day jobs, doing it honestly. To appear in a forum like this is very traumatic to them and especially if you put it in the context of all the criticism publicly. And some people just – the stress is beyond belief. And some people – well, you've seen some people, you know, have left the project. They appear as witnesses here and just decide – yeah – they need to move on.

But the morale along with some key people –

MS. MUZYCHKA: To your knowledge –

MR. S. MARSHALL: But – you know, but – so you do what you can.

MS. MUZYCHKA: Mm-hmm.

MR. S. MARSHALL: You know, but it is difficult.

MS. MUZYCHKA: To your knowledge, as part of trying to retain key Nalcor people, have there been completion bonuses or retention bonuses paid?

MR. S. MARSHALL: We haven't at this point in time. But I have no –

MR. COFFEY: Commissioner. Could I – Bernard Coffey – could I just ask that Ms. Muzychka speak up? It's very difficult at times to hear her – very difficult.

THE COMMISSIONER: Okay.

MS. MUZYCHKA: Sorry.

MR. COFFEY: Thank you.

MR. S. MARSHALL: Is that for me? Okay.

THE COMMISSIONER: Just maybe repeat the question.

MS. MUZYCHKA: Okay. My question was, as part of the low morale – and you had indicated that there had been losses of key individuals working on the project – is it part of retaining key Nalcor people – is it being considered whether – or has it been paid – any retention or completion bonuses?

MR. S. MARSHALL: It hasn't been paid to date. It's something I'm looking at, and I have no hesitation in doing it whatsoever. If I needed three or four – not three or four – if I need a number of key people in the final stages – to keep them there – I mean, that will benefit the project tremendously – I would have no hesitation in paying it.

MS. MUZYCHKA: Okay.

MR. S. MARSHALL: And this is normal in a situation like this.

MS. MUZYCHKA: All right.

And lastly, what do you believe needs to happen to recover morale and, perhaps more fundamentally, public support for the project?

MR. S. MARSHALL: Time. Time heals a lot of wounds. I don't think we should have unrealistic expectations. We should – and I – that's what I was saying to our workers – you know, keep your head down; do your job. If you do what I've asked you to do – to finish strong – that'll be our best defence.

MS. MUZYCHKA: Okay. That's all my questions.

MR. S. MARSHALL: Thank you.

THE COMMISSIONER: All right. I think we'll take our break here now and then, I think, Mr. Collins has some questions, and so we'll take 10 minutes here now.

CLERK: All rise.

Recess

CLERK: All rise.

Please be seated.

THE COMMISSIONER: All right.

Mr. Collins.

MR. COLLINS: Mr. Marshall, is the Labrador-Island Link reliable enough to support peak winter loads on the Island?

MR. S. MARSHALL: How reliable is reliable? That's the question.

I mean, let me put it this way: you're looking at the existing normal capacity, the – if not – if you lose the LIL on the coldest day in winter, you're gonna be short capacity as it now stands. There are constraints – if you don't have enough capacity on the Avalon, you can bring power in from Bay d'Espoir, we've upgraded the line from there, and you may be able to source 300 megawatts from the Maritimes. If you could get that in from Maritimes, you'd probably get through, you know. You're talking about a short period of time. The constraints on the transmission at that level, we're looking at how you can – might resolve those.

I mean, what you do in a normal situation of loading a line and what you do in an emergency are two different things. So you might be able to make some changes in – for short periods, in an emergency, to bring it in.

But, no, there's no question about – if you were to lose that line on the coldest day in winter, you have problems.

MR. COLLINS: So, if we go to P-03658, which is volume 2, tab 23.

MR. S. MARSHALL: Tab 2?

THE COMMISSIONER: Tab 23.

MR. COLLINS: Tab 23.

MR. S. MARSHALL: Twenty-three.

MR. COLLINS: This is a filing Newfoundland and Labrador Hydro made to the Public Utilities Board in the fall, and if we go to page 300, you were talking about the coldest day of winter. We have a –

THE COMMISSIONER: Can we get that up on the screen?

MR. COLLINS: – in the middle of the (inaudible) page here we have a graph showing what happens on the coldest day of winter, if the line goes down.

As I understand this graph – and you can correct me, Mr. Marshall – the black line on top shows the electrical load for the day, how it fluctuates with peaks in the morning and the evening. The blue line, around 1,200 megawatts, shows – that's the amount of power the system is able to generate without the LIL, and also able to ship to the Avalon Peninsula.

The striped area, blue and red stripes, represents another 200 megawatts that we're able to generate on the West Coast where we don't have enough transmission facilities to get to the Avalon.

And the red, you can see in the peak hours, there's some load that we can neither generate nor transmit.

Is that a good picture of what would happen on the coldest day of winter?

MR. S. MARSHALL: That seems to be. I'm not sure what the assumptions are on this line, in this graph. Is this assuming that – no, that's fine, just going back to your question. That's generally what – you've described it correctly.

MR. COLLINS: Yeah, and so, there's a bit of a generation shortfall and there's also a transmission shortfall, and both of those things play into the possibility that we'll have blackouts.

If we go to the bottom of the next page, which is page 301, we see a graph of what would happen over a three-week interval without the Labrador-Island Link, starting on the peak day, and what you can see is that, even a couple of weeks after the peak, the much smaller fraction of the load that we're dropping.

So, even on the peak day, the Island system is capable of meeting most of the load but not all of it. So they get blackouts, particularly on the Avalon Peninsula. Is that right?

MR. S. MARSHALL: That seems to be what the graphic is conveying.

MR. COLLINS: And the risk is focused on the coldest days of the year in January and February, and outside of that period, the blackouts have been much less.

MR. S. MARSHALL: That's correct.

MR. COLLINS: And similarly, in spring, summer or fall, probably there'd be no blackouts at all?

MR. S. MARSHALL: That's correct.

MR. COLLINS: A failure – is it fair to say a failure is most likely to happen during the most serious weather period in January and February?

MR. S. MARSHALL: No, that's not true. I think the – in terms of exposure of transmission lines, the most likely cause of failure is sleet and high winds – combined with high winds. So, sleet is more prevalent in the spring.

MR. COLLINS: Okay.

MR. S. MARSHALL: So you'd probably – you know, if you look at – it varies, of course, where you are in the province. But, end of March month, it would be bad, and April, sort of thing. Typically that doesn't happen on a very – on a very cold day, you're not gonna get sleet, are you? At least, where the load is. It could get sleety on the west coast. The trouble is, you know, you're looking at, you know, 1,500 kilometres of line – 1,100 from Muskrat. The conditions could vary.

MR. COLLINS: Absolutely.

MR. S. MARSHALL: But if the big load on the Avalon – if you get a real cold day here, you're not gonna have sleet or anywhere close to it on the line, I don't think. So chances are that it would not occur on the coldest day. I would say it's even improbable, actually.

MR. COLLINS: Yeah.

There are a couple of assumptions underlying these graphs I think are worth highlighting.

MR. S. MARSHALL: And that's what I was going to ask you earlier.

MR. COLLINS: Absolutely.

So one, as I understand it, these graphs assume P50 weather. So, they assume a typical coldest day of the year as opposed to the coldest day you might see in five years. Is that –?

MR. S. MARSHALL: If you say so. I have no problems (inaudible).

MR. COLLINS: We can check it (inaudible).

MR. S. MARSHALL: Sure.

MR. COLLINS: Another one, as I understand it, is that these graphs assume that all other generation and transmission remains online.

MR. S. MARSHALL: Okay.

I assume that's the kind of stuff you're doing. If you're trying to look at, you know, loss of load probabilities, that's what you're doing, yes.

MR. COLLINS: But, of course, a storm sufficient to knock out the LIL could knock out other facilities.

MR. S. MARSHALL: And most likely would knock out the – your customers, as well. So the customers are not there to serve. And that's what, you know, people say generally that, yes, there's a loss – chance of losing the line. But, if you're going to lose this line for sleet, chances are that a lot of your customers will be out, as well. It's like, if you go back to the storms they had in Québec, for example, a number of years ago, transmission lines went down, but a lot of the distribution lines and lower voltage transmission had went down, as well.

MR. COLLINS: There's a number of factors that go into how bad it could be if the LIL went out.

MR. S. MARSHALL: Right. And so, you know, this is why, you know, the PUB had looked at these studies and we're dong these studies, and sharing them with liberty. And looking at how you might mitigate what you see here. You know, like I say, we're looking at, for example, a lot of these things we would assume – you know, using the normal capacity of the lines. I can remember sleet storms where we intentionally overheated the lines to melt the ice.

So, you know, you can change this thing beyond the normal operation in emergencies. You know, emergency criteria would not necessarily be the same as your normal criteria.

MR. COLLINS: How long would it take to repair the Labrador-Island Link if it failed?

MR. S. MARSHALL: It really depends on the extent of the damage. But, you know, this thing was designed very robustly – you know, one to 500 years, 150 years, depending on where you are. Primarily, it's the spacing of the towers and whatnot. So, it is very robust if the – if you looked at what if you lose one tower or two towers, for example, we – there's always spare parts for these things.

And you looked at, you know, what would be the most expeditious way of doing it. If you couldn't go out and put up a tower, we'd just stick up wooden poles temporarily. You can do that, and they've practiced that. So there's measures you can take, and there's measures that they are taking. You can mitigate those graphs, for example, in a big – power in from Nova Scotia – you know, extra loading on the transmission lines.

And, you know, at the end of the day, how reliable of a system you want depends on how much you're prepared to pay.

Don't forget, if you hadn't had a major fire out to Holyrood, the same thing would've happened. If Holyrood were knocked out, you'd have blackouts. And that's not impossible. You have a major explosion at several plants, it would put the whole thing out or the lines would come down.

We – I mean we have had blackouts on the Avalon. I can remember them quite well. And, you know, we'd have some big storms. So, you know, yes, these things could happen. Yes, they're being studied. Yes, there's more things you can do. And, as results of the studies and the inquiries and the intervention of the PUB, maybe more things will be done.

MR. COLLINS: Who will ultimately decide whether the existing – whether the LIL is reliable enough or whether additional facilities are needed?

MR. S. MARSHALL: Well, if it's in a regulatory sphere, it's the regulator.

MR. COLLINS: So the Public Utilities Board.

MR. S. MARSHALL: Right. And they'd have to contact to say, oh well – saying here, you know, the transmission lines are not regulated. So, but, you know, they will extend to there.

I think that the important thing is that we all recognize the factors involved, and if we decided as a society and want more reliability and you're prepared to pay the costs, then you build it. The trouble we're facing is that, at this point in time, I think there's a general recognition that the consumer can't pay the existing costs. So, if we're going to layer on more work, then we have to pay more, and the consumer can't pay it, and it's going to gravitate to have the government to pay. So, you're going to pay, the taxpayer.

MR. COLLINS: And so, the Public Utilities Board could look at the risks and conclude – and the cost of mitigating them, and decide that a little bit of unreliability is okay.

MR. S. MARSHALL: We've accepted it for – up 'til now.

MR. COLLINS: If they decided that more reliability was necessary, what kind of measures could produce that reliability.

MR. S. MARSHALL: The quickest would be to put another turbine in out to Holyrood.

MR. COLLINS: So, additional generation.

MR. S. MARSHALL: Right, just because, you know, peaking – you don't put in a base load, you put in a peaking unit.

MR. COLLINS: And, would you need enough – to increase the reliability significantly, would you need enough generation to fully replace the Labrador-Island Link, or would you only need a little bit to soften out some of those peaks?

MR. S. MARSHALL: No. You could weigh your graphs there; you need to shake up the differential. Which one would you have, right?

MR. COLLINS: And, what about additional transmission? Because, you do see in these graphs –

MR. S. MARSHALL: Again, there's alternatives. I mean, if you put your gas turbine in at Holyrood, you wouldn't need the transmission.

MR. COLLINS: My understanding here is that there's about 200 – 218 megawatts of generating capacity we have on the West Coast that we can't transmit. A 50 megawatt combustion turbo doesn't replace 218 megawatts of –

MR. S. MARSHALL: I think, if you're looking at it, to put in a turbine, you're probably gonna put in another unit like you got out there, 125 megawatts.

MR. COLLINS: I see.

MR. S. MARSHALL: That's my, sort of, starting point.

MR. COLLINS: A bigger turbine? Do you know what the cost of that would be approximately?

MR. S. MARSHALL: Probably $2 million a megawatt.

MR. COLLINS: Actually –

MR. S. MARSHALL: (Inaudible.)

MR. COLLINS: – it's 250 total.

MR. S. MARSHALL: Yeah.

MR. COLLINS: What about CDM? Could you have CDM as an alternative to increase reliability?

MR. S. MARSHALL: CDM being?

MR. COLLINS: Paying industrial customers not to use power.

MR. S. MARSHALL: That's done. That's done. We have interruptible customers.

MR. COLLINS: And so you could – those kinds of agreements – are those kinds of agreements common –

MR. S. MARSHALL: Yes.

MR. COLLINS: – to deal with emergencies? Yeah.

Do you have a – at the moment the Public Utilities Board is looking into post-Muskrat Falls rates and what ought to be done about them, do you know – the rates they're considering, do they assume Holyrood closes down?

MR. S. MARSHALL: Yes.

MR. COLLINS: And do they assume that – do they assume any additional backup generation or transmission upgrades?

MR. S. MARSHALL: Not at this point that I'm aware of.

MR. COLLINS: And so, if the Public Utilities Board were to decide that some mitigation – some increased reliability is necessary, there'd be an additional cost associated with that –

MR. S. MARSHALL: That's right.

MR. COLLINS: – over and above what's currently being considered.

MR. S. MARSHALL: That's correct.

MR. COLLINS: And do you know who would bear that cost?

MR. S. MARSHALL: I think I've already indicated that, you know, the consumer – we're saying the consumer can't pay the existing rate; it'd have to be the taxpayer.

The one thing I'll point out is that, you know, like, while we – if we look at the existing Holyrood plant, the assumption that – right now, is that it closes down in 2021. So, if you were concerned about reliability, you might want to wait. Rather than invest, you know, hundreds of millions of dollars in another facility, the cheapest thing to do, in the short-term, with the most flexibility – and I'm – which I've been preaching earlier on – it's just make – leave it operational for a few years.

I mean, in a – in PEI, for example, we had the experience of – you know, there was a cable going across New Brunswick. They kept an old thermal plant running there for, it must be, 20-odd years – the different stages of standby.

So, if you're just saying – just leaving it up to me – what I would do if – I'd leave it. If you don't have to make the decision now to carry on with Holyrood – and, like I say, it's always the best thing to do, if you don't have to make the decision today, if you've got flexibility to defer it, defer it. You'll know more in 2021 than you know today. I mean, we've gone through two winters and those towers held up quite well in record winds. Who say – okay – when 2021 rolls around, all parties would agree whether you want to keep Holyrood running another year.

There, you're just talking millions rather than hundreds of millions. I mean, it won't be a long term solution; eventually, you're going to have to shut the plant down. But, you know, that's how I'd deal with the uncertainty. Don't go making decisions now that you don't have to make. Because – a lot of other things can change. It may be, for example, if Corner Brook were to shut down, you'd have more energy in capacity available to you. Maybe Vale Inco shuts down.

So, the things will happen. If you can just keep your options open, you're much better off. This option won't be the least cost in my view.

MR. COLLINS: I want to ask you another question about this particular document, and it's coming from your comments earlier about what might have been done instead of Muskrat Falls.

So, when Nalcor was assessing its generation options at the Decision Gate 3, it included only three small-scale hydro projects as options – (inaudible) Island Pond, Round Pond and Portland Creek.

If we go to page 280 of this document, we see now Hydro is currently considering a much longer list of potential small-scale hydro projects. We have Exploits River. If we scroll down a bit, see – this is on the Exploits, but there's Red Indian Falls. If we scroll a little farther, Badger Chute. Keep scrolling. Star Lake Unit 2. And in addition, there are two units in existing facilities. There's Bay d'Espoir Unit 8 and Cat Arm Unit 3.

So do you know why these projects are now in the – are now being considered when they were screened out at Decision Gate 3?

MR. S. MARSHALL: So when was this – this document here is from when?

MR. COLLINS: November 2018.

MR. S. MARSHALL: Don't know why they're not considered (inaudible). There are – certainly when I came in, I had asked for those things but – some indication of the cost of them.

MR. COLLINS: Right.

These are projects that you were aware of –

MR. S. MARSHALL: Right.

MR. COLLINS: – that they were potential.

MR. S. MARSHALL: I don't think I've seen this particular document before.

MR. COLLINS: No, that's fair.

Do you know – you were saying if we built more small-scale hydro and more wind, that could've –

MR. S. MARSHALL: Yeah, I – like I said, I wasn't looking at small hydro. You know, you go through a lot of effort for a small return. My – Unit 8 at Bay d'Espoir, like I said, that was planned. So you don't need to do much in the way of infrastructure there. And you (inaudible) have somebody install it – the simplest, less environmental impact, probably the quickest. I think the cost is – last I saw – is higher than that. I think it's closer to 450, but still cheap.

Cat Arm, I think there's some transmission constraints out there. I asked about that one as well, but there is some additional energy from Cat Arm, I think, because they do spill it periodically. But to give you the capacity – and the energy would come from the wind.

MR. COLLINS: Yeah.

MR. S. MARSHALL: Right? So the windmills, you – like I say, you can't rely on them for capacity. On a windy day, you cut back on Bay d'Espoir and the water levels rise in the reservoir, so it's available to you when you want it. So that would be my starting point if I were looking at doing it without the LIL – without the Muskrat Falls. That's why – I know I need wind, I need – I know I need some capacity. You might – so there's a combination there, I think, which would work pretty effectively.

MR. COLLINS: Another thing we know, at Decision Gate 3, Nalcor did a fair bit of work on how much wind energy could be economically integrated into the Muskrat Falls – sorry, into the Isolated Island scenario. And one of the major inputs into that work was the existing hydro facilities and reservoirs. And the analysis showed that one of the major economic constraints on the amount of wind you could integrate was that if you put too much wind in, then in the summer, you can't store the water. You don't have enough – your reservoirs don't allow you to benefit from all the wind.

MR. S. MARSHALL: Mm-hmm.

MR. COLLINS: Is it possible that these additional units could've changed that analysis had they been reconsidered?

MR. S. MARSHALL: Oh, absolutely.

MR. COLLINS: Those are my questions.

THE COMMISSIONER: All right, thank you very much.

All right, Province of Newfoundland and Labrador.

MR. RALPH: Good morning, Mr. Marshall.

My name is Peter Ralph, and I represent the Government of Newfoundland and Labrador.

MR. S. MARSHALL: Good morning, Peter.

MR. RALPH: And the – my questions will, largely, be regarding the Oversight Committee and oversight in general.

And the first questions I have for you are with respect to the most recent project update, and that's at Exhibit 04414.

So, this report was released –

THE COMMISSIONER: That's at tab 35.

MR. S. MARSHALL: I have it.

MR. RALPH: So, that report was released last week. And I think you had expressed in your testimony some concern about the information that goes in those reports. Is that correct?

MR. S. MARSHALL: Concern about the disclosure of certain information.

MR. RALPH: Yes.

MR. S. MARSHALL: Not that it goes in the reports. I mean, the government –

MR. RALPH: Right.

MR. S. MARSHALL: – government (inaudible) –

MR. RALPH: You're concerned that commercially sensitive information gets in that report, and that increases cost to the project?

MR. S. MARSHALL: If that gets disclosed.

MR. RALPH: Yes. Correct.

MR. S. MARSHALL: Right. I have no problem it going in the report.

MR. RALPH: No, absolutely.

MR. S. MARSHALL: As long as (inaudible) –

MR. RALPH: I understand that.

But in this process, I understand that a draft of this document would go to Nalcor before it's released. Is that your understanding?

MR. S. MARSHALL: Yes.

MR. RALPH: And so Nalcor would have an opportunity to review it to say: Okay, hold on. You can't release that information. That's sensitive.

MR. S. MARSHALL: That's correct.

MR. RALPH: And there'd be a discussion – or ultimately be the government's decision, but there would be a discussion –

MR. S. MARSHALL: Correct.

MR. RALPH: – and an opportunity for Nalcor to say, please don't release that.

MR. S. MARSHALL: Right.

MR. RALPH: Now, as you can see, this document covers the period ending March 31, 2019. So that's the first quarter of this year, and it's not released until last week – was June 27, 2019.

But if we go to page 15, at the bottom there, there's a bullet, and it says: "On June 25, 2019 the Committee was advised by Power Supply that further schedule slippage of P&C bipole software delivery is anticipated. The Committee will report any changes to the schedule following review of project materials over the reporting period in preparation of the Committee's Q2, 2019 report."

And I understand you've testified and said that transmission, now, is on a critical path. Is that –

MR. S. MARSHALL: Yes.

MR. RALPH: – correct?

So I would've understood, I guess, initially the idea was that transmission would be done in advance of all the generation?

MR. S. MARSHALL: I think initially it was done almost concurrently.

MR. RALPH: Concurrently, okay.

MR. S. MARSHALL: Well, you know, allowing for a few months in advance, something like that.

MR. RALPH: But I guess the idea would be transmission would not be a limitation on generation.

MR. S. MARSHALL: Yes. When I came in 2016, it wasn't envisaged that transmission was going to be on the critical path.

MR. RALPH: I'm sorry, it was not? It was what?

MR. S. MARSHALL: It would not be on the critical path, that it would be done long before Muskrat came on stream.

MR. RALPH: Right. And so I understand the electricity that we're transmitting would be not only what's generated from Muskrat Falls, but what comes from Churchill Falls in terms of recall power?

MR. S. MARSHALL: At that time – well, actually, initially it wasn't really envisaged to take power from the Upper Churchill.

MR. RALPH: Yes.

MR. S. MARSHALL: Right? So …

MR. RALPH: But I guess you made changes –

MR. S. MARSHALL: Right.

MR. RALPH: – to the line and other equipment that made it possible –

MR. S. MARSHALL: Yes.

MR. RALPH: – to ship recall power through.

MR. S. MARSHALL: Yes, and we escalated the construction of the transmission line, because despite the fact that, you know, general consensus was that it wouldn't be on the critical path, I felt that it would be – there was a good possibility that it would be.

MR. RALPH: Yes.

MR. S. MARSHALL: And there was an opportunity to benefit from the line, so I gave instructions to escalate –

MR. RALPH: Right.

MR. S. MARSHALL: – the transmission line.

MR. RALPH: So I guess to be fair, if we – we shouldn't consider recall power in terms of the limitations that transmission has placed – placing on generation of power from Muskrat Falls?

MR. S. MARSHALL: Right.

MR. RALPH: But I guess we're in a situation now where there are going to be limitations in terms of transmitting electricity from Muskrat Falls to the Island because of problems with transmission.

MR. S. MARSHALL: I'm hopeful that it won't be. I think that, you know, there are delays in the thing, but as I said earlier, I think that we'll be okay through this winter. There will be delays. We might have to have more manual intervention, but I think we'll get a version of software that will allow us to operate during the winter.

MR. RALPH: So it's your understanding that whatever electricity is available to be transmitted to the Island next fall, late fall or early winter, there will be no limitation on that in terms of –

MR. S. MARSHALL: There are limitations –

MR. RALPH: – you know, capacity of transmission.

MR. S. MARSHALL: – there are limitations driven by, you know, the status of the software development to make sure that the line – the system on the Island is not unstable or that it won't become unstable under certain circumstances. Again, reliability. You're trying to plan that whatever is coming in over the Labrador line, if it trips, it won't bring down the system. So there are reliability constraints – as there were last winter.

I mean, we could've brought in, physically, a lot more electricity than we did, but if we brought more in, it might cause the Island system to trip under certain circumstances.

So there's a difference between the physical limitation and the availability. And because you're bringing a new system up you're not confident on the reliability and you don't want the sort of circumstances to develop that if it trips, it's going to bring down the rest of the system – a part the rest of the system.

MR. RALPH: Right.

But for someone who's not an engineer, perhaps a ratepayer or a taxpayer, it doesn't make any difference, does it? I mean, if it's – the reason for your limitation doesn't matter, but there perhaps will be limitations in terms of the amount of electricity you can send to the province because of problems with transmission.

MR. S. MARSHALL: There may be.

MR. RALPH: So generation – generating units will come online and we may not be able to accommodate the amount of electricity being generated by those.

MR. S. MARSHALL: Like I said, I think we'll accommodate it. We might end up selling it through Quebec, but –

MR. RALPH: That's my point. So it won't go – perhaps it would be more lucrative if we could bring it to the Island and –

MR. S. MARSHALL: The thing about bringing things to the Island is that you're gonna displace oil at Holyrood, which is very expensive.

MR. RALPH: Yes.

MR. S. MARSHALL: Depending on the price of oil, you're probably gonna save about 10 to 13 cents a kilowatt hour.

MR. RALPH: Yes.

MR. S. MARSHALL: You're not gonna get that by selling it through Quebec.

MR. RALPH: Right.

MR. S. MARSHALL: So you're trying to push into – onto the Island as much as you can, as we did last winter. But we had – for example – a couple of examples. So when we started the software, the first thing we discovered that there was a hard-wired limitation in the software which no one had disclosed. This is what – this is the advantage of bringing these things up as (inaudible) as you can, you discover unintended limitations.

And then it depends on the circumstances on the given day. You know, like, if you're bringing on a lot of power in on the LIL and it's your biggest source of input to the system, you have to worry about if it goes out would that cause the system on the Island to start shedding load, right? You don't want that to happen. But you could make the decision, you – I mean, you could say: Okay, no, I want to make – maximize my saving. In which case you pump a lot of energy into the Island, but if something were to happen it might go down for an hour or more. That's a decision you can make.

We focused on reliability, especially – we tell people that, you know, this is a new system, there are gonna be glitches and we try to respect the limitations of reliability on the Island. So it's the difference between the physical capacity of bringing in –

MR. RALPH: Yes.

MR. S. MARSHALL: – and the consequences if it trips.

MR. RALPH: Right.

But in terms of generating revenue that we forecasted to receive –

MR. S. MARSHALL: Right.

MR. RALPH: – it makes no difference whether it's because of capacity or whether it's software issues.

MR. S. MARSHALL: I suppose, yes.

MR. RALPH: Is that correct?

MR. S. MARSHALL: I think – if I understand you correctly, (inaudible).

MR. RALPH: Yes.

Now, you testified last week about oversight and you suggested that perhaps there was no need for an Oversight Committee per se; that if you had good communication between the (inaudible) and yourself and, you know, other officials within Nalcor and officials within government, then it'd be unnecessary –

MR. S. MARSHALL: That's correct.

MR. RALPH: – to have an Oversight Committee.

MR. S. MARSHALL: That's correct.

MR. RALPH: Now, are you familiar with the terms of reference for the Oversight Committee? I suspect you're not but –

MR. S. MARSHALL: No, I'm not really. I may have seen it once.

MR. RALPH: Fair enough.

Perhaps we can go to Exhibit 02051 and to page 34.

THE COMMISSIONER: This will be on your screen.

MR. RALPH: So this – the terms of reference are contained in the Oversight Committee's first report which was July of 2014, and it was an appendix to that report, and it's at page – I think it's page 34. And so here we have the mandate – actually, okay, just keep going, scrolling back the other way.

And so here we have the mandate and there are three different points made, and the key issues are number 1: "The Project cost and schedule is well managed – the Committee will examine issues such as whether management processes and controls are well-designed and followed, contracts are being managed diligently and financial drawdowns comply with the established processes."

So perhaps you can comment for a moment on that mandate. Do you think that's an appropriate mandate for a Muskrat Falls Oversight Committee?

MR. S. MARSHALL: I'm not sure that the management committee – Oversight Committee is structured to meet that mandate. These things require very specialized expertise and –

MR. RALPH: In fact, this bullet here – if I could interrupt for a moment – because I understand that 1 was addressed, basically, by EY at the very beginning. EY was brought in, they were sent to Nalcor, they were supposed –

MR. S. MARSHALL: Yeah, but –

MR. RALPH: – to look at –

MR. S. MARSHALL: – even EY, I just don't think this is a very effective process.

MR. RALPH: Is a very what, I'm sorry?

MR. S. MARSHALL: Effective process.

MR. RALPH: Right.

MR. S. MARSHALL: I don't think it's effective.

MR. RALPH: The committee itself or this particular –?

MR. S. MARSHALL: I don't think – I can't see how the Oversight Committee can possibly meet this mandate in the way –

MR. RALPH: In the first –

MR. S. MARSHALL: – it's structured.

MR. RALPH: – in this particular – in number 1, they can't meet that mandate, is that what you're saying, or all three of them?

MR. S. MARSHALL: I'd say all three of them. I mean, you asked me for my opinion, that's it.

MR. RALPH: Absolutely, that's what I'm asking you.

Well, let's go to 2, and it says: "The Project is meeting the cost and schedule objectives …." And so this seems to me more of a sort of a communication work here, you know –

MR. S. MARSHALL: (Inaudible.)

MR. RALPH: – is Nalcor living up to its – what they expect to be the costs and the scheduling.

MR. S. MARSHALL: The way I see it, whether it's 1, 2 or 3, you're totally reliant on Nalcor, unless you've got some very depth expertise involved in the project. I know it's probably not want you want to hear but –

MR. RALPH: No, no, no, I –

MR. S. MARSHALL: (Inaudible.)

MR. RALPH: – whatever your answer is is what I want to hear.

MR. S. MARSHALL: I just don't think this process is very effective, I – or could possibly meet the mandate.

MR. RALPH: So I was going to, you know, put it to you that basically you have two possibilities here. One of which is, you know, an Oversight Committee or oversight as a means of communication of risks.

MR. S. MARSHALL: I just don't see it, I'm sorry.

MR. RALPH: Again, so why don't you – I mean, obviously, government is the sole shareholder of Nalcor –

MR. S. MARSHALL: Right.

MR. RALPH: – and they have a responsibility with regard to what's happening with this project –

MR. S. MARSHALL: Absolutely.

MR. RALPH: – and so they need to know what the risks are –

MR. S. MARSHALL: Absolutely.

MR. RALPH: – and how those might play out.

MR. S. MARSHALL: Absolutely.

MR. RALPH: And right now that's in large part being satisfied by the Oversight Committee.

MR. S. MARSHALL: I don't think it's very effective.

MR. RALPH: In what regard?

MR. S. MARSHALL: I don't think the skills are there. I think they're just relying on the reports from Nalcor and all they're doing is asking questions and rehashing it. You don't have the expertise.

And I'm not sure – at the end of the day, the government is going to have to rely on Nalcor. You know, it's like leadership: if the leadership is no good, all else fails. People talk about, you know, corporate governance. You know, look at all the great corporations that have failed. They have tremendous boards and yet they failed because of a lack of leadership. You know, I think I've expressed my views earlier about the way I feel about this.

I think it is absolutely essential that the government have great oversight of this project. The vehicle has to be something like a Nalcor, you know, put good directors in there; directors will need a specialized expertise and they can engage then with special advisors. But it is a day-in, day-out process. You know, whether it's meeting with, you know, deputy ministers or with an Oversight Committee, I mean, the most you're going to achieve is just asking a few questions and getting the same report coming out of Nalcor. That's a – that's my practical point of view.

MR. RALPH: No, fair enough.

So I see what you're saying is that Nalcor is the oversight –

MR. S. MARSHALL: Nalcor –

MR. RALPH: – for the Government of Newfoundland –

MR. S. MARSHALL: Nalcor has to be their principal vehicle of oversight. It has to be.

MR. RALPH: So government is not going to be in a position to provide effective oversight of that project.

MR. S. MARSHALL: No, not directly. No. It has – I mean, that's why you created Nalcor and that's what Nalcor should be doing. You have checks and balances. You have an independent board and the board – independent board because of the specialized project like Muskrat Falls, and they would normally engage specialized advisors to them.

MR. RALPH: So what kind of information would you expect to see going back and forth between government and Nalcor?

MR. S. MARSHALL: Well, we've attempted to give wholesome reports. Like the reports we developed for the Oversight Committee, the ones we – we tried to (inaudible) the board – the Oversight Committee and the board are getting the same materials, right? That's the first thing. Nalcor has an obligation to try to distill the information and – I mean, you can get all kinds of data. What you're trying to give is understanding. You know, how – like graphs and things like charting progress. And so Nalcor has the obligation to try and get that into a format that the government can understand. Government is not expected to be – and deputy ministers and ministers are not expected to be experts. So it's a challenge here to try to distill it so that they understand the big picture. That's the first thing.

MR. RALPH: Right.

So the job of oversight is not to kind of keep Nalcor's officials to the fire, so to speak?

MR. S. MARSHALL: Well it's, certainly, all of that in terms of the board. The board – I mean, a board of directors is oversight of management and oversight of the activities of the corporation. It's not to manage. So, as a shareholder – as the shareholder, you know, the primary vehicle has to be the board of directors, it's clear and, as I said earlier, I think, you know, to ensure that there's good communications, people like the deputy minister of Finance, the deputy minister of Energy, you know, they should be on the board so they can't claim that we didn't hear that, you know.

MR. RALPH: Yes.

MR. S. MARSHALL: I think I'm pretty direct on this, hopefully.

MR. RALPH: Now, so I want to ask you a few questions about a particular subject where, it seems to me, oversight failed, and that is basically the cofferdam.

So, obviously, you – this was during your tenure –

MR. S. MARSHALL: Right.

MR. RALPH: – that this thing arose, and I understand the problems arose in the fall of 2016.

MR. S. MARSHALL: Mm-hmm.

MR. RALPH: And last week you testified, and at page 102 of the transcript you said: And we were working on the cofferdam, and of course, a cofferdam when you build it there's a temporary dam so you expect some leaking and whatnot. So when we tried to raise it, it was leaking and we ended up trying to do the grouting in February. I remember being up on the top of the dam there, I think it was in February, and you're trying to inject grout into the coffer dam: it was horrible. But it worked and coming out of that, you know, all groups really tried to work to make sure it never happened again.

Now, I want to make sure I understand the problem, and this will be a very simplistic generalization. So, as I understand it, there was – I guess, there was seepage and as a result of that part of the cofferdam slumped, and as a result of that, you had to bring the level of the water down.

MR. S. MARSHALL: Right.

MR. RALPH: Is that right?

MR. S. MARSHALL: That's correct.

MR. RALPH: And in order of control, I guess, the formation of frazil ice downstream, you need to control basically what's happening to the water in front of the powerhouse, in front of a spillway.

MR. S. MARSHALL: That's correct.

MR. RALPH: So when you can't control the level, you can't create ice, the water goes at a certain pace, there's – I guess, it's very turbulent and you have frazil ice developing downstream of the powerhouse?

MR. S. MARSHALL: Right.

MR. RALPH: And, I guess, historically, what we've seen there is that that ice can be – can back up right over the falls.

MR. S. MARSHALL: Yes.

MR. RALPH: And so in that instance the danger here was that that ice could back up right to the powerhouse.

MR. S. MARSHALL: Yes.

MR. RALPH: So I think I've described it correctly.

MR. S. MARSHALL: Yes.

MR. RALPH: You have anything to add to that description?

MR. S. MARSHALL: No, I think you're doing a good job –

MR. RALPH: Thank you.

MR. S. MARSHALL: – for a lawyer.

MR. RALPH: Thank you very much – the high praise.

Now, if we can go to tab 2. I'm sorry, not tab 2. I'm sorry. Exhibit 03881. It's my own tab 2.

THE COMMISSIONER: Okay, this is going to be on the screen.

MR. RALPH: So this is a – the top one is Paul Carter, he's the chair of the Oversight Committee. Do you understand that? Okay.

And so this is to Krista Quinlan, she is in the Cabinet Secretariat, and Bernard Coffey was clerk of the Executive Council at the time. And so he was forwarding an email from Diana Quinton. Do you know who she is?

MR. S. MARSHALL: No.

MR. RALPH: If we can go down. And so this was forwarded – this – she forwards an email from Karen O'Neill, who was with Nalcor. And you know Ms. O'Neill?

MR. S. MARSHALL: Yes.

MR. RALPH: And I guess – so I guess originally, this – the original email goes to Charles Bown, and the email says: "I'm sending along the following note from the MF project team as a heads up in case you receive any inquiries. I understand that has also been some talk on social media this afternoon on this topic.

"Yesterday there was an increased water level noticed in between the upstream and downstream cofferdams and additional pumps were brought" in "to deal with that situation. The pumps are doing their" jobs and the "levels are back to normal. Our cofferdam experts inspected the cofferdam and noticed" that "there was a slumping or sloughing in one area of the upstream face of the upstream cofferdam, at or around where the final closure point was. It is believed that this may have been the cause of the increased water level between the two cofferdams. We understand that this is a normal feature, when a cofferdam is first put under increased water levels on the upstream side and the pressure differential across the cofferdam is increased.

"Our experts advise that the structure is safe and stable and they are working on a repair method. As a precautionary measure, individuals who were working in the area below the upstream cofferdam were asked to move. We took this action as a precautionary safety measure while the cofferdam while we had the expert review.

"The leakage rate through the cofferdam is now back to flows as per design and that indicates that there may have been some initial increased leakage. The leakage seems to have been resealed. Today some further cofferdam crest surface cracks running north- south were noticed and our experts also inspected those and have indicated that they are normal and nothing to be concerned about.

"Our experts advise that this is not outside of the ordinary when exposing a cofferdam to differential water levels for the first time, the cofferdam is stable and repairs will be carried out. However" – it does not – "it does demonstrate that there are factors other than the installation/operation of the ice/log boom that are driving the need to raise levels passed the 21.5m level. The sooner we can gradually expose the cofferdam to water levels past the 21.5 m level the sooner we can be assured of the cofferdam construction and hence protection of the temporary and permanent assets. We may experience further issues and … available time before river conditions prevent rectification of such issues is almost spent."

So that doesn't seem to quite capture the issue here, does it? I mean, we have got potentially a disaster with the powerhouse. If that ice – if that frazil ice comes back and occupies the powerhouse, that's a big deal.

MR. S. MARSHALL: Yeah, but this is early on now. This is – when you build a cofferdam, which is a temporary structure, you always expect some leakage because, you know, it's just a temporary structure. You deal with that. In this case – I think after this memo was written, I suspect – it was noticed that the leakage was increasing and that, you know, materials are migrating through it and – which causes the low level again. We had to do more work on the cofferdam.

So it's a demanding situation. Any one point in time, you might (inaudible) – and this is what makes it so difficult – at any one point in time, you want to give your best information you have. And don't forget, this was written in November of '16, just after the interruption. We struggled to complete the cofferdam. The cofferdam was late anyway and then was more delayed by the interruption.

So what they did – when they started to raise the water level, they noticed some seepage, which is not unusual, and you carry on. But then you got to monitor it. If you see that the seepage is increasing and materials are migrating out of the structure, then you have to retreat and you have to take other measures, and that's what happened in this case.

MR. RALPH: So if that frazil ice backs up into the powerhouse, what does that mean?

MR. S. MARSHALL: That is catastrophic.

MR. RALPH: That's catastrophic.

MR. S. MARSHALL: It is.

MR. RALPH: There's no indication of catastrophe in this email, is there?

MR. S. MARSHALL: No, because at this point in time, there's no reason to believe that it's going to carry on and deteriorate. At this point in time, the expectation is that, you know, this is normal, we're gonna monitor it and we'll see what happens.

MR. RALPH: So you would do the same thing with the board? You'd say, you know, this is not outside the ordinary, we're handling it, don't worry about it.

MR. S. MARSHALL: Right.

MR. RALPH: That's kind of the same thing you'd do with the board?

MR. S. MARSHALL: Right.

MR. RALPH: Now, I understand the grouting commenced in order to address this issue. Is that right?

MR. S. MARSHALL: When I discovered that – subsequent to this that, you know, the materials were migrating – and again, this is not unusual, you know. You depend on your geotechnical experts to say look, this is – we're going to stop here. We'll go down and have to grout – you find out where the water's leaking through it and you pump material down into that face, like a cement mixer, to seal it. Recognize this is a temporary structure. You're not (inaudible) permanent damage.

MR. RALPH: A rather important one, obviously.

MR. S. MARSHALL: Oh importantly, because you're gonna have workers behind it.

MR. RALPH: So eventually you started grouting on site.

MR. S. MARSHALL: Correct.

MR. RALPH: And can you recall when the grouting commenced?

MR. S. MARSHALL: We had trouble sourcing the particular equipment and materials and over Christmas, I think. I think it was – I'm just guessing now – in January sometime, we started.

MR. RALPH: So there was –

MR. S. MARSHALL: I know it was very cold up in that –

MR. RALPH: Fair enough –

MR. S. MARSHALL: – that cofferdam.

MR. RALPH: Was that the horrible part or was that the fear that something terrible could happen to the project?

MR. S. MARSHALL: Well, it wasn't going to – at that point – it wasn't going to happen in terms of losing the cofferdam. What they're trying to do is to prepare the cofferdam, get it levelled up (inaudible). I think that year, that winter, we actually were fortuitous in that a big – I think that's the year – a big block of ice –

MR. RALPH: Well, that's right. In fact, I'm going to go to it actually –

MR. S. MARSHALL: Okay.

MR. RALPH: – go to an email from Mr. Harrington to Paul Carter and that's at –

MR. S. MARSHALL: It provided us a –

MR. RALPH: – 04415 –

MR. S. MARSHALL: – stable stream anyway, so – right.

MR. RALPH: – about exactly what you're referring to right –

MR. S. MARSHALL: Okay.

MR. RALPH: – now.

THE COMMISSIONER: What's the exhibit number?

MR. RALPH: 04415.

THE COMMISSIONER: 04415. This will be at tab 36 in your book.

MR. RALPH: So this is Monday, February 27, 2017. Again, it's to Paul Carter, who's the chair of the Oversight Committee. It says: "I would also like to point out that the formation of the stable ice cover at el. 21.5m was a mother nature fortuity this year and something that we cannot rely on for" the "next year. What happened was a large pan of ice broke away and" became "lodged roughly in the area that our ice boom is planned to be located. This had the effect of acting like the ice boom and creating conditions in the river that allowed the stable ice cover to form. Relying on another ice pan breaking away and becoming lodged in the same location next year would be highly unlikely and would not be supported by our ice experts as a prudent means of protecting the MF assets.

"Regards Paul."

So, you got lucky.

MR. S. MARSHALL: Yup.

MR. RALPH: And if that hadn't have happened, who knows what could've happened?

MR. S. MARSHALL: Correct.

MR. RALPH: Now, I understand that the independent engineer had discussed this with Nalcor. Do you recall that?

MR. S. MARSHALL: I wouldn't have known.

MR. RALPH: Okay.

Well, perhaps we can go to Exhibit 02305.

THE COMMISSIONER: That would be on your screen.

MR. RALPH: So this is Nick Argirov, and what's happening here is he's sending a draft report of a site visit that he did in July of 2016. And so he's – on September 20, 2016 he's sending this draft to Steve Pellerin. Could we go back to the top of this again? Steve Pellerin. And you know Mr. Pellerin?

MR. S. MARSHALL: I don't – can't place him, no.

MR. RALPH: Okay. He works – he has a lot to do with the, I guess, providing documents and information –

MR. S. MARSHALL: Yeah.

MR. RALPH: – to the Oversight Committee.

Now if we can go to page 9? So again – so the independent engineer goes to the site in July. Subsequently, he writes a report, sends a draft. If we could go to the bottom of this?

It said: "The July 3, 2016 Barnard Pennecon North & South Dams Work Plan document is in line with current practice for cofferdam construction. This document describes the planned machine cleanup and … bathymetric" – I'm not sure how to pronounce that word. Is that right? Bathymetric. Do you know how to pronounce that word? Anyway, it doesn't matter.

MR. S. MARSHALL: Yes. That's right.

MR. RALPH: – "surveys for the foundation area between the groins. This plan is acceptable. However, no details of the contingency grouting are presented or discussed. It is not clear if the contractor has made any provisions to do this work if it proves to be needed. Jet grouting requires specialized equipment and long delays can be incurred if this has not been procured in advance."

And on the next page: "The IE recommends the following actions: Barnard Pennecon should supplement its work plan with a contingency plan for dealing with unexpectedly high water flows through the cofferdam foundation. This must include plans for pumping leakage water downstream of the cofferdam and construction of a cut-off through the base of the core if needed.

"The cut-off can be the jet grouting scheme proposed by the designers on Drawing" MF whatever. "Alternatively, a local slurry cut-off wall could be constructed using equipment already present at the site. It is noted that a slurry cut-off is better suited for dealing with open-work boulders than jet grouting."

"The contractor should demonstrate that equipment can be available on a timely basis to deal with unexpected foundation water inflows so that the potential impact on schedules is minimized."

So, I mean I don't know for certain, but I suspect that this is a conversation that came up in the July 2016 visit. And then that became part of the report –

MR. S. MARSHALL: Right.

MR. RALPH: – in the fall. And if we can go now to 03884.

THE COMMISSIONER: It'll be on your screen.

MR. RALPH: So this email is dated November 22 and it's Mr. Carter is sending the report – now I think the final draft of the independent engineer's report for that site visit – to Mr. Coffey who is the clerk of the Executive Council. And if we go down further you can see Steve Pellerin. He – oh, back up a bit further on the first page there.

So, Steve Pellerin sent to Mr. Carter on the 22nd. And if we go down further, we can see that Mr. Argirov sent this, I suspect, final draft of this site visit report to Mr. Pellerin on the 21st and if you look at that – I won't have to go into it now, but if you look at this report it says exactly the same thing.

So – and I guess this became a point of contention between, I guess, the Oversight Committee and Nalcor officials because clearly the IE is saying look, you guys, you got to have some contingency plans for the cofferdam in the event that –

MR. S. MARSHALL: Mm-hmm.

MR. RALPH: – what happens happens. Including, sort of, having contingency plans, having grouting equipment on site. And that's fair enough. The problem, of course, the Oversight Committee had was that we weren't told of this until November 22. So basically it's five or six months after the IE raises a risk, a catastrophic, potentially a catastrophic risk, Nalcor doesn't tell government until into November. Were you aware of this problem?

MR. S. MARSHALL: Not of aware of – first of all, I wasn't aware of the independent engineer's statement there. It would be normal practice to anticipate grouting. Don't forget now, we had that big interruption in the fall, so that probably upset the plans.

I don't know if we had grouting equipment lined up or not for a particular point in time. So I'm not aware of the circumstances, I can't – so all I can say is that, you know, Nik's statement is correct. What arrangements were made, I don't know. The degree to which the interruption we had in October changed those plans. I know – all I know is that when this thing happened that they had some grouting equipment lined up, but it didn't seem to be suitable for the task as it was. So that part of it, like I say, I can't comment on it, I wasn't aware of these particular notes here.

MR. RALPH: Right –

MR. S. MARSHALL: I'd probably go with it would be normal. The other thing that we did in anticipation of not having the cofferdam in operation, we did increase the berms downstream. So it wasn't like we left it to nature, that we – we had to protect, take other measures to protect the site.

MR. RALPH: Yes.

MR. S. MARSHALL: But I – so I know what you're getting at, but I can't – I'm not familiar with what –

MR. RALPH: No, fair enough, and I guess really I'm asking you –

MR. S. MARSHALL: Right.

MR. RALPH: – I mean, from the perspective of CEO –

MR. S. MARSHALL: Right.

MR. RALPH: – you know, in this instance, do you think government received the information that it needed to get in a timely manner?

MR. S. MARSHALL: Well, I –

MR. RALPH: In terms of a contingency plan for (inaudible).

MR. S. MARSHALL: Well, I don't know the circumstances around it, so I don't know, you know, what the other circumstances were. It's hard for me to judge. You know, I endeavour to make sure that the Oversight Committee, our board and the government is aware of all crucial data, all crucial factors. It's dynamic and sometimes things are missed, I know, but this particular one I – it may well have been, but I – like I say, it's hard for me to comment if I don't know the circumstances.

MR. RALPH: No, fair enough. I mean, subsequent to the advising government in November I think there was almost, perhaps more than daily contact between Nalcor officials and Oversight Committee about what was happening in terms of –

MR. S. MARSHALL: Well, the cofferdam, there was a – yeah, there was all kinds of communications on the go after that one.

MR. RALPH: And there was constant provision of information to the government regarding the steps that were taken and how things were going.

MR. S. MARSHALL: Right.

MR. RALPH: And that communication took place between the chair – and you probably don't know this. But that took place between the chair of the Oversight Committee and officials of Nalcor.

MR. S. MARSHALL: Yeah, I was unaware of that communication.

MR. RALPH: But to me it suggests that you do need something more than just an interaction between the CEO and the premier. I mean, this circumstance wouldn't be appropriate.

MR. S. MARSHALL: Oh, absolutely.

MR. RALPH: Or between the minister and, you know, other officials within – but, in fact, there is some benefit to having someone designated within government to checking this out all the time.

MR. S. MARSHALL: Look, there's always some benefit. But, like I said, when you have a situation where there's all kinds of communications at all levels, you don't know what's been (inaudible). So I tried to get it organized. That's all I'm saying.

I'm going to say it quite clearly: The province should be able to rely upon Nalcor and the Board of Nalcor. And the Board of Nalcor is an independent oversight of the management team, and we have, you know, lines of communication.

Yeah, there's always, probably, situations where you're going to discover something that's missed, but think of the circumstances here of what's happening in the fall of 2016. I mean, it was – I told you, that whole year was one chaotic episode.

MR. RALPH: Right.

So the protests were happening (inaudible).

MR. S. MARSHALL: And, you know, we were – you know, the cofferdam progress wasn't made. But, initially – like, we would normally do this. You'd normally bring a cofferdam off earlier in the year, so if there's any leakage, you have plenty of time to (inaudible).

MR. RALPH: Address the ice situation.

MR. S. MARSHALL: So everything is being pressed here, and then all of a sudden, at a very critical point in time, the site is shut down in the most chaotic situation. You're out of equipment, you're out of diesel fuel, you're scrambling. It's an unfortunate set of circumstances, and I started grouting. I'm surprised it took so long to get the right grouting equipment. And when I asked, they said they had some grouting equipment. It wasn't appropriate.

So this may have been – for example, they may have had a plan for grouting, and with all of the things that happened, it didn't – it was inappropriate equipment. I don't – it's hard – I'm trying to help, but I –

MR. RALPH: No, fair enough.

MR. S. MARSHALL: – (inaudible) circumstances.

MR. RALPH: No, indeed you are helping.

Thank you very much.

So the Oversight Committee, as you've indicated, you know, posts information and reports on its website.

MR. S. MARSHALL: Mm-hmm. Yeah.

MR. RALPH: On the government webpage. And so, they have a reporting function to the public, and, you know, I'd suggest – even though they're not, you know, independent of government or the Premier or the ministers, there's, I'd suggest, still an expectation that the committee is going to be, you know, sort of quasi-independent of other considerations of government. Do you agree with that?

MR. S. MARSHALL: Sure.

MR. RALPH: And, in fact, I guess there's the presence of, now, independent members on the committee and would, sort of, reinforce that quasi-independence.

MR. S. MARSHALL: I suppose.

MR. RALPH: Now, the chair of the committee, Paul Carter, he testified that he determines the content of the reports, and it's not the Premier or the minister.

And so, I guess, you perhaps haven't looked closely at the contents of the reports, but would you suggest that they are perhaps more fulsome in terms of reporting on the project than Nalcor would post in its own webpage?

MR. S. MARSHALL: Could very well be. There's an awful lot of material on the –

MR. RALPH: Fair enough.

MR. S. MARSHALL: – Nalcor webpage.

MR. RALPH: Yes.

MR. S. MARSHALL: And, like I said, most of – almost all the material that the Oversight Committee bases the thing on comes from the information we (inaudible), so …

MR. RALPH: Now, I'd also suggest that when you have a committed number of people, and especially a chair on the Oversight Committee, I mean it does create an expertise in that individual in terms of knowledge of the project perhaps.

MR. S. MARSHALL: Yes.

MR. RALPH: In fact, it's his primary function, or the chair's primary function to provide oversight. So it's not like an assistant deputy minister somewhere who's got that file on the corner of their desk. That's their primary function within government. And I would think that provides more fulsomeness to oversight than otherwise would be the case.

Do you agree with that?

MR. S. MARSHALL: I don't disagree.

MR. RALPH: Yes, is fine.

Now, I think you've referred to this in your testimony already, but it seems to me that the information that Nalcor provided government over the course of time, especially during your tenure, changed.

MR. S. MARSHALL: Mm-hmm.

MR. RALPH: I understand there was a project cost update in June of 2017, and after that the contents of the report that went to the Oversight Committee included information that wasn't there before.

Are you aware of that?

MR. S. MARSHALL: No, but it doesn't surprise me.

Like I said on Friday, one of the things we wanted to do when we went there was to improve reporting, to make sure that everybody was getting a good picture. So we were trying to improve the – develop a report for our board and for the Oversight Committee that gave them insight to what was actually happening –

MR. RALPH: Yes.

MR. S. MARSHALL: – just dumping data on them. So it was a conscious effort, and I can't remember the exact date. It probably went through a couple of iterations.

MR. RALPH: Right, because I think the person responsible for doing this first was Mr. MacIsaac.

MR. S. MARSHALL: John, yeah. I – John was leading the charge in terms of improving reporting.

MR. RALPH: And so I think the transmission side actually did this before the –

MR. S. MARSHALL: Yes, that's my recollection as well.

MR. RALPH: – generation side. Is that right?

MR. S. MARSHALL: Yeah.

MR. RALPH: Now, if we can go to Exhibit 04003.

THE COMMISSIONER: Again, it will be on your screen.

MR. RALPH: So this is Rosanne Williams sending the power supply deck to Mr. Carter of the Oversight Committee. So this is what the Oversight Committee gets; one from transmission, one from generation before a meeting.

And, you know, you'll have to accept my word on this, but I'd suggest that basically the format hasn't changed since after Mr. MacIsaac made changes to the information that they were giving the Committee in 2017.

MR. S. MARSHALL: Yeah.

MR. RALPH: And if we could, I'm going to send you to a blank page, that's page 16.

MR. S. MARSHALL: Now, this is dated – is the date here wrong? This is dated 2019.

MR. RALPH: I'm sorry, yes.

I want to tell you, this is an example of the reports they get now –

MR. S. MARSHALL: Okay.

MR. RALPH: – which haven't changed since –

MR. S. MARSHALL: Yeah, I'm sorry.

MR. RALPH: – 2017.

MR. S. MARSHALL: Okay.

THE COMMISSIONER: So what page did you want us to go to?

MR. RALPH: Page 16.

Now, I've seen this page without the redactions and what it goes in here are a quantification of risks within the AFE and without the AFE. So I guess one would be tactical risk and one would be strategic risks. Is that fair to say?

MR. S. MARSHALL: Yeah, I'm not hung up on this tactical risk business.

MR. RALPH: Okay, that's fair enough.

But, okay, how about –

MR. S. MARSHALL: What are we looking at here now?

MR. RALPH: Oh, this is – so this is part of this report that goes to the Oversight Committee –

MR. S. MARSHALL: Okay.

MR. RALPH: – and this has been redacted. Nalcor would've asked for these numbers to be –

MR. S. MARSHALL: Okay.

MR. RALPH: – redacted because they're commercially sensitive.

MR. S. MARSHALL: Hard for me to judge when it's –

MR. RALPH: You have to take –

MR. S. MARSHALL: – a blank –

MR. RALPH: – my word –

MR. S. MARSHALL: – page.

MR. RALPH: – for it, but that – what's in there is –

MR. S. MARSHALL: Fair enough.

MR. RALPH: – right.

And I'm just trying to demonstrate that – if we can go back now – if we go to 04416.

THE COMMISSIONER: And that one is at tab 37.

MR. RALPH: So this is – like from the end, from the transmission side, it's an update to the Oversight Committee, and this is sort of before Mr. MacIsaac introduced changes. And if you go – you can go through this, Mr. Marshall, if you would, 'cause I don't see any mention here of risks to sort of – to costs.

MR. S. MARSHALL: Yeah, and that may be the case. Like I say, I was not happy with their – the reporting when I went there and we – it took us a while to get to something we – that I thought was effective.

MR. RALPH: Yes.

MR. S. MARSHALL: So I'm not surprised.

MR. RALPH: I mean, so if the Oversight Committee is not getting information about risks, sort of, were there risks within the AFE or without the AFE or strategic or tactical, whatever you want to call them.

MR. S. MARSHALL: Mm-hmm.

MR. RALPH: It seems to me that they can't fulfil their function as an Oversight Committee.

MR. S. MARSHALL: Absolutely.

MR. RALPH: And I understand as well that this change came about because the Oversight Committee was saying we want more information, we need more data.

MR. S. MARSHALL: No. This came about, in my mind, 'cause I specifically asked our people to improve the reporting only for – like, you have to remember that, you know, at this stage of the game I didn't even know who the Oversight Committee was or what they did. And so what I'm focusing on is trying to get, first of all, at their own board, better reporting and a more effective mechanism.

So, it was done – was to give better information to everybody, not just the Oversight Committee.

MR. RALPH: Right, right.

MR. S. MARSHALL: But the Oversight Committee didn't drive anything I did. It just –

MR. RALPH: No, fair enough. But, I mean, I don't think you went out of your way and said, show me one of those reports that goes to the Oversight Committee, I want to see if it's satisfactory.

MR. S. MARSHALL: No, but I – some of the materials they were using earlier on and it was woefully inadequate, but when you're, like I said, dealing with crises every day –

MR. RALPH: Yes.

MR. S. MARSHALL: – trying to find out where you are yourself, it's hard to get around to developing reliable reporting.

MR. RALPH: Okay.

I want to go back to some of your testimony last week and –

MR. S. MARSHALL: Okay.

MR. RALPH: – this is on page 71 of the transcript, and it says – yeah, you're repeating the same thing, it's there: There's nothing we did that went in there. We had all this reporting going on the go so – and John MacIsaac was very helpful with this. I said: John, we got to standardize what we're telling because one group wants one format, one wants another, so over time we settle on a standardized report we should give to the Oversight Committee. And we gave it to the group meeting of the board, you know, make sure they all have it in a format where they understand it. I mean, there's no point in throwing the data – thousands and thousands of data – onto the wall. I mean, people need to understand, so how do you translate all this data, information that gives insight, which is what they're looking – these people are looking for.

MR. S. MARSHALL: Mm-hmm.

MR. RALPH: So, they're looking for thousands and thousands of pieces of data –

MR. S. MARSHALL: It could very well be that the Oversight Committee is requesting John to do something to influence what was done. I'm not denying that. I'm just saying that I just took what John and said, John, we need to improve our reporting. And John was doing it first, and then we translated it over to the other side of the operation, too.

MR. RALPH: Because my understanding is that – and I guess Mr. MacIsaac – and perhaps he got this from you – he said: Guys, you're going too far into the weeds and you're perhaps wasting your time. We will summarize this in a better fashion which is meaningful and useful to the committee.

MR. S. MARSHALL: But it wasn't directed towards the committee. Like I say, the committee was the least thing on my mind.

MR. RALPH: Yes. But not necessarily Mr. MacIsaac's.

MR. S. MARSHALL: Not necessarily Mr. MacIsaac's, fine. And not that I'm disrespectful of the Oversight Committee at all, but we had a serious problem reporting generally, and I was anxious to address that as best we could. And John took the lead on it and did a very effective job. You know, but by all metrics, he probably incorporated suggestions from the Oversight Committee. I'm not trying to be disrespectful or – at all. It's just that I don't – I didn't ever interact with the –

MR. RALPH: No, fair enough.

MR. S. MARSHALL: – Oversight Committee, right?

MR. RALPH: Yes.

MR. S. MARSHALL: And so – and we took suggestions from the board, too, so –

MR. RALPH: Right.

In all likelihood, what's happening here is Mr. MacIsaac is coming to speak to you about what we can give the Oversite Committee.

MR. S. MARSHALL: Right. He was.

MR. RALPH: And you directed him what to do.

MR. S. MARSHALL: Yeah. We're trying to get something – because it had been a sort of practice of just throwing all this information, data – not information – data, throwing all this sort of thing on people's – in front of people, and I'm sure they didn't understand it. So the task was can we instill this that it leads to transparency. The same way that, my first update in June of '16, I asked them do it in a form that people could understand.

So we started right from the get-go. How do we translate all of this into the different groups looking for information? Including the Oversight Committee. You know, we're trying to satisfy their – I mean, they're tasked with doing a job. We're trying – just because I think it's almost impossible for them to meet their mandate doesn't mean I'm not gonna try to help them –

MR. RALPH: Yes.

MR. S. MARSHALL: – the best way we can.

MR. RALPH: Right.

You're not gonna thwart what the government has told them to do.

MR. S. MARSHALL: Sorry?

MR. RALPH: You're not gonna thwart what the government has told the Oversight Committee to do?

MR. S. MARSHALL: No, absolutely not. No, if the government wants an Oversight Committee, we're gonna try to help it.

MR. RALPH: Now, I want to move now to sort of the risks, I guess, that the Inquiry here represents to the project itself. And in 2018, when the Inquiry began its work, I guess Nalcor officials understood that the operation of the Inquiry itself would create challenges for Nalcor officials –

MR. S. MARSHALL: That's right.

MR. RALPH: – in terms of prosecuting the project. And I guess, with that in mind, Westney – or I'm sorry, Nalcor retained Westney to do a risk assessment. And that would've been, I guess – I think that the document, which is at 03669 – Exhibit 03669 – was dated June 2018.

THE COMMISSIONER: That's at tab 21.

MR. RALPH: And I'm going to take you right to page 21 of this document. And this page addresses – directly addresses "Judicial inquiry impacts should be mitigated" –

MR. S. MARSHALL: Sorry, which page?

THE COMMISSIONER: Page 21.

MR. RALPH: Page 21. It's – the red 21 at the top, not the –

MR. S. MARSHALL: Okay, thank you.

MR. RALPH: So the risks are identified here on this page and they're ultimately quantified on the right-hand side here. And if we look at Remaining risks, there's a – it states that – in the middle there – "Contractors taking advantage of" the "situation." And I think you said that's quite normal. There's nothing unusual about that?

MR. S. MARSHALL: Correct.

MR. RALPH: The contractors aren't doing anything inappropriate.

MR. S. MARSHALL: That's right.

MR. RALPH: And I guess one example of this situation is when a contractor learns about the amount of money that Nalcor has budgeted or forecasted for a particular scope.

MR. S. MARSHALL: Yeah, once they learn what the contingencies – how much is left in the pot, they're gonna go after it.

MR. RALPH: So they're gonna shape their bid based on that knowledge?

MR. S. MARSHALL: Sure.

MR. RALPH: And ultimately what that means is that you're gonna probably spend more money than you would have otherwise if they hadn't –

MR. S. MARSHALL: Yeah.

MR. RALPH: – had that information, possibly.

MR. S. MARSHALL: That's one thing. The other thing is that they might – could pick up little tidbits of information that, you know, support – buttress their – any claim they have.

MR. RALPH: Right.

So that could be a change order; that could be a claim –

MR. S. MARSHALL: Right.

MR. RALPH: – arbitration claim.

MR. S. MARSHALL: Right.

MR. RALPH: Now, if we go to – back to page 20. Now, this is a – this addresses wetland capping, and we've heard evidence of the options that were available to mitigate methylmercury that can occur after impoundment.

And I understand that, you know, if Nalcor were required to do wetland capping, they would have to contract with a contractor to get them to do it.

Now, in this instance, if this were to happen, the contractor now knows that there's a – you had forecasted $40 million.

MR. S. MARSHALL: Mm-hmm.

MR. RALPH: Is that right? So they know that.

So the cost, now, if it's – if you have to do it – and you may not have to do it – but if you have to do it, your cost is now gonna be greater than perhaps it would have otherwise because they have knowledge of that figure.

MR. S. MARSHALL: Correct.

MR. RALPH: Now, I understand that, you know, in this document there are many instances of where numbers have been redacted. If you wanna go through it, you can go briefly through it. Nalcor has asked the Commission to redact numbers, and they've done that.

MR. S. MARSHALL: Right.

MR. RALPH: In this instance, that hasn't happened. And I understand that, in fact, Nalcor didn't ask to redact this number.

MR. S. MARSHALL: Okay.

MR. RALPH: So I guess in this instance, if there's an increased cost to the project, it's not because of the Inquiry. It's because Nalcor didn't ask to redact a number. Is that fair to say?

MR. S. MARSHALL: Well, it could've been accidentally passed by, but, fair enough.

MR. RALPH: Okay, no, fair enough. Absolutely. It may – someone may have overlooked it.

MR. S. MARSHALL: Yeah, I mean, we got to look at all these documents, sometimes you're gonna miss some. But, okay.

MR. RALPH: I know, and if you go through that report, I think you'll see that a lot of time and effort went into determining what was commercially sensitive.

MR. S. MARSHALL: We tried to, yes. Everybody's trying to –

MR. RALPH: (Inaudible.)

MR. S. MARSHALL: – be reasonable here.

MR. RALPH: So we go back to page 21. And when I read (inaudible) this page, you know, it strikes me – now, this is a question, I know it's not a conclusion – there's a possibility that this risk assessment is an – sort of an I-told-you-so risk assessment. That if the costs go up in – during the course of the Inquiry, then you say to government, well, you know, we told you. We told you that was a possibility –

MR. S. MARSHALL: Sure.

MR. RALPH: – and now that – it's happened. Is that fair enough?

MR. S. MARSHALL: Sure.

MR. RALPH: So that was – one of the purposes of that was to say, you know, this is a possibility, guys.

MR. S. MARSHALL: Maybe I can help out here –

MR. RALPH: Okay, absolutely.

MR. S. MARSHALL: – (inaudible). I'm trying to understand where you're getting at. These types of risk assessments, like Westney, are good when there's a lot of variables, I've said it before. When it comes down to one, you know, they're not that good. You know, they're – they cover a big sample.

Do I believe there's gonna be $165 million? No. You'd never be able to quantify it anyway. It's good to go through the exercise to quantify, you know, the status or the risk of beginning mitigation possibilities. I didn't order the assessment.

MR. RALPH: Yes.

MR. S. MARSHALL: I – just another piece of information I use. I didn't update my AFE to incorporate this.

MR. RALPH: Yes.

MR. S. MARSHALL: So, if you could – if you're trying to say that, well, you know, how reliable is this. Not reliable at all.

MR. RALPH: Right.

So, in terms of exercise, you know, it seems to me that the numbers that are there, the 45 and the 165, in all probability, it came from Nalcor officials. It's hard to imagine that Westney is able to generate those figures.

MR. S. MARSHALL: I don't know, but it depends how many little separate inputs they put into it. But, like, that's so strange. The value of these types of exercises when you're down to a small number of variables –

MR. RALPH: Yes.

MR. S. MARSHALL: – is (inaudible).

MR. RALPH: Yes.

MR. S. MARSHALL: It's garbage in and garbage out.

MR. RALPH: Yes.

MR. S. MARSHALL: And I agree with that.

MR. RALPH: So in terms of the numbers that are there, Nalcor officials could have said, you know what, the $45 million is basically one per cent of the remaining budget.

MR. S. MARSHALL: Hmm.

MR. RALPH: Or – and the 165 is 4 or 5 per cent.

MR. S. MARSHALL: Yeah. I – when you say Nalcor (inaudible).

MR. RALPH: No, I'm agreeing with your statement that it's perhaps garbage.

MR. S. MARSHALL: It's surprising – as far as (inaudible) – I can't say don't go and do these things because, you know, it's going to be sort of inflammatory or – go out and do what you think is necessary. It's input; we'll have a look at it. If I think there's value to it, I'll use it. If not, if it's just all (inaudible) –

MR. RALPH: Right.

MR. S. MARSHALL: So, I think I'd agree with you.

MR. RALPH: I think we are agreeing. So, you know, it's easy – because you used the QRA, a quantitative risk assessment, before and you relied on that in terms of budgets for –

MR. S. MARSHALL: I only rely upon it as one input.

MR. RALPH: Right.

MR. S. MARSHALL: And that's why I never carried forward to – I've never carried forward to our board. You know, these were inputs, like, along with other inputs I exercised judgment, I talked to staff, questioned them, and then I come up with, you know, what I bring forward.

This is one I haven't, sort of, haven't seen it necessary to update and I think I've told the Commission before I think there's some direct costs of several million dollars. There's a risk of the other ones. It's like, you know, when people ask me to look at claims. You know, who knows that on the given day if you go to court, what a given judge is going to decide.

MR. RALPH: Absolutely.

MR. S. MARSHALL: Right.

MR. RALPH: No, that's my territory.

MR. S. MARSHALL: That's right. That's something you can relate to. I mean, if you have maybe 50 claims on the go, you say on average you might average out somewhere, but you've asked me about a specific claim and you took that reliable –

MR. RALPH: Yes.

MR. S. MARSHALL: I mean, we just – we make our best stab at it.

MR. RALPH: But I understand, like, for example, I think 2017, when the budgets went up considerably –

MR. S. MARSHALL: Right.

MR. RALPH: – during your tenure –

MR. S. MARSHALL: Right.

MR. RALPH: – you looked – you added a lot of contingencies. A lot of money was put in the contingencies.

MR. S. MARSHALL: Right.

MR. RALPH: And that was based on quality of the risk assessment, in part.

MR. S. MARSHALL: In part – it's one of the inputs but, look, for –

MR. RALPH: But not the only input.

MR. S. MARSHALL: But the biggest factor I have to decide is, you know, in terms of qualitative risk analysis, what probability are you going to assign to it. So, I mean, I could have chosen 50. I could have took 90. I took 75 and I justified it with 75 because it seems like that's the track we were on. So you got to exercise judgment in all these things and – but, you know, they're good information, right? But this page –

MR. RALPH: But that – this is not a qualitative risk assessment, this is not a Monte Carlo, I don't think.

MR. S. MARSHALL: Values is diminished by the fact is you're down to a small sample of whatever you're doing and you take it for what it's worth.

MR. RALPH: Now on page 21, there's talk of incurred. And I don't understand that. So there's incurred cost of $10 million –

MR. S. MARSHALL: Less than $10 million. So that's – what you're saying is you got direct cost here of lawyers, you got direct cost of documentation, all that sort of thing. I think we're up to several millions dollars now, so that's probably right.

MR. RALPH: So – right, so that – this report is dated June 2018. So before I suspect any numbers are released by the Inquiry, there are certain costs that had been incurred by Nalcor in relation to the Inquiry.

MR. S. MARSHALL: Right.

MR. RALPH: Do you understand what I'm saying?

MR. S. MARSHALL: We have direct costs that we –

MR. RALPH: Right, so it's not – these are not risks associated with numbers being available to contractors –

MR. S. MARSHALL: No, not this one.

MR. RALPH: – who then inflate cost perhaps because of that knowledge.

MR. S. MARSHALL: Right, right. So incurred is direct costs that (inaudible).

MR. RALPH: So it's odd to me because these numbers here, as I understand it, and I – you don't like using these words, but I understand these would be – these numbers would represent strategic risk and they would not be part of the AFE.

MR. S. MARSHALL: They are what they are. This is some risk analysis that I hadn't really used.

MR. RALPH: Right.

MR. S. MARSHALL: I only looked at it, saying that there's risk there, but I haven't incorporated it into the –

MR. RALPH: Right.

MR. S. MARSHALL: – AFE.

MR. RALPH: So I don't understand, though, how you have a $10 million incurred cost in a page that deals with strategic risk.

MR. SIMMONS: Commissioner, it doesn't say there's a $10 million incurred cost, it says there's –

MR. RALPH: Less than 10.

MR. SIMMONS: – less than 10 and that could be anywhere from $1 to $10 million.

MR. RALPH: And it doesn't matter how much it is, actually. My point being is why would you put an incurred cost on a page dealing with strategic risk.

MR. S. MARSHALL: Well, you'd probably get useful information. It's just useful information –

MR. RALPH: Again –

MR. S. MARSHALL: – I didn't prepare this (inaudible).

MR. RALPH: I understand.

But that information would've been by Nalcor, not Westney.

MR. S. MARSHALL: No, this information was prepared by Westney –

MR. SIMMONS: Commissioner, I don't think there's any evidence –

MR. S. MARSHALL: – for inputs provided by –

MR. SIMMONS: – to establish that, if I could interrupt for a moment.

THE COMMISSIONER: Excuse me just for a second now.

MR. SIMMONS: My recollection is – and I don't – I confess I don't have a crystal clear recollection on this, but I had thought that ranges of numbers were developed by the people at Westney. So I don't think there is evidence that says that it was people at Nalcor who developed these numbers and gave them to Westney.

MR. RALPH: Well, I'm asking him as CEO, I mean it seems to me (inaudible) –

MR. S. MARSHALL: Go ahead and ask your question. I –

MR. RALPH: – that, in all likelihood, it's hard to imagine that these figures would've been developed by Westney, who's providing risk analysis with regard to strategic and tactical risk.

UNIDENTIFIED MALE SPEAKER: Commissioner –

MR. RALPH: I'm sorry, you really should give me an opportunity to finish before you stand up and interrupt me.

THE COMMISSIONER: Okay, finish Mr. Ralph, please.

MR. RALPH: So I think it's fair enough to say, you know, as CEO and understanding and having used risks before, qualitative risk assessments, that you would understand how these things work and how the inputs are the ranges. What comes back normally is a – you know, the curve and the P-factors, and then decisions are made about that. So I think it's fair enough to suggest that in all likelihood that number, all these numbers here, are actually Nalcor numbers.

I think that's a fair enough question. If he can't answer that question, that's fine, that's it, that's as far as I go with it.

THE COMMISSIONER: Right.

I'm not sure – maybe you could go a little bit further and explain to me why we're talking about this at this stage of the game? What is the significance of this with regards to my having to deal with this?

MR. RALPH: I think that certainly Nalcor – I think witnesses have talked about this throughout this Inquiry in terms of the risks presented by this Inquiry, and I think it's fair enough to sort of – they're relying often on this document. And, you know, so I think it's fair enough to sort of – to question where these numbers come from, in terms of the impact an inquiry has on the project.

THE COMMISSIONER: Okay.

Let me hear from you, Mr. Simmons.

MR. SIMMONS: Thank you, Commissioner.

The document was produced as part of the general document production that Nalcor produced in response to the summons to the Commission. Nalcor has not been out there relying on this information in this document of its own accord. Many witnesses have been asked about it and have spoken about it in response to the questions that they've been asked.

I don't think it's fair to characterize this as being something where Nalcor's out there promoting this idea that these numbers are accurate numbers to be relied upon for the impact of the Inquiry. It's – the evidence is that there is an impact. Mr. Marshall has been very clear that it's almost impossible to assess exactly what that impact is.

MR. RALPH: Commissioner, I'd suggest that that's argument. That doesn't go to whether it's appropriate to ask the question.

THE COMMISSIONER: Well, I'm gonna settle the argument then.

Okay, so the way I look at it, very interesting that Nalcor officials went through the exercise of trying to value the risk of the Inquiry, very interesting, glad I know that they did it.

But guess what? I don't care if they did it or not. And ultimately, at the end of the day, I'm not the one who called the Inquiry. The government called the Inquiry. The issue of increase in costs, I've already been told that this cost is not included in the AFE, so it doesn't lead to a situation where there is an – it's causing an increase in cost to the project. There's a suggestion that if we didn't – if we release too much information, that it might increase the claims of contractors.

I'm perfectly satisfied that we've done everything we can as an Inquiry, you know, within the realm of balance, for public information as well, protection of the public as well with regards to additional cost, and I'd prefer that that didn't happen.

So, from my point of view, I don't know what we're talking about here.

MR. RALPH: Okay, that doesn't sound like a –

THE COMMISSIONER: What I'm talking about –

MR. RALPH: – decision with regard to my question of whether or not –

THE COMMISSIONER: Well the decision –

MR. RALPH: – the question –

THE COMMISSIONER: – regarding your question is you can ask – the witness has already testified – you're suggesting to the witness that these are numbers from Nalcor.

Let me say this to you, Mr. Ralph: We already had another QRA done in 2013. There's been evidence related to how those numbers got determined for the purposes of the DG3 number; I know how that happened, and I'll make my own conclusions with regard to how that happened, whether it was Nalcor who actually chose ultimately at the end of the day what the numbers were, which is the evidence that I've been hearing. In the circumstances, that's it.

I don't know what the point of this question is, to be quite honest with you. So –

MR. RALPH: So the ruling is that it's not relevant and not to ask the question.

THE COMMISSIONER: – and the ruling is it's not relevant.

MR. RALPH: That's fine. Thank you very much, Commissioner.

THE COMMISSIONER: Okay, thank you.

All right, it's 12:30, so rather than get Mr. Budden up now, we'll wait and come back at 2 o'clock this afternoon.

CLERK: All rise.

Recess

CLERK: All rise.

This Commission of Inquiry is now in session.

Please be seated.

THE COMMISSIONER: All right. Concerned Citizens Coalition.

MS. MUZYCHKA: Before we start with that Commissioner, if I –

THE COMMISSIONER: Sure.

MS. MUZYCHKA: – could enter a new exhibit please?

THE COMMISSIONER: Sure.

MS. MUZYCHKA: P-04420.

THE COMMISSIONER: All right. 04420. That will be marked as numbered.

MS. MUZYCHKA: Thank you.

THE COMMISSIONER: And Mr. Budden, when you're ready.

MR. BUDDEN: Sure.

Good day, Mr. Marshall. As you recall from our brief conversation a moment ago, my name is Jeff Budden, and I represent a group called the Concerned Citizens Coalition. And that group consists of individuals who for a number of years now have been observers of and critics of the Muskrat Falls Project.

I suspect you know some of them. You probably know David Vardy, for instance, and Ron Penney and some of the other individuals who have worked – covering what they believe to be some of the issues with the project.

So, I'll be about an hour today or perhaps a little more. And the first thing I'm going to do is return to your famous comment of June of 2016, where – you made a number of comments, but the one I'm thinking about: you were asked by a journalist at that press conference, was Muskrat Falls a boondoggle? And you said yes.

And from your earlier – you gave an answer earlier today, which as I took it was that you weren't referring to the overruns as such; you thought it was more an issue right from its conception in terms of the cost overruns.

So, perhaps you can just restate your answer to that, and then I'll follow up.

MR. S. MARSHALL: Yes. Your position is correct.

I did say this morning and I've said it since I came on with Nalcor that the real problem is that you're building something that I don't think should've been built. And that is based on the fact – a couple of factors. One, you're building something which is much bigger than was required in Newfoundland; and the other thing is because you're not going to use a significant proportion of the energy yourself, you're required to sell it or dispose of it, and doing that you made assumptions about what you could do – excuse me, Commissioner, there's a feedback on the thing.

THE COMMISSIONER: Yeah, I'm getting the same thing here. I'm sure the people in the back room know that, and so usually what they'll do is turn it down just a bit. So let's just see if it works out, if not, we'll have to take a minute just to (inaudible).

MR. S. MARSHALL: Okay, it's just distracting a bit.

THE COMMISSIONER: Yeah, it is.

MR. S. MARSHALL: So you're required to make assumptions about what you can sell it for and the price dropped. Really, it's about taking on extraordinary risk that you didn't have to take on. And, having done that, you found that things moved against you, and this made it very, very difficult for the consumers of this province.

MR. BUDDEN: Sure.

You were saying this in June of 2016, and from some of your earlier comments, I assume you were thinking it long before then.

MR. S. MARSHALL: Absolutely.

MR. BUDDEN: Okay.

So really, right from sanction did you have forebodings about these issues, this risk, this potential for it to be a boondoggle?

MR. S. MARSHALL: It goes back even further than that.

I got myself in trouble in 1998 when I made comments respecting the deal between Tobin and Bouchard. I had made – done an interview at *The Telegram* before the announcement, saying that any attempt to bring in power from Labrador would've probably doubled electricity rates in Newfoundland. And when Tobin made the announcement, of course, he came down on my like a ton of bricks.

MR. BUDDEN: Well, it's probably not much comfort, but it turns out you were certainly right, it would appear.

You, immediately after using the phrase, boondoggle, you went on to say – and I just reviewed this last night, actually, on YouTube, your interview – you went on to say something like that your task was to assure that in four years it would not be. And do you remember saying that?

MR. S. MARSHALL: I said something similar to that effect; I don't remember saying that.

MR. BUDDEN: Sure.

MR. S. MARSHALL: What you're trying to do is trying to make as much change as you can so that – alieve [sp. alleviate] the pressures.

MR. BUDDEN: Okay. So you saw it – have you seen your role, essentially, as a damage control role?

MR. S. MARSHALL: Yes.

MR. BUDDEN: Okay.

MR. S. MARSHALL: Well, two – one was that, you know, try to finish this project in the best way possible with the least impact; and do what I can to try to minimize its impact over time.

MR. BUDDEN: Okay.

How would you define success in those terms?

MR. S. MARSHALL: Well, you got to look at it a number of ways. You can't really undo what was done. Even – if you look at the original estimate, you're looking at – you know, assuming that the electricity rates were going to be basically around 11 cents, under the original estimates it was going to take it to 15 cents. If you account for just the change in load growth it would take you to 17 cents. So even as planned this thing was going to, you know, increase rates dramatically.

MR. BUDDEN: And by the change in load growth you mean the readjustment of the projections as is shown in your 19 –

MR. S. MARSHALL: Right. Yes.

MR. BUDDEN: – or 2017 projections.

MR. S. MARSHALL: Right. If you have the same costs – gross costs had to be distributed over fewer kilowatt hours, then it's higher rate per kilowatt hour.

MR. BUDDEN: Yes. So again, you're answering my question of how would you define success, and then you add to what you just said.

MR. S. MARSHALL: Yeah, and I think to try to position both Nalcor and the energy policy of the province, you know, for other things in the future, you know, looking at 2041, for example, and the possibility of oil and gas coming ashore; just generally the – try to do what you can to position the province going forward.

MR. BUDDEN: Sure.

Madam Clerk, could we call up P-01962, please.

And you would have discussed this briefly in your direct evidence, this is the letter Paul Harrington wrote to –

THE COMMISSIONER: Tab 8, tab 8.

MR. BUDDEN: – Mr. Harrington's letter to you of June of 2016.

MR. S. MARSHALL: Perfect. I remember the letter. Go ahead.

MR. BUDDEN: Right. Perhaps we can scroll down there's – I'm not going to do the – review the whole letter but there's a couple of quotes here that I'm going to just draw to your attention and then tell you what I think they mean.

Perhaps we can scroll down a tiny bit, Madam Clerk. Tiny bit – yeah, that's it, perfect.

So we see here – I'm going to read the key part, and I'm essentially reading the underlined section.

And this is Mr. Harrington writing you in June of 2016: "It was decided to impose a very aggressive approach to cost and schedule. While it is not my place or intention to comment on the rational for those decisions, the Project Management Team is now taking criticism for those earlier decisions and that seems to me to be somewhat unfair."

So hold that thought for a second, perhaps we can go on to the next page to sort of finish where I'm going.

And then we see in the underlined section – and it's the last sentence of that, Mr. Marshall, I'm particularly focusing on – the one that says – and again, Harrington writing you: "The unlikely probability of achieving these cost and schedule targets was well known."

So what I took – what I guess I'm asking you is you note in the letter, you actually had a meeting with Mr. Harrington that followed the letter, and did you take away from that meeting that Mr. Harrington was telling you that Ed Martin had imposed a very aggressive approach to cost and schedule on the project management team, despite the project management team having told him that, look, this is unlikely – this – the unlikely probability of achieving those cost and schedule targets.

MR. S. MARSHALL: Yes, I did.

MR. BUDDEN: Okay.

So that's the clear take-away that you had. And you believed them obviously. That's the way you saw things as well?

MR. S. MARSHALL: Well, I wasn't very sure whether the project team, at that point in time, shared that view.

MR. BUDDEN: Okay.

MR. S. MARSHALL: Right.

MR. BUDDEN: Right.

So I take it that when – you made a comment Friday afternoon to the point that if you were building another hydro project, you could happily go with this team again. You said something to that effect. I take it you're not blaming them for this being a boondoggle?

MR. S. MARSHALL: No, I don't.

MR. BUDDEN: Okay.

Who do you blame?

MR. S. MARSHALL: I'm not sure who. I think the Commission has to delve into that. And it comes down to whether it was a public policy decision, in which case, you know, the government of the day should bear the responsibility. Or if the government of the day relied totally on Nalcor, then the leadership of Nalcor should bear the blame.

MR. BUDDEN: Okay.

And by Nalcor, you clearly mean the executive, I would presume, in this instance.

MR. S. MARSHALL: Absolutely.

MR. BUDDEN: Okay, thank you.

The – Madam Clerk, perhaps we can call up P-02207 [sp. P-02297] because I have one more little line of questioning around Mr. Harrington and some of these events –

THE COMMISSIONER: That's on your screen.

MR. BUDDEN: – early in your tenure. Yeah, that would probably be on your screen, this one.

So, just to set this up a little bit, Mr. Marshall, this is one aspect of the exchanges between Mr. Argirov, the independent engineer, and Mr. Harrington that you were asked to comment a little bit on the other day. Though this will be, I think, a new angle.

And what this is, essentially, is an email thread which covers correspondence between various parties, including Mr. Argirov as the independent engineer and some individuals associated with Canada with your – with the party for whom at this very moment the Government of Newfoundland and Labrador was seeking a federal loan guarantee. And the – this was forwarded to Mr. Harrington in – explicitly by Mr. Argirov on the strictest confidence.

So I'd like to go to page 3, Madam Clerk, so toward – near the bottom of page 3. Perhaps scroll a little more – I may be in the wrong exhibit here, I'm sorry. I most definitely am in the wrong exhibit.

It's – the one I'm looking for, I think it might be 02267 [sp. P-02297].

THE COMMISSIONER: And this will be on your screen.

MR. BUDDEN: Yes, this, I believe, is it. I'm not even sure if this is it, to be frank. No, this isn't it either.

What I'm looking for – and I can park it for the time being if we can't find it – but it's an exchange of emails. It's an email from Mr. Harrington to Mr. Meaney covering about six pages of internal Canada emails. If the Commissioner happens to know which particular email that is; if not, I'll park it and come back to it in just a moment.

THE COMMISSIONER: I can't say, but maybe one of the Commission counsel or one of the other counsel can find that, and you can move on and hopefully we can get back to –

MR. BUDDEN: Sure.

I'll move on and I'll return to it. It's a fairly small point I want to make, but I do want to make it.

THE COMMISSIONER: Okay.

MR. BUDDEN: But I'm obviously not going to make it unless I can lay my hands on the exhibit.

THE COMMISSIONER: I just can't remember the exhibit number, I'm sorry.

MR. BUDDEN: Wouldn't expect you to, but I would be able to – pardon?

UNIDENTIFIED FEMALE SPEAKER: (Inaudible) binders?

MR. BUDDEN: I'm not sure. It's – let me see. It might be.

UNIDENTIFIED FEMALE SPEAKER: I'll have a look (inaudible).

MR. BUDDEN: Sure. It might be 02297, perhaps.

THE COMMISSIONER: 02297.

MR. BUDDEN: Yes, we have it. So that is in your binder, actually, Mr. Marshall.

THE COMMISSIONER: So, yes, that will be at tab 6.

MR. BUDDEN: So if we scroll down a little bit towards the bottom of that – and this is sort of in reverse chronological order. So we have an email – perhaps up a tiny bit.

Thank you, Madam Clerk.

This is – and we're on page 3 now, Mr. Marshall. This is an email from Mr. Argirov to some of the key decision-makers associated with Canada and, specifically, with regard to the financing of the federal loan guarantee. And I'm going to quote a little bit here, just to set this up.

So – and what this is – this is Mr. Argirov, as I was saying, and I'll just read here just to contextualize it: "The role of the Independent Engineer includes providing commentary on perceived risks identified to the on budget" – obviously a little error there – "schedule and specification performance of the project. When considering the necessity to report on an identified risk, the Independent Engineer takes account of not only the direct reporting and observations, but also the information obtained from other available sources. The recent press coverage and purported senior management announcements of Nalcor regarding the Lower Churchill project have given rise to an identified risk." And this is the key part: "That risk being the ability of the project to be completed on the current time schedule and budget."

And perhaps, Madam Clerk, we can move on to – a little further. "The risk … has caused consideration to be given to making management changes that in turn would significantly impact the project. In my experience, the stated intention to change management at this late project stage creates uncertainty and aggravation to the project team's moral. The speculation that follows creates performance issues in the management, and the production team. While this has not manifested significantly to date, the uncertainty around management change gives rise to an engineering concern as to the three primary project execution objectives - on time, budget, and quality performance."

So we can scroll back to the beginning of page 3, we have the government official – just a tiny bit more, Madam Clerk, in the other direction – replying as follows – and this is copied to Alison Manzer, who we've encountered elsewhere as the lawyer for Canada on this financing, and other individuals.

And it reads as follows: "Thanks Nik for noting the risks related to management changes on the project.

"Alison and Joseph, I would like to get your thoughts on the next steps to address the concerns that have been raised by IE taking into account the rights of the guarantor."

So where I'm going with this – this preamble, these quotes – is this was at the very moment when the Government of Newfoundland was seeking, you know, quite a – out of great necessity, I would suggest – seeking a further federal loan guarantee of almost $3 billion. And here we have the independent engineer – based, perhaps, on some of his communications with Mr. Harrington, though he doesn't say that – raising these major concerns about: Hey, you know, at this point in the project it would be a major risk to make major changes within the senior project team.

My question to you is: To what degree did this constrain your hand as you took over Nalcor and assessed whether to move forward with this team, whether to bring SNC back in the mix, whether to replace key individuals or so forth? How were you constrained by this communication, these concerns that Canada apparently had?

MR. S. MARSHALL: I was not constrained at all. I was not aware of his correspondence.

MR. BUDDEN: Okay. So at no point was any pressure put on you or were you even made aware by the stakeholder or by Canada or anybody else that Canada had concerns that changes to your major – to your project team would create risk?

MR. S. MARSHALL: I read this as the change was taking place when my role, that I came in –

MR. BUDDEN: Okay.

MR. S. MARSHALL: – as opposed to the people below me. That's my interpretation of this because I had just come in and I think that they may have – someone in the project team may have expressed concern about that and where I was going to take the whole team.

MR. BUDDEN: Okay.

MR. S. MARSHALL: So, this is normal. I, you know – there's always a risk when you make changes. I've explained earlier about changing of SNC-Lavalin's role. When you make changes, there's risk. But there's also a risk in not making changes.

MR. BUDDEN: Sure.

And I take no issue with that, but my concern is more – and you've answered the question, but just to be absolutely certain. You weren't even aware that concerns existed within the – that the independent engineer had concerns that the federal government had concerns about changes or potential changes to the leadership of Nalcor?

MR. S. MARSHALL: No, I don't think I'd met with these folks up to that point in time. I think it was a little later on I'd met with the ADM, who was on one of these emails with Nick and with Alison Manzer.

MR. BUDDEN: Yes.

MR. S. MARSHALL: Just, I – just after this I went to Ottawa, and it was still early days in getting the federal loan guarantee. So I think it was after this that I met with him; shortly after I'd met with him in Ottawa and gave him a full update where we were. Because, again, I was anxious that – make sure everybody was on the same page here, where we're going. And when I met with them, basically the reaction was, we're not surprised.

MR. BUDDEN: Okay.

And realizing, again, this correspondence dates (inaudible) the concern dates from May, but, of course, the federal loan guarantee wasn't finalized until, the second one until November. So this is spread over a period of time.

And so, you – you're evidence, basically, you had a free hand to make those changes to the project management as you felt to be necessary.

MR. S. MARSHALL: I had a free hand.

MR. BUDDEN: Okay. Fair enough.

My clients have, from the beginning, had some concerns with – this is a totally unrelated question about the concerns about the Power Purchase Agreement between Nalcor and its subsidiary, Newfoundland Hydro. And, in particular, their concern is that the power – their submission is that power purchase agreements, typically, are of a fixed cost nature.

The Newfoundland Hydro party, the distributor, would purchase party from the project – purchase power from the project developer at a fixed cost. This particular one was the opposite of that. The cost would be determined by the ultimate cost of the power. So it was an open-ended Power Purchase Agreement, rather than a fixed cost one.

From your experience in the power industry, is this arrangement the arrangement that was in place here when you took over an unusual arrangement?

MR. S. MARSHALL: It's difficult to talk about that without talking about the overall construct. You can't put it in context. Now, that was that, clearly, you're trying to force a square peg into a round whole here.

This overall legislative contractual construct was to ensure that whatever happened the Newfoundland consumer was on the hook for it. And that was the (inaudible) raising the money. So you can't take one part of it and say, you know, is this reasonable? You know, the whole thing was done for a purpose and what needs to be considered in total.

But, you know, if you ask – if you want to try to isolate the one thing, which I think is really not – yeah, it's a bit usual but some of them exist. But it's the overall construct; you know, you're trying to say, to force a square peg into a round hole. When you do that, some things don't fit very well.

MR. BUDDEN: Sure. And this Power Purchase Agreement is one of those things that didn't fit very well.

MR. S. MARSHALL: Correct.

MR. BUDDEN: Okay. Thank you.

With regard to the Astaldi contract, the – as we know, the original value from 2013 was $1.24 billion and that was renegotiated in 2016, I believe, early 2017. And ultimately the figure was $1.908 billion, almost $2 billion. And that, of course, even there Astaldi hasn't been able to complete the project. There's now another – other contractors attempting to do so, or doing so.

I guess the question we would have is given that the – I mean this is obviously with hindsight, but with hindsight at least, would you agree that the renegotiation – that is a better alternative than a renegotiation would've been to simply discontinue the relation with Astaldi?

MR. S. MARSHALL: No. Once you got in there, Astaldi was in there. As I said earlier, I did ask the question. First I went in 2016. I talked to some major contractors in Canada, and talked to Westney's people. Some of them had very expensive, experienced engineers. And without exception, they all said that if the existing contractor can perform, you're better off staying with the existing contractor.

MR. BUDDEN: Okay. So if there is a point of no return, it had happened long before you came on board in 2016?

MR. S. MARSHALL: Yeah. I had it all set – you know, I was prepared to terminate Astaldi if, you know, they couldn't demonstrate in 2016 that they performed the work properly. But the report I got in 2016 when I appeared on the scene was that, you know, they said there were improvements had been made and they were, you know, there's a good possibility they could carry on and perform the work well.

MR. BUDDEN: Okay.

MR. S. MARSHALL: And in fact they did.

MR. BUDDEN: So of course, ultimately, obviously Astaldi was terminated.

MR. S. MARSHALL: Right.

MR. BUDDEN: You did pull the trigger on that in fall of 2018.

MR. S. MARSHALL: Mm-hmm.

MR. BUDDEN: But, so at – clearly, there was no real point of no return. If it was done in 2018, it could've been done in 2016.

MR. S. MARSHALL: Big difference, though. In 2018, there is very little leg work left to be done. In 2016, they were just getting into it. And if you'd terminated Astaldi in 2016, you'd have to shut down the works for a year. That was the advice I got.

MR. BUDDEN: All right.

And that was – the cost of doing that would've been – would've outweighed any advantage. That was your calculation anyway.

MR. S. MARSHALL: Absolutely. That was, you know, the advice I got, and you'd have to shut down for – the advice I got was that you'd have to shut down for a year and that whoever came in to replace Astaldi would be on a reimbursable cost to us.

MR. BUDDEN: Okay.

So there's no advantage in terms of cost, no advantage in terms of schedule?

MR. S. MARSHALL: In fact, it would be a great disadvantage.

MR. BUDDEN: Okay.

MR. S. MARSHALL: But I was prepared to do that if Astaldi couldn't demonstrate that they could perform.

MR. BUDDEN: Okay.

So it's a balancing. You'd have to calculate, are they going to be more harmful in or more harmful out?

MR. S. MARSHALL: You're trying to do what's the best for the consumer of the province.

MR. BUDDEN: Fair enough.

Madam Clerk, could you please call up P-01988, and what this is – I'm going to be going back and forth a little bit between this –

THE COMMISSIONER: Screen.

MR. BUDDEN: This is the slide presentation you gave at Memorial in February of 2018, not that long ago, and there's a transcript out there as well. So – which is another exhibit. So I will certainly be moving back and forth.

Perhaps we could start with slide 26 – or rather, page 26, Madam Clerk.

So what this is – and, again, we're covering – you covered some of this ground in your direct but I'm taking it in a somewhat different direction.

So the blue line is the – rather the green line was the original power demand projection from time of sanction, I believe, and the blue one is the readjusted figure from 2017, the load forecast. So that's what that chart is, correct? And what that load forecast, the adjusted load forecast in June '17.

Firstly, have there been any further adjustments in the past two years?

MR. S. MARSHALL: No, I haven't made any. There may have been some minor adjustments down in the bowels of the organization, but I haven't dealt with one.

MR. BUDDEN: Okay. So there's been nothing – so these numbers, as far as you know, or these projections are still good two years later?

MR. S. MARSHALL: That's correct.

MR. BUDDEN: Okay.

So what we have here, I would suggest, is from, really, 2017 through to 2040, a relatively flat-load forecast. There's nothing at all resembling the previous load forecast from 2012. Do you agree with me there?

MR. S. MARSHALL: Yes.

MR. BUDDEN: Okay.

And the – and it's about 7,000 terawatt hours, basically, where we're to now and we're not going to be that different in 2040?

MR. S. MARSHALL: Yes.

MR. BUDDEN: Okay.

And perhaps the next page, Madam Clerk, which is page 27. And this is the Energy Deliveries. So, again, it's relatively straightforward but let's take 2021, and if you could just explain for the record what those four – when we get to 2021, we see, right below that, four numbers that begin with MF Exports at 1,400.

Could you please explain what those four numbers are?

MR. S. MARSHALL: Yes, throughout this exercise, I'm trying to demonstrate so the people understand what is changed and why things are the way they are. So if we look at – looking from the bottom here, 2021, you got what Newfoundland and Labrador Hydro requires now. Then you got the Emera block; you got – because Newfoundland and Labrador Hydro is not taking the same amount of energy that they initially thought, now you can export that power and sell it. And then you've got the amount of power that was always contemplated to be sold.

MR. BUDDEN: Okay.

MR. S. MARSHALL: So the only things split out now is – between Newfoundland and Labrador Hydro, what it requires now and what it has to sell now because it initially thought it was gonna require.

MR. BUDDEN: Okay.

So the – so just to break this down a bit, we've got the Emera block, which is the 1,166. Are these – are we talking terawatt hours here or –?

MR. S. MARSHALL: This is gigawatt hours in the –

MR. BUDDEN: Gigawatt, sorry – gigawatt hours.

And so that is the power that's going to flow on through the Maritime Link which is being delivered, I would say, free to Emera. I obviously realize it's to pay off the construction of the Maritime Link, but there's not going to be any return coming to Newfoundland on that in terms of any payment for that power block.

MR. S. MARSHALL: I think that's correct. I think that the – this – the additional energy is sold to Emera comes from the other two export sales. I think that's correct. I would –

MR. BUDDEN: Sure.

MR. S. MARSHALL: – wanna check it, but I think you're right.

MR. BUDDEN: All right.

But the Emera link – line there, the 1,166, that's power that's being sort of – quote, unquote – given to Emera as payment for them building the Maritime Link.

MR. S. MARSHALL: That's correct.

MR. BUDDEN: So that's not going to realize any revenue for Newfoundland any decade soon.

MR. S. MARSHALL: That's correct.

MR. BUDDEN: Okay.

So the next page, Madam Clerk, if we could. So what we have here are the Unit Cost Projections, and the numbers are – I realize a certain degree of power is lost in transit – in transmission rather. So perhaps you could just explain, say, looking at the left chart, Muskrat Falls Unit Cost Projection, explain that chart to us – or that pie chart.

MR. S. MARSHALL: Yeah, here – this is, again, what I referred to his morning trying to convey where the cost comes from. So on the left-hand pie chart, the seven cents is the – that's the cost that's coming from Muskrat Falls itself, the updated cost. Then you got the Labrador infield line, the LIL, 8.98, then you got the Labrador Transmission Assets. So what this graph is saying is that, of course, there's more cost associated with the transmission then there is with generation.

MR. BUDDEN: Mm-hmm.

MR. S. MARSHALL: It's only seven to 17 cents that comes from generation. It's distorted by the fact that you're not – in this chart, you're not looking at – not only at the capital cost, but at the financing mechanism. So it reflects the financing mechanism, as well. And the cost of financing the LIL is higher than the Muskrat Falls because you're inputting this rate of return concept for the benefit of Emera in the LIL.

MR. BUDDEN: Yes. I return to that because we take some issue with the seven cents, but for now, at least, that shows the – the cost of producing or delivering Muskrat Falls power to Soldiers Pond is 17.42 cents a kilowatt hour. That's what that's saying.

MR. S. MARSHALL: Yes.

MR. BUDDEN: Okay. And from the previous chart we – I think it's about 4,600 megawatts of power that is generated by Muskrat Falls. I think that's what that chart shows – adjusting for loss and by my calculations – my client's calculations – the – when we multiply that 17.42 cents a kilowatt hour by the total amount of power, we get a figure of about $808 million, which would be the annual revenue requirements to pay for the Muskrat Falls power. Does that look about right to you?

MR. S. MARSHALL: Sounds to be right.

MR. BUDDEN: Okay.

And, as well, if we go to page 29, there's a few more costs there. I'm not really concerned about these because they're there either way. But we look at the Newfoundland Power – again, for 2021 to be consistent. Of course, there are, obviously, other costs to distribute the power from Soldiers Pond and so forth. And they are reflected in the – I'm suggesting to you for confirmation – in the Newfoundland Power costs and the Newfoundland and Labrador Hydro costs there of 4.43 cents and 6.8 cents. That would be those figures, correct?

MR. S. MARSHALL: That's correct.

MR. BUDDEN: Okay. So, if we can go back to – a couple of charts back – 27, I believe it is. Yes.

So if we look here at the Muskrat Falls Exports. So, the power, as we've established, is costing 17.42 cents a kilowatt hour to produce. So in order for – the break-even point, I would presume, for selling that power would also be 17.42 cents.

MR. S. MARSHALL: No, it would be higher than that. Delivered to – no, sorry, the way you're talking about it, yes.

MR. BUDDEN: Yes. Okay. And that power at least – there's no market, I would suggest, for that power at those prices right now, is there? There's no market that was going to pay 17.42 cents (inaudible) –

MR. S. MARSHALL: That's correct.

MR. BUDDEN: What kind of prices are there out there now?

MR. S. MARSHALL: Depends on the time of year. Some – generally between two cents and seven cents a kilowatt hour.

MR. BUDDEN: Okay. So, when we're looking at that 17.42 cents, which is assuming – or the – in order to pay for that power, if any assumptions that were going – that 17.42 cents is going to be paid out of the export costs, those assumptions would be completely incorrect, wouldn't they?

MR. S. MARSHALL: Yes.

MR. BUDDEN: Okay.

MR. S. MARSHALL: This goes to the point I was making this morning. You're just going over the same ground with more precise numbers, that's all.

MR. BUDDEN: Mm-hmm. Yes.

And to continue it, if the power is not being – you know, if the export power is not carrying its fair share of the cost, which it clearly can't and won't, that drives further costs onto either the taxpayer of Newfoundland in the form of mitigation, or the ratepayer of Newfoundland in the form of higher rates, doesn't it? I mean, it's –

MR. S. MARSHALL: (Inaudible.)

MR. BUDDEN: – inevitably one or the other.

MR. S. MARSHALL: That's why I say the 17 cents becomes something three times as much –

MR. BUDDEN: Yes.

MR. S. MARSHALL: – if you've assumed nothing for the sales.

MR. BUDDEN: Yes.

MR. S. MARSHALL: So, okay, you're just going over the same ground with more precise numbers.

MR. BUDDEN: Yeah.

MR. S. MARSHALL: I have no problem with that.

MR. BUDDEN: Yeah, and – which is what led you to your comment about Muskrat Falls being an over-building. That's at least in part behind that comment, wasn't –

MR. S. MARSHALL: Yes.

MR. BUDDEN: – it?

MR. S. MARSHALL: Sure.

MR. BUDDEN: Okay.

Madam Clerk, can we go to – I think it is 28.

CLERK: Page 28?

THE COMMISSIONER: Page 28 or …?

MR. BUDDEN: Yes, let me see. Actually, it's not 28. I'm going back and forth between the slides and the – so I'll just be a second. I'll bring you to the right one.

Twenty-four. Okay.

No, sorry, 26.

The footnote down here at the bottom, Mr. Marshall: "Note: May 2017 load forecast is based on a targeted rate of 18 cents/kWh escalating at," essentially, I would assume, something like the rate of inflation, "2.2% thereafter."

So these demands are based on the already, I would suggest, a significant degree of mitigation of the power costs, so perhaps somewhere around 23 cents down to about 18 cents. So these already reflect significant mitigation, don't they?

MR. S. MARSHALL: Yes, they do.

MR. BUDDEN: Okay.

You would concede – I don't think you'd make any issue that power demand is at least somewhat elastic, in that if the power price goes up, people will do things. They will install solar panels, maybe even solar roofs in the years to come –

MR. S. MARSHALL: Yes.

MR. BUDDEN: – insulation, all those things. So –

MR. S. MARSHALL: Sure.

MR. BUDDEN: – there is a diminishing point where you can only raise rates so high and demand drops.

MR. S. MARSHALL: Correct.

MR. BUDDEN: So it's essentially a vicious circle, isn't it? If you're trying to recover from the ratepayers, that is not something that even if the political will was there, it simply isn't possible, I would – there limits to how much you can claw back from the ratepayers to pay for Muskrat Falls. You would concede that?

MR. S. MARSHALL: Yes.

MR. BUDDEN: Okay.

MR. S. MARSHALL: One thing I would add, of course, is that the government has indicated that they're gonna subsidize rates to a lower rate than 18 cents. So if they did that, the demand would be higher, 'cause it works both ways.

MR. BUDDEN: Yep.

To a point, I suppose, in that demand and people perhaps can convert and do all kinds of things, but surely there's some finite limit. The demands not gonna double that even if the rate drops to 5 cents a kilowatt –

MR. S. MARSHALL: No, but I'm saying the charges show there – assume 18 cents so to reflect what you're just saying, if the rate is gonna be lower than 18 cents, the demand will be higher, because it works both ways.

MR. BUDDEN: Yes.

But my only comment on that is that it works both ways, but only to a point because the demand is only going to increase so much, even if the price drops, wouldn't you think?

MR. S. MARSHALL: Correct.

The other thing is, it's important to recognize – and I've seen this many times – it's not so much the absolute level of rates, but the rate at which it changes. People over time will learn to build into their budgets. You know, there are places in North America the rates will exceed 22 cents.

MR. BUDDEN: Mm-hmm.

MR. S. MARSHALL: And I've seen it in the Caribbean way beyond that. So this is why when I advised the government, I said, look, forget about the absolute rates and what's the rates gonna be in 2040. Your objective should be to make sure the rates don't increase very dramatically.

So that has a big impact in terms of elasticity as well.

MR. BUDDEN: Mm-hmm.

But it would also be true, I would assume, that if people know, look, this is what the rate is now, this is what the rate's gonna be in the five years' time, therefore I know it's going up. So it might make sense to get a solar roof or –

MR. S. MARSHALL: Sure.

MR. BUDDEN: – it mightn't.

MR. S. MARSHALL: People are not as sensitive as you think.

MR. BUDDEN: You say sensitive or sensible?

MR. S. MARSHALL: Not as sensitive to the costs –

MR. BUDDEN: Okay.

MR. S. MARSHALL: – as you think. You know – and a lot of the efforts in the past have been misguided. You know, for example, they had a program to replace energy efficient fridges and they did that, only to discover that rates – the consumption was going up and discover that people were keeping their fridges for beer down the basement. And so they had to make it – change the program and make sure they took the old fridge. It's not as sensitive as you think. Like I said, the important thing is that you not change rates abruptly.

MR. BUDDEN: Mm-hmm.

MR. S. MARSHALL: And no one knows what the rates are gonna be in 2040, but if you bring the program to – gradually bring it in, people accommodate it and put it in their budgets.

MR. BUDDEN: Okay.

We heard from Mr. Raphals and other experts in Phase 1 who would disagree with you on that, and there are other jurisdictions, certainly, are much more aggressive about conservation demand management than Newfoundland is.

MR. S. MARSHALL: A lot of these jurisdictions have made terrible mistakes based on expert advice.

MR. BUDDEN: Okay. So that's your view, anyway.

MR. S. MARSHALL: My view is based on experience in many jurisdictions over the last 40 years.

MR. BUDDEN: Okay.

Madam Clerk, perhaps P-00076. And that is the transcript that essentially accompanies your presentation, so we – I'm gonna put some of your phrases to you from that night for comment. So, perhaps we can …

THE COMMISSIONER: Exhibit number is P – the exhibit?

MR. BUDDEN: P-00076, and I don't see it as –

THE COMMISSIONER: P-00076.

MR. BUDDEN: Yeah.

THE COMMISSIONER: So it'll be on your screen.

MR. BUDDEN: So perhaps we could go to page 10, Madam Clerk.

So what – this is basically part of your discussion. We talk about peak demand and so forth, which informs my next question. So, we can scroll down a tiny bit. I'm looking for the passage that begins: "Now, so the capacity" – yeah. So I'm gonna read you a little bit here, Mr. Marshall, and as follows.

"Now" – and this is your words from that night. "Now, so the capacity of this plant is 4 units of" – talking about Muskrat – "4 units of 206 megawatts each for a total of 824 megawatts. That's the maximum it could produce. It won't be producing that 24 hours a day, 7 days a week, 52 weeks – on average it's going to produce 4.9 terrawatt hours of energy. There's been total confusion between capacity and energy. There's 8760 hours in a year if you want to take that and multiply it" so " you could say that at 100 percent capacity it would fuse over six, close to seven terrawatt hours. So on average it's going to operate say about 550 megawatts."

And if we can go on to page 11, there's other stuff there that's not as important. Yeah, so I'm picking up sort of the middle of the sentence, you're reminding that, quote, "Emera is entitled about 20 percent of the energy for 35 years because of the Maritime Link. An additional 5 percent for first five years basically of this 824 they are entitled to 165 megawatts on peak. So when the power is at the most are entitled 165 megawatts which works out to 1.4 terawatt hours. You should also note that not new capacity to the island. The first thing is that there are line losses" and so on.

So basically we, you know, found that interesting because you acknowledge there obviously the distinction between capacity and power, other than peak capacity power. And so the issue is, I take it, is that there's a finite amount of peak power, and that is the power that is most valuable and a certain amount has been committed to Emera.

MR. S. MARSHALL: Right.

MR. BUDDEN: Okay.

In terms of the power that would be available for sale in addition to the Emera power, why would the market vary between the market for peak power and the market for non-peak power?

MR. S. MARSHALL: Well, we needed, if you recall, firm power. This is power you can deliver with certainty when you want it. That demands a higher price than sales of what we call economy power, which is, if I have the power (inaudible) I'll sell it to you at –

MR. BUDDEN: Yes.

MR. S. MARSHALL: So, you know, every utility has to make sure that they have the capacity to meet their customers' requirement and so that's the basic distinction between the two. The firm is you're gonna get it; economy is you'll get it if I have it.

MR. BUDDEN: Yeah.

And obviously if you're a utility in Vermont or somewhere it's fairly cold, they'd be looking for firm power or at least be prepared to pay a fair bit more for firm power.

MR. S. MARSHALL: Yeah, and there's a market for these things. Like, you know, a lot of the day-to-day (inaudible) is just economy, you've got it, you throw it into the market.

MR. BUDDEN: Sure.

After the commitment to Emera, and after Newfoundland's own needs for firm power, is Newfoundland in a position to sell firm power – or is Nalcor in a position to sell firm power?

MR. S. MARSHALL: There's not a lot of it there. I can't do the calculation right now but there's not a lot of it there, no.

MR. BUDDEN: Okay.

So the – that again would limit the ability of Nalcor to offset the cost of Muskrat by selling excess power.

MR. S. MARSHALL: It limits the value of it.

MR. BUDDEN: Yes.

MR. S. MARSHALL: And that's why I say it's about two (inaudible). You know, it's economy energy, generally speaking.

MR. BUDDEN: And it also, as you also speak to in that talk, it limits the ability of Nalcor to serve as potential industrial users, doesn't it, because –

MR. S. MARSHALL: That's correct.

MR. BUDDEN: – they'll typically require –

MR. S. MARSHALL: Yeah, yeah.

MR. BUDDEN: Okay.

So if we're going to be rescued, we're not going to be rescued by the sale of peak power, either domestically or through the Maritime Link.

MR. S. MARSHALL: Well, a thing shouldn't do – and, you know, this is one of the things we've been working on. You know, you can firm up power in different ways; you know, like ponding agreements, for example, in Bay d'Espoir, how you operate Muskrat Falls. There's some storage in Muskrat Falls, not a lot.

MR. BUDDEN: Mm-hmm.

MR. S. MARSHALL: So some you shouldn't do, but it's in with a narrow range.

MR. BUDDEN: Okay.

Perhaps we can go back to 01988, Madam Clerk, and it's page 28, again.

I want to return to that chart there on the left and really to a comment you made a moment ago. As you've acknowledged, the LIL power, the 8.98 cents a kilowatt hour, that 8.98 includes the cost of financing, doesn't it?

MR. S. MARSHALL: Correct.

MR. BUDDEN: Because it's sold on a particular basis and financed on a particular basis.

MR. S. MARSHALL: Correct.

MR. BUDDEN: How does that differ from how the generating power is financed? We've heard evidence on this, but you obviously understand it. So just, you can tell us.

MR. S. MARSHALL: Yes.

Well, the way the financing is done in the LIL is the company Emera.

MR. BUDDEN: Yes.

MR. S. MARSHALL: They wanted to, basically – first of all, these assets are not regulated. They're not like Newfoundland Power, Newfoundland and Labrador Hydro. They're unregulated assets. There's a difference in accounting for – first of all, between unregulated assets and regulated. I think an earlier witness failed to recognize that. Most accountants –

MR. BUDDEN: Which witness were you thinking of?

MR. S. MARSHALL: I think the current Auditor General, when she was involved in –

MR. BUDDEN: Ms. Mullaley, yes, because we examined her on that very topic.

MR. S. MARSHALL: Yeah.

She didn't – I don't think she's aware that there's a difference in accounting for regulated industries. So you need to understand that. You need to understand that the LIL assets in the Muskrat Falls is unregulated, okay?

Now you need to accept what I said earlier, you're – it's a square peg in a round hole here trying to make it – everybody's trying to make it fit. Emera, of course, in a – primarily in a regulated industry and it wanted to make LIL look like a regulated asset, and that would include having an allowance for funds under – during construction.

MR. BUDDEN: AFUDC I believe it's called.

MR. S. MARSHALL: Right. Well, that's a regulated concept. So now you're trying to foist – impose a regulated concept on unregulated assets, which increases the parent costs of the LIL, okay?

My understanding, then, is because this was distorted on the upside, they tried to correct with Muskrat Falls on either side so overall it would reflect the proper cost of an unregulated asset.

MR. BUDDEN: And is the reason that Emera wanted to look like a regulated asset because it ultimately had to be approved by its regulator?

MR. S. MARSHALL: Yes –

MR. BUDDEN: The UARB.

MR. S. MARSHALL: – but this part of it is not in their regulated domain. It was the import power. So they have different aspects of their deal, too.

MR. BUDDEN: Yes.

MR. S. MARSHALL: In their deal they – the Maritime Link is created as a regulated asset. So this is on top of that.

MR. BUDDEN: Okay.

So the LIL reflects the cost of financing; that 8.98 cents reflects the cost of financing.

MR. S. MARSHALL: It reflects the cost of financing as does the Muskrat Falls, but different types of financing. And because you're overstating the overall impact on – from Nalcor's perspective being unregulated, you're overstating it on the LIL, you correct by having it lower on the Muskrat Falls.

MR. BUDDEN: Okay.

MR. S. MARSHALL: But overall the total is correct.

MR. BUDDEN: The –

MR. S. MARSHALL: Look, both of them are correct but are different concepts.

MR. BUDDEN: Okay.

MR. S. MARSHALL: But you're (inaudible) – in structuring your financing, you're making the LIL look more expensive than the Muskrat Falls.

MR. BUDDEN: But it would also – you're making Muskrat Falls look cheaper.

MR. S. MARSHALL: That's the consequence of the first one. You can't then impose Muskrat Falls the same thing, then you're way overstating the cost.

MR. BUDDEN: How so? If AFUDC just reflects the cost, the fact that money costs – there's a cost to money, there's a cost to financing.

MR. S. MARSHALL: But it's a regulated concept that only applies to regulated industries, and so they're imposing here on an unregulated asset. So to make the whole thing, you know, total, to be reasonable, you've got to reduce the Muskrat Falls one.

MR. BUDDEN: Okay.

Well, let's put it this way because I –

MR. S. MARSHALL: You – if you wanted to make the same financing uniform then you, you know, reduce one and raise the other. Strictly speaking, AFUDC is not – should not be in there. It's a regulated concept imposed on an unregulated asset. But that was the term of the deal to get equity from Emera. That's my understanding of it.

MR. BUDDEN: How –

MR. S. MARSHALL: I wasn't there at negotiations, but that's my understanding of it.

MR. BUDDEN: Oh, I realize you weren't. We had all kinds of questions for those who were.

But how does – what is the norm for construction financing, megaproject financing?

MR. S. MARSHALL: You should – you can calculate your interest. Like I say, it appears in a regulated industry because you're – in a regulated business, you're only allowed to return – earn a return on your investment. And because you're in a regulated industry, if you use your equity to build something and you're not burning it during construction, then you're going to be out.

MR. BUDDEN: Well, surely –

MR. S. MARSHALL: The same concept doesn't exist in a regulated – unregulated industry.

MR. BUDDEN: But, surely, the cost to service is a standard concept. Like, that's nothing that was created for the LIL. That's standard, isn't it?

MR. S. MARSHALL: No, but I'm saying, you got a regulated concept, the way it – the way of accounting for the financing in a regulated business, and you got a different one in an unregulated business. And they've mixed the two here, which makes the – because the merit is there, and (inaudible) to earn a regulated – looks like a regulated rate of return, you know, on a regulated business. It's expensive.

MR. BUDDEN: But the regulated rate of return is to cover the cost of service.

MR. S. MARSHALL: But this is an unregulated asset. It has no application here.

MR. BUDDEN: Okay.

Well, let's put it this way. Another way of looking at it, does that 7 cents a kilowatt hour reflect financing cost?

MR. S. MARSHALL: Yes.

MR. BUDDEN: How?

MR. S. MARSHALL: The interest was there, but – what they've done is reduce the appreciation to offset the overstatement of the LIL. (Inaudible.)

MR. BUDDEN: It's back-end loaded. Like –

MR. S. MARSHALL: Right.

MR. BUDDEN: – the generating is back-end loaded.

MR. S. MARSHALL: Right. But, overall, the numbers – 17 cents is correct, in the sense that, you know, one is made to look more expensive than the other. If you can make two of 'em more expensive, then you're really making the thing more expensive than it really is.

MR. BUDDEN: Okay. But you've referred to in your talk – referred to the 7 cents a kilowatt hour as a bargain, and –

MR. S. MARSHALL: Yeah.

MR. BUDDEN: – I guess I'm challenging you on that, because how can it be a bargain if it doesn't include the – or the cost of financing are back ended, back loaded –

MR. S. MARSHALL: Financial costs are not back-end loaded. The interests are there, it's just that you reduce the appreciation because the other component is overstated for an unregulated industry asset.

MR. BUDDEN: Okay.

MR. S. MARSHALL: I think you're – what you were misunderstanding of your client, 'cause you're only used to regulated assets, is that you're trying to impose – when you impose regulated concept on an unregulated asset, it distorts the cost of the LIL.

MR. BUDDEN: Why would a –

MR. S. MARSHALL: It'd be wrong then to say, okay, you've got a distorted (inaudible) on the LIL, let's put the same costs on the generating. These are concepts that don't apply to unregulated assets.

MR. BUDDEN: Why would a regulator require a certain model of financing?

MR. S. MARSHALL: The regulator doesn't necessarily require it. They – but the company wants to earn on its investment as (inaudible) during construction.

MR. BUDDEN: Okay.

MR. S. MARSHALL: And if you don't have a concept – and because – in a regulated industry, it's – you'd – theoretically, you're earning on your asset. Until the asset is in service, normally, you don't get to earn on it. So if you made investments during a long period of construction, you're going to be out.

So, to offset that, they introduced a concept of an ultra fund during construction.

MR. BUDDEN: But it's also true that if the financing is being done during construction at least you're going to get a return. I would suggest, in the case of the generating assets, any return that might be seen is decades down the road, and as we've also seen from the exercises we just walked through, they may or may not ever happen.

MR. S. MARSHALL: I don't think you're understanding the regulated concepts, and you're trying to confuse the two. Honestly, you know –

MR. BUDDEN: I don't think the issue is so much whether it's regulated or not regulated –

MR. S. MARSHALL: It was absolutely whether it is regulated or not regulated.

MR. BUDDEN: But, how does that affect the fundamentals of –

MR. S. MARSHALL: Because –

MR. BUDDEN: – return of investment?

MR. S. MARSHALL: There are certain things that apply in – are allowed in a regulated industry. The accounting rules for a regulated industry are different in many aspects than they are for other businesses.

MR. BUDDEN: (Inaudible) –

MR. S. MARSHALL: This has been an ongoing controversy in the accounting world for quite some time. And so, you can only do it in the accounting world and accounting area. You can only do it with certain things in a regulated industry. And this is difficult here because they're trying – they're starting off imposing, almost, a regulated concept in an unregulated asset because you're trying to satisfy Emera, which is torturous. And –

MR. BUDDEN: But there in – the concept in this case is return on the investment. Right?

MR. S. MARSHALL: No.

MR. BUDDEN: Okay.

MR. S. MARSHALL: It's financing. So, if you're – if this was – if Emera wasn't here, there'd be no AFUDC, period.

MR. BUDDEN: Okay.

MR. S. MARSHALL: On this part of it.

MR. BUDDEN: (Inaudible.)

MR. S. MARSHALL: It's just being – as I'm saying, because you're trying to accommodate this thing, you're imposing it artificially to accommodate Emera. Otherwise, it shouldn't be there.

MR. BUDDEN: I don't think that's the issue so much. I would suggest the issue is more – is the cost of financing being captured in one model and not captured in the other?

MR. S. MARSHALL: No, it's being captured in two models, but you're using the model of regulated industries in an unregulated asset, artificially, to accommodate Emera.

MR. BUDDEN: Okay. But, leaving aside –

MR. S. MARSHALL: I'm trying my best to explain it, but you can go over it as many times as you want and that's the answer.

MR. BUDDEN: Okay. Well, I'll go over it one more time.

MR. S. MARSHALL: You're wrong. You're client is wrong about the 7 cents. You can't carry on without making the problem worse by allowing, you know – perceive that you're making a return during construction. Nalcor is simply wrong.

MR. BUDDEN: Well, I'm going to have one more try at it, because I don't accept what you're saying and this is why – that you have an asset – you're – you described this in your talk: this 7 cents a kilowatt hour is a bargain. And my suggestion to you is that it's only a bargain – if it's a bargain at all – it's only a bargain, that's only a true cost, if the cost is going to be recovered, which in turn is built on all kinds of assumptions about the ultimate return on the investment.

And how can you assume you're going to have a rate of return if you have back-loaded it to the point of decades down the road, when the asset may or may not realize a return, as we've just shown?

MR. S. MARSHALL: For example, many – most new generation facilities are unregulated. There'd be no AFUDC, because there's a concept for regulated industries, not unregulated.

So I tried to explain it many times, and I don't know how else I can do it, really.

MR. BUDDEN: Okay. Let's put it this way: Are you saying that that seven cents a kilowatt hour reflects financing cost?

MR. S. MARSHALL: Yes.

MR. BUDDEN: Okay. So when my client –

MR. S. MARSHALL: But the financing structure is different than under the LIL, to accommodate Emera.

MR. BUDDEN: And, again, just in a nutshell, what are the two different – and leaving aside the whole discussion of regulated versus unregulated – how are the financial structure themselves different?

MR. S. MARSHALL: Okay. In the LIL –

MR. BUDDEN: Yeah.

MR. S. MARSHALL: – you are trying too mirror as if it were regulated – (inaudible) concept of AFUDC. Okay?

MR. BUDDEN: Yeah.

MR. S. MARSHALL: So capitalize, you know, a fictional return during construction, which you normally can't do in unregulated businesses. So that distorts the cost overall of an unregulated asset, so if you wanna make your overall more balanced, then you've got to do something on the other side. And here, what they're doing, they're treating the interest for construction on the Muskrat Falls as it should be, but you're cutting back on the amount of depreciation in the early years to try to balance it.

MR. BUDDEN: Okay.

Cutting back on the amount of depreciation, what exactly do you mean by that?

MR. S. MARSHALL: I think they're sort of using more increasing rate.

MR. BUDDEN: Increasing rate of what?

MR. S. MARSHALL: Recognizing the – you know, the depletion – or the amortization of Muskrat Falls. In essence, that's my understanding.

MR. BUDDEN: Okay.

So, again, you weren't there, and I realize you're trying to explain something you weren't there at the creation of, but it still remains true that the Emera investment – if you were investing a dollar in Emera and a dollar in the generating aspect of the project, your return on your investment in Emera would be paid off sooner than your return on the –

MR. S. MARSHALL: Well, that's different –

MR. BUDDEN: – investment on generation –

MR. S. MARSHALL: – you've got a different age of the assets. But, in terms of Emera's involvement, put it this way: If Emera was not involved, the cost of financing would be lower.

MR. BUDDEN: Okay.

MR. S. MARSHALL: It's expensive financing.

MR. BUDDEN: Okay. And is that because – because obviously, the cost of money remains steady, I mean if you are borrowing money, you're paying whatever rate you've (inaudible) –

MR. S. MARSHALL: Well, if you were borrowing it. But if you are putting equity in, it's a different rate on the interest.

MR. BUDDEN: Yes.

MR. S. MARSHALL: And so, you are treating it – the equity contribution from Emera, you are saying that we are gonna give – treat that as if it is a regulated asset with a rate of return that mirrors what Newfoundland Power is earning and then you are gonna introduce the concept of AFUDC. So, this is more expensive – I mean – so, for example, just on the equity – I don't know what it is now – around 8 per cent, whereas the interest for borrowing is at 3.52 per cent –

MR. BUDDEN: Mm-hmm.

MR. S. MARSHALL: – or close to it, 3.5. So it's very expensive financing, but that was part of the deal.

MR. BUDDEN: Yes.

MR. S. MARSHALL: So it makes the cost of the LIL much more expensive than if you just went out and borrowed the money.

MR. BUDDEN: So if you borrowed when the Phase 2 of the federal loan guarantee came in, in late 2016, if at that point, and again I'm using – just pointing numbers out of the air, but if a billion dollars is taken and putting into the LIL, and a billion dollars was taken and put into the generating plant, in each case the interest rate is payed the same, isn't it?

MR. S. MARSHALL: Right. Correct.

MR. BUDDEN: Okay.

Which of those would pay off the rate sooner?

MR. S. MARSHALL: There would be no difference.

MR. BUDDEN: Okay. So there's no difference at all to how the – each asset was paid off? Or each part of the loan was paid off?

MR. S. MARSHALL: No.

MR. BUDDEN: Okay.

Which would have the higher cost of financing?

MR. S. MARSHALL: If both went the interests would be the same.

MR. BUDDEN: Interest would be the same, but the rate of repayment would be different, would it not? 'Cause –

MR. S. MARSHALL: No.

MR. BUDDEN: – one is AFUDC and the other doesn't.

MR. S. MARSHALL: AFUDC has got nothing to do with interest –

MR. BUDDEN: Okay.

MR. S. MARSHALL: – that's the equity –

MR. BUDDEN: Yes.

MR. S. MARSHALL: – component contribution.

MR. BUDDEN: Okay. Well withdraw that question, but if you're borrowing the money and divide – putting half of it towards the LIL and the other half towards the plant – one is generation, one is transmission – so the money's going equal amounts into each. The LIL, the repayment will start immediately, I assume. Or is that correct?

MR. S. MARSHALL: No.

MR. BUDDEN: Okay.

MR. S. MARSHALL: Really, the way they constructed it, it makes no difference. You know, the difference is the equity contribution of Emera in the LIL. It makes it more expensive. It's got nothing to do with interest.

MR. BUDDEN: The equity contribution –

MR. S. MARSHALL: Contribution of Emera. You're imputing a return which is a lot higher than the interest rates.

MR. BUDDEN: Okay.

MR. S. MARSHALL: Yeah. So that was the deal with Emera you're putting as equity return.

MR. BUDDEN: Okay. So –

MR. S. MARSHALL: So LIL is much more expensive proportionately than Muskrat Falls. It's got nothing to do with interest.

MR. BUDDEN: Okay.

MR. S. MARSHALL: Or anything else, it's just that this was the deal. You're imputing a higher rate of return for Emera.

MR. BUDDEN: So, if the entire project was financed as a LIL (inaudible) project, the generating component would be higher, and the same would be true in reverse?

MR. S. MARSHALL: Yes. But you'd be making more money, because you're – if you're imputing a higher rate of return, you're getting the money back.

If it's only Nalcor, you can assume that you're going to earn, you know, 20 per cent per year, and Nalcor gets it back, because it's paying itself, in a sense, on an equity component.

If you look at an equity component, you're lending – it's like lending money to yourself. You can assume whatever interest rate that you want. I mean, it just washes out between the two, right? You give it, and get it back.

MR. BUDDEN: But the rate of – if you're talking Emera – the rate is fixed. It's 8.5 percent, right?

MR. S. MARSHALL: No. I think it's just tied into what the regulated rate of return is for Newfoundland Power, I think. It's not fixed in that sense. It is a proxy, used as a (inaudible), right?

MR. BUDDEN: Okay.

All right. I don't think we're gong to convince each other at this point, so let's move on.

With respect to the North Spur, we heard your comments earlier and as you know my client has been concerned about the North Spur, as it has with many other issues, for some time. I take it from your evidence that you, yourself, have no concerns and you don't believe that it is reasonable to be concerned about the stability or safety of the North Spur?

MR. S. MARSHALL: That is correct.

MR. BUDDEN: Okay.

Here's what critics of the project would say, they would say that in 2011 and 2012 we raised all kinds of concerns about the various assertions of Nalcor or entities associated with Nalcor. Nalcor essentially – and the stakeholder pooh-poohed our concerns, which they clearly did. You were there at the time – remember the way that some of the critics were dealt with. So those – and those critics would say: As evidence has emerged from the Inquiry it turns out, in many respects, that perhaps we were right.

Evidence has also emerged through the Inquiry, my clients will submit – up for the judge to determine whether we're right or wrong – that Nalcor, through members of the project management team – and at least the project management team – played an improper role in shaping various independent, cold eye reviews. We've heard evidence from Mr. Owen, Mr. Westney, MHI, Ziff and others, and the independent engineer, perhaps.

My question is this: Can you not understand why critics of Muskrat Falls, who so far have largely – I would suggest – in many respects have been proven right about their concerns and who have come to be suspicious of cold eyes reviews and third party reviews of Nalcor – of this project, why they might remain unsatisfied with the assertions of Nalcor, of people associated with Nalcor and would strongly prefer a totally independent panel struck by the government to investigate, once and for all, whether the Swedish academics are totally unreasonable with their concerns or whether on the other hand there is something to their concerns? Can you not understand why critics might wish for that?

MR. S. MARSHALL: I can understand why there is a bit of cynicism about anything that comes out of Nalcor in the period. But I can assure you that when I went in there I went in asking the same questions and I am totally satisfied with the answer. I don't know how many – and those reviews were done properly by highly qualified professionals many times over and, simply, I have no hesitation whatsoever (inaudible) – not today.

MR. BUDDEN: Okay.

I have another line of questions which I – before you answer we'll sort out whether I'm allowed to put them to you or not. It's several questions about the Quebec Court of Appeal decision and the Premier's comments and Nalcor's response.

So I presume there will be submissions on that.

THE COMMISSIONER: Yes, I would think. And I'll put my submission there first.

I'm very – what's the best way to put this? I have not asked Commission counsel to set up a further water management hearing for no reason.

MR. BUDDEN: Mmm.

THE COMMISSIONER: And, as a result, I want to hear evidence related to the impact of that Court of Appeal decision on the whole issue of water management rights.

The problem is that in doing so, I don't want to tip the hand of – particularly the Government of Newfoundland and Labrador and Nalcor Energy with regards to plans that they may have with regards to this. It's hard for me to explain this because I know something you don't know.

So I would prefer, Mr. Budden, if you and your clients would allow me to deal with the issue of water management and the issue of the Quebec Court of Appeal decision in the way that I initially decided to deal with it in the first place, and that is in camera so that I can assess the positions of the parties.

I recognize that you and your clients are not present there. I have added the Consumer Advocate and they have been present and they will be present for the next round. In trying to balance the interests of the ratepayers and the taxpayers of the province with the issue of potentially commercial sensitivity, solicitor-client privilege –

MR. BUDDEN: Mmm.

THE COMMISSIONER: – things of that nature, like it's not a – as you understand, it's not an easy topic to try to deal with. So, I guess from my point of view, I would prefer that we leave that to the in camera hearing that is being planned at the moment.

MR. BUDDEN: Sure.

The only thing I would say in response is that we do have the Premier of the day saying he – that this decision gives Nalcor – gives CF(L)Co the rights to manage water on the Upper Churchill; therefore, not having a negative impact on Muskrat Falls. So that's the Premier of the day saying this as a public comment. So it does seem to me, somewhat incongruous, that – and I totally respect the position even though we disagreed with the position the Commission took. But from our perspective it's an odd thing that he can say something in public and I can't ask him about it here when he comes up.

So – but that's your ruling. I wont – I'll leave it at that.

THE COMMISSIONER: Let my put it this way. When Mr. Ball takes the stand – Premier Ball takes the stand, you know, I think it's a fair question to ask him: Where did he get that? But it's not going to be a fair question in public to ask him what advice he may have been given by his counsel or by Nalcor's lawyers or whatever the scenario is. So if I can make that distinction. And I don't know if that helps at all.

You know, to be quite frank, one of the reasons that I'm proceeding to have a second hearing on water management, even though it's really rubbing up against our schedule, is because I feel it's important. I mean, I have reviewed that decision myself, I heard what the Premier had to say, and I have some concerns and I need to have those addressed.

MR. BUDDEN: Okay.

Well, I – my question for this witness was essentially whether he agreed or disagreed with that, but perhaps in light of your comments, I assume that's an area you prefer I not go.

THE COMMISSIONER: The question of whether this witness agrees or not may not be that much – may not be that significant.

But I'll ask Mr. Simmons his position.

MR. SIMMONS: Commissioner, two points.

First of all is that although there is a decision from the Quebec Court of Appeal, appeal periods for further appeal, potentially to the Supreme Court of Canada, are not expired. So in that sense, we're really no different than we were on this issue last fall when it comes to the degree of sensitivity around the views that the parties might have on this issue.

And the second point is although I understand Mr. Budden's interest in asking the Premier about the public comments he made, Mr. Marshall hasn't made any public comments. So, consequently, I don't think it would be appropriate to be asking him for his views on something said by the Premier. How the questions are put to the Premier, if they are, is a bridge we can cross once we reach that later during the week.

THE COMMISSIONER: And what is the government's position?

MR. LEAMON: The government's position would be similar as to what Mr. Simmons has said. Nothing has really changed to change this position from the fall. Regarding the Premier's public comments, that's something, again, we can discuss later in the week when the Premier has taken the stand.

THE COMMISSIONER: Anything else you want to add, Mr. Budden?

MR. BUDDEN: No, I said my piece.

THE COMMISSIONER: You know, if you asked that question and Mr. Marshall responds in a certain way, I think it tips the hand to Hydro-Québec. If you ask it another way, I'm not sure it does anything other than basically (inaudible).

I think let's wait and ask Mr. – I will permit a question to Mr. Ball related to where he – you know, on what basis he made his statement. I think that's a fair comment. But I would prefer not to get into who's right and who's wrong. I'd like to have a look at that myself in camera.

MR. BUDDEN: Okay.

THE COMMISSIONER: All right?

MR. BUDDEN: Thank you, Mr. Marshall.

MR. S. MARSHALL: Thank you.

THE COMMISSIONER: All right, it's quarter after 3 but I think I'd like to trudge on for one more anyway.

Edmund Martin.

And, Mr. Smith, if you – once we get partway into it, I might – when it comes to a good spot to break, you can let me know and we could take our 10 minutes then.

MR. SMITH: Mr. Marshall, how are you today?

MR. S. MARSHALL: I was fine up until now.

MR. SMITH: Harold Smith for Edmund Martin.

I'm going to refer you, first of all, to your transcript of June 28. I don't think that comes up anywhere. I'm not sure you have copies of it.

THE COMMISSIONER: I don't, but I think I tried to make one available over the weekend to counsel.

MR. SMITH: Yeah, there is a –

THE COMMISSIONER: Okay.

MR. SMITH: – transcript, you know, provided to the parties, a draft. And I'm quoting from the draft, if that's satisfactory.

THE COMMISSIONER: Okay.

MR. SMITH: At page 46 of your transcript you state: The other thing is I ask – I said, well, there's challenges here, different challenges. Two aspects of that are we ready for – are we getting ready for transitional operations? And I spoke to Rob Henderson, who was, again, a former president of Hydro. And Robert shocked me saying, no, we're not. We have done no budget, we're just getting there. And that alarmed me because I know the thing that wasn't being appreciated by the people on Torbay Road, in my view, was the complexity of the transmission system and the challenges it presented.

And I took it from those comments that the transitional operation – the operations towards transition had not been considered as late as your arrival in May-June of 2016. Is that a proper way of looking at it?

MR. S. MARSHALL: I think it's been considered, but when I spoke to Rob he said we really didn't have much of a budget to do anything.

MR. SMITH: Okay.

Now, maybe we could call up P-00428.

THE COMMISSIONER: 00428.

Okay, that's going to be on your screen.

MR. SMITH: Scroll down, please. Okay.

Just to put the context in place. It's an October 21 document, 2014, and it's – it indicates it's a Corporate Governance Model for Nalcor following the – I believe, the completion of the Muskrat Falls Project.

Again, scroll down, if you would, to page 26.

CLERK: Page (inaudible)?

MR. SMITH: Twenty-six. Yeah.

So here is a slide deck: MF/LIL Transition From Project State to Operations and Operations Readiness, October 21, 2014. So this suggests that at least it was under consideration. And if you look at page 26 – oh, sorry, 27, there's a content and outline regarding transition teams, mandates and responsibilities, transition timeliness [sp. timelines], et cetera.

Next page, please, 28. And the purpose of the deck is "To provide clarity on how the transition from a Project State to Operational State will be organized, managed, and efficiently executed for the Lower Churchill project."

Now, I suggest to you that this fairly clearly indicates that as – back as early as 2014, this was a – if you will – a thrust of part of the team. I would say to you that it does appear that this was not actually in the hands of the project management team, but in a transition team or a team made up of both Hydro executives or Hydro people and people getting it ready from the project team.

Is that – does that help your understanding of – that this was in place?

MR. S. MARSHALL: Like I say, I knew there was supposedly people there. I mean, Rob was assigned to that.

MR. SMITH: Yeah.

MR. S. MARSHALL: But when I went and talked to him – so I'm not saying that there wasn't a recognition that you needed something like this –

MR. SMITH: Yeah.

MR. S. MARSHALL: – and that would be normal. But when I spoke to Rob, he said he – that very little had been done, he didn't really have a budget to do much.

MR. SMITH: Okay.

In that regard, he may not have had a budget, but it's my understanding that whatever was necessary to be done by the project management team versus whatever needed to be done on the Hydro side were taken up in their budgets and anything left over was through the executive –

MR. S. MARSHALL: That could be –

MR. SMITH: – of Nalcor.

MR. S. MARSHALL: – and – but there's no sense of urgency on the transmission side.

MR. SMITH: Okay.

MR. S. MARSHALL: Right? I think they were just expecting that because Muskrat is going to be delayed, transmission will be delayed, too, and it didn't matter.

MR. SMITH: Okay, could we go to page 29?

You see this graph, essentially, sets out the progress and the expectation that the integration would occur some time in late 2017, early 2018. That's my understanding of this slide. That is as far back as 2014, they were predicting or projecting that the transition would be in a readied state for 2018, but for the fact that the generation project was behind schedule.

MR. S. MARSHALL: Well, I think that was the issue, because now that generation was going to be late, that this – these milestones were no longer appropriate.

MR. SMITH: Perhaps we'll look at P-00693.

THE COMMISSIONER: Again, this will be on your screen.

MR. SMITH: Okay, 00693 is board minutes of the board of directors of Nalcor, April 2, 2015, 2 o'clock.

Scroll down to – I think it's on page 2.

Now, here it is. It says, "**READY FOR COMMERCIAL INTEGRATION**." And that's what we're talking about, isn't it?

MR. S. MARSHALL: Part of it.

MR. SMITH: Yeah.

So "Mr. Martin explained that fundamental changes to the electrical system in the Province of Newfoundland and Labrador will be necessary upon the inter-connection of the system to the rest of North America."

So he appears to be agreeing with you that this is a critical and complex problem.

MR. S. MARSHALL: Yes.

MR. SMITH: Okay.

"There will be a requirement to adhere to certain reliability standards, amongst other things. He stated a great deal of work has been ongoing within the Corporation with respect to this reorganization. He felt it was an appropriate time to provide the Board with an update on this work."

And then he goes on: "Mr. Martin noted that the Provincial Government has been involved in the exercise and are fully informed concerning its progress." And scroll some more. "In addition they have external consultants involved in the process. The Government strongly supports the work that is ongoing and will continue to be involved."

And once again – a little more, scroll down, I think the last two paragraphs. "Mr. Martin also noted that external resources are involved in the process, including external counsel in the United States and Canada, as well as KPMG. He stated that consideration has been given to retaining a communications firm that has been involved in this kind of restructuring in the past.

"Mr. Martin stated that internally a steering committee involving senior Leadership is in place overseeing the process, with various sub-committees having been formed as well."

This is in 2015, is the information given to the board. It seems like, you know, looking at that evidence, that this transition issue was front and centre. That the board had been informed and that they had a committee, a steering committee in place working on it. It doesn't seem like it was lollygagging in the weeds somewhere, it looks like it was front and centre.

MR. S. MARSHALL: I don't know if it was front and centre. I think that there was a recognition – there had to be, 'cause you had to put some, you know, legislation in place, for example.

MR. SMITH: Yeah.

MR. S. MARSHALL: You would need advice from some counsel outside, but they hadn't been put in place when I arrived.

MR. SMITH: Right.

And the reason I further emphasize, if you look at P-03001.

THE COMMISSIONER: 03001. That'll be on your screen as well.

MR. SMITH: And you scroll down to the letter. You've seen this – when it comes up – have you seen that letter before? This is a letter to – from – again, go up – from Nalcor to Michael Atkinson and Patrick Baudin of –

MR. S. MARSHALL: I don't think I have.

MR. SMITH: – Alstom and Alstom Grid?

MR. S. MARSHALL: No, I don't think I have.

MR. SMITH: You haven't seen that before?

MR. S. MARSHALL: I don't think.

MR. SMITH: Okay.

In this letter, I think it's Mr. Harrington is communicating with respect to the transition from project to power on the grid, and I think a close review of the letter will demonstrate that they had hired these companies to actually do the transition and I'm just pointing it out to you that (inaudible) –

MR. S. MARSHALL: Could you just scroll back to page 3, bottom –

MR. SMITH: Back to page 3?

MR. S. MARSHALL: – of page 3?

MR. SMITH: Yeah. Page 3.

MR. S. MARSHALL: Move back, stop. For example it says: "With early stages of commissioning scheduled to commence in Q2, 2016, Static Checks scheduled to be complete for Soldiers Pond …." I mean that was never done.

So my point was –

MR. SMITH: It wasn't done in 2016.

MR. S. MARSHALL: Everything was late.

MR. SMITH: Okay.

MR. S. MARSHALL: But when everything – I think what happened was when everything got late, the work that had been contemplated been doing never really got done. It hadn't been done when I arrived.

MR. SMITH: Well, it couldn't be done in '16 because the LIL wasn't finished.

MR. S. MARSHALL: Right. That's what I'm saying, just –

MR. SMITH: Okay.

MR. S. MARSHALL: Right? But I never said there wasn't a recognition to –

MR. SMITH: Yeah, but this anticipates the LIL being completed.

MR. S. MARSHALL: Yes.

MR. SMITH: Right? And therefore –

MR. S. MARSHALL: This would be a normal process – part of the process, if you're building something that you got to complete the transition to operations and commissioning. Those are normal so you'd expect to see this talked about.

MR. SMITH: Okay.

MR. S. MARSHALL: Yes and apparently it was –

MR. SMITH: Yeah.

MR. S. MARSHALL: – which is good.

MR. SMITH: Okay. It was talked about a contractor was hired to do it.

MR. S. MARSHALL: Mmm.

MR. SMITH: And the only difference was is that it turns out that the LIL wasn't complete at –

MR. S. MARSHALL: Apparently so.

MR. SMITH: – as of second quarter of '16.

MR. S. MARSHALL: Mm-hmm.

MR. SMITH: Correct?

MR. S. MARSHALL: I assume.

MR. SMITH: Yeah.

MR. S. MARSHALL: But, like I said, I know nothing about this –

MR. SMITH: Okay.

MR. S. MARSHALL: – so I'm only going by the letter and what I found when I arrived.

MR. SMITH: Okay.

And I think, finally, in – trying to get the number.

Yeah, P-04416, Madam Clerk.

THE COMMISSIONER: That one is in your book at tab 37.

MR. SMITH: I must have the wrong number (inaudible).

MR. S. MARSHALL: Okay, I have it.

MR. SMITH: Yeah, I may have the wrong number, actually.

Excuse me.

Oh, it's –

THE COMMISSIONER: Do you want to take a –?

MR. SMITH: – gone astray on me. I think maybe we take our break.

THE COMMISSIONER: Okay, take our break.

Commission counsel may be able to help you find it too –

MR. SMITH: Okay.

THE COMMISSIONER: – as well.

So we'll take 10 minutes now.

CLERK: All rise.

Recess

CLERK: All rise.

Please be seated.

THE COMMISSIONER: All right, Mr. Smith.

MR. SMITH: Thank you, Mr. Commissioner.

I transposed a number is what happened. It was 04418, Madam Clerk.

THE COMMISSIONER: 04418.

CLERK: 04418?

THE COMMISSIONER: So that's at tab 39 – 04418, tab 39.

MR. SMITH: This is a November 15 slide deck, Mr. Marshall. And one of the things it's dealing with is: Transition to Operations, Ready for Commercial Integration. And this was, again, in November and the only reason I raise it, given your answers to your previous questions, is that it was just – it was a little bit more involved than merely hiring a contractor to do the work.

The objectives on page 2 of the – of this exhibit – I believe it's on page 2, scroll down – yes, was to achieve interconnection – the achievement of interconnection requirements: "Facilitate the interconnection of provincial transmission system with the North American grid. Implement changes to the provincial bulk electric system to ensure compliance with regulatory requirements that arise from interconnection and participation in external electricity markets."

So, again, this was a part of the ongoing planning that was being done by Nalcor. And I think if you look at the next page, value creation and benefits for Newfoundland customers and actions, some of the actions outlined was the "Establishment of a generation division of NLH to consolidate generation operations." The "Establishment of a heritage pool of energy/capacity from existing NLH generation assets which will guarantee the benefits of low cost energy for NL customers while maintaining a reliable and secure energy supply" et cetera. So –

THE COMMISSIONER: What page is that?

MR. SMITH: That's on the third page.

THE COMMISSIONER: Okay.

MR. SMITH: Page 3. Actually, it may be page 4. Yes, it's page 4.

So the point being is that this wasn't something that got a cold start when you arrived. This was something that was ongoing and you, maybe, prodded it a little to catch up with what you were (inaudible).

MR. S. MARSHALL: Yeah, I never claimed it was – because Rob was there, he was supposed to be –

MR. SMITH: Yeah.

MR. S. MARSHALL: – leading a part of this, so …

MR. SMITH: Okay.

So I'm going to ask you to go back now to look at page 46 of your transcript. And you make another comment that I thought was interesting in the context of what little I know about the events of the Muskrat Falls Project.

On page 46 you stated: But also I asked the question, well, is there an opportunity here? Can we use this line to bring in power from the Upper Churchill? And so I asked our electrical engineers to have a look at it and they came back very quickly and said that with a $10-million piece of equipment at Muskrat, we can use that to bring in power from the Upper Churchill and potentially save, you know, tens or hundreds of millions of dollars in the interim, if it works properly.

And I heard you again today in your examination also suggest that you felt that that was a great – I'm paraphrasing but, you know, evidence of your leadership in that you identified that as a possibility and got it started. Are you – is that how I'm reading that?

MR. S. MARSHALL: Essentially. I wouldn't say great leadership.

MR. SMITH: Yeah.

MR. S. MARSHALL: I'd just say that this – that was a fact –

MR. SMITH: Yeah.

MR. S. MARSHALL: – that I went in there and asked about it and that was the response. I –

MR. SMITH: Yeah?

MR. S. MARSHALL: It may have been looked at in some point in the past but, certainly, no one was acting on it.

MR. SMITH: Okay.

So, you know, looking at that issue as to whether or not, you know, it was something new or something old, I looked at some of the evidence. And I looked at the evidence of Mr. DeBourke, who testified on May 10, 2019, at page 24, and he was responding to Ms. Ding, of the Commission, in the following terms:

"**MR. DING:** Okay, what about recall power? Were you aware that there might be benefits in getting the monopole going earlier in order to take advantage of" the "recall power coming from Churchill Falls?"

And Mr. DeBourke says: "Absolutely. That has always been our base case, that we were gonna bring power down early from Churchill Falls, and the commissioning of the station, you would bring one pole up and then bring the other pole up, right, to support that."

In other words, Mr. DeBourke said that that – effectively, he was saying that that was always the plan, was to bring power from Churchill.

MR. S. MARSHALL: I think that's a complete surprise to me.

MR. SMITH: Okay.

MR. S. MARSHALL: And it's not consistent with what – whether GE we had commissioned to do any of that work, software work, I think that's –

MR. SMITH: Well, that is a surprise to you?

MR. S. MARSHALL: If it's correct.

MR. SMITH: Okay.

MR. S. MARSHALL: He maybe didn't tell anybody else. He might have had it in his head.

MR. SMITH: Okay.

MR. S. MARSHALL: But I can't find anybody else in the corporation, at the time, who had any awareness of it.

MR. SMITH: Okay.

But you would agree, at least in his mind, it was always an issue to bring Churchill Falls power to the Island over the LIL –

MR. S. MARSHALL: I find it –

MR. SMITH: – early.

MR. S. MARSHALL: I find it difficult to believe, judging by the circumstances I found.

MR. SMITH: And –

MR. S. MARSHALL: And I think – you know, if he wanted to do that, you'd have a conversation with GE to do it and GE didn't indicate they ever had a request like that.

MR. SMITH: Yeah.

Well, it's interesting, because in Mr. Kean's testimony – K-E-A-N –

MR. S. MARSHALL: Mm-hmm.

MR. SMITH: – testimony, page 3 of his May 6 transcript.

MR. S. MARSHALL: Is it Jason Kean?

MR. SMITH: Jason Kean.

MR. S. MARSHALL: Hmm.

MR. SMITH: He says: "And I think that was – in context-wise" – oh, I'm losing my quote here, one second – "in context-wise, the project had always been conceived that power would first – the DC line would be energized with power from Churchill. That was the original design intent for the project. So, of course, that segregation" – I believe he means bifurcation – "I guess, supported that strategy."

In other words, he felt that the bifurcation of the project may have supported the strategy of bringing power from Churchill Falls in over the LIL, but it was always a plan to do that. That was his testimony.

So we have Mr. DeBourke and Mr. Kean, both saying that it was in their understanding that you would be bringing that in, you know, their initial power from Churchill Falls.

MR. S. MARSHALL: All I can say is that I never saw any indication –

MR. SMITH: Okay.

MR. S. MARSHALL: – from anybody I talked to in the organization that that was the case.

MR. SMITH: Okay.

MR. S. MARSHALL: And when I asked what was required, they had to come back and say, well, they had to order this reactor, which wasn't ordered.

MR. SMITH: Yeah.

MR. S. MARSHALL: And when we talked to GE to go monopole, we had to pay them extra to do it. So they'd never been commissioned to do it; it was never part of their process.

MR. SMITH: Looking at P-02006, Madam Clerk, this is an August –

THE COMMISSIONER: This is on your screen.

MR. SMITH: 02006.

THE COMMISSIONER: It's on your screen.

MR. SMITH: Now, here at page 54 of that exhibit – 54 in red – the authors of this slide deck said that the key messages were: "The ability to transfer electricity to the island remains on track for 2017, and Churchill Falls recall power and market purchase of power are available to displace Holyrood in 2017 …."

We know that's not the case, but the point being is that: "The ability to transfer electricity to the island remains on track for 2017 …." So there would certainly be no Muskrat Falls generation at 2017. Nobody was actually predicting it for that date at that time. It was behind schedule significantly.

So – and looking at the next page I'd like to direct you to, which is page 55, looking ahead it says – and this is looking ahead from October of

2015: "On track for power from Churchill Falls to the island on new transmission lines in 2017." So it does appear, once again, that there may not have been an urgency of work to do this, but that it was part of the original plan to transfer Churchill Falls power over the LIL before Muskrat Falls is complete.

MR. S. MARSHALL: It may have been the case.

MR. SMITH: Now, a minor point but, nevertheless, something that stuck out, is that on several occasions you used, in terms of DG3 and the sanction decision, a suggestion that the engineering that was done in relation to that was in the 20, 30 or 40 per cent range. Do you know which of those 20, 30 or 40 per cent?

MR. S. MARSHALL: No.

MR. SMITH: Okay.

What would be a reasonable – not utility, but in the context of this project, what had been – what level of engineering would you have expected?

MR. S. MARSHALL: Like I said, I'm not an expert in –

MR. SMITH: No.

MR. S. MARSHALL: – construction –

MR. SMITH: No.

MR. S. MARSHALL: – that's the first thing. And so – and my experience has always been in the utility field – well, yeah, I'm not involved in LNG plants, but they're always utility – regulated gas industry. So my experience is totally in the utility area.

MR. SMITH: Okay.

So in this particular matter, I'm going to refer you to, if I can, look at P-00014.

THE COMMISSIONER: Okay, again, it'll be on your screen.

MR. SMITH: Page 58, line 3.

And I look at line 3 there and the last sentence of – on line 3 says: "The project definition at sanctioning was considered 53% complete." This is from the Grant Thornton report. So in terms of what was known at sanction, was about 53 per cent of the engineering was done.

MR. S. MARSHALL: (Inaudible.)

MR. SMITH: Because my understanding is, is that project definition is really the engineering.

MR. S. MARSHALL: No, I think it – it says the project, which is the per cent of engineering completed at a time, of 10 to 14 per cent, Class 3. Then it says –

MR. SMITH: That's what the Class 3 estimate suggests, 10 –

MR. S. MARSHALL: Right.

MR. SMITH: – to 40 per cent.

MR. S. MARSHALL: Okay, project definition here is 53 per cent. Okay.

MR. SMITH: But Grant Thornton found that at sanctioning it was 53 per cent.

MR. S. MARSHALL: Okay.

MR. SMITH: Okay?

MR. S. MARSHALL: Okay. That's what it says.

MR. SMITH: That's what it says.

Now, during our – your testimony also, there's been – and I – well, I'll freely admit that you've lost me a couple of times in the numbers –

MR. S. MARSHALL: I probably lost myself, too.

MR. SMITH: Okay.

But when I look at the rate that was expected – and you testified this morning that you expected a rate – without Muskrat Falls I thought you said around 15 cents.

MR. S. MARSHALL: Yeah, if you look at the original projections in terms of costs, I think they were projecting around 15 cents a kilowatt hour. If you change the load forecast assumption, it would be 17 cents.

MR. SMITH: Okay.

Now, I – maybe I did misunderstand then, because I understood you to say that, you know, the current rate would go – be going up anyhow without Muskrat Falls. It was destined to go up –

MR. S. MARSHALL: Yes.

MR. SMITH: – because of a lot of work that had been done –

MR. S. MARSHALL: Right.

MR. SMITH: – on refurbishing the transmission lines across the Island –

MR. S. MARSHALL: Well, the big –

MR. SMITH: – and a few other –

MR. S. MARSHALL: Well, the big thing was you had to – there was no question you had to replace Holyrood. And when you replace an old asset, depreciated asset with a brand new asset, you know, it's going to be a lot higher amount in your books.

MR. SMITH: Okay.

MR. S. MARSHALL: And you earn what's on your books in terms of assets, so rates had to go up anyway. So that's a different concept but –

MR. SMITH: Yeah.

MR. S. MARSHALL: – you're right.

MR. SMITH: Right.

So, what I understood from other witnesses – and, I thought, yourself this morning, but I'm obviously mistaken – that, you know, a rate in the area of 14, 15 cents was – without Muskrat Falls, without considering Muskrat Falls, okay –

MR. S. MARSHALL: Mm-hmm.

MR. SMITH: – was likely.

MR. S. MARSHALL: Yes.

MR. SMITH: Okay.

And when you consider Muskrat Falls, that would suggest if it – if the – sort of the rule of – or tyranny, if you will, of the media, et cetera, you would see that that would – if that was going to double, it would be 28, 29 cents or 30 cents per kilowatt hour. And I haven't heard anybody, even yourself, suggest that they're seriously considering, you know, 28 to 30 cents a kilowatt hour, if it's true that Muskrat would cause a doubling of the rates.

MR. S. MARSHALL: Yeah, but you're combining two different things here. I've never suggested 28 cents.

There's two things. Supposing you – forget about Muskrat Falls and everything else; you know, there's going to be a certain rate when the thing comes on stream, which we don't really know because other things change. This is the point I made to the government.

If you don't know the base, how do you know what the actual number is? So, you know, you got to be careful here because things changes. Newfoundland Power applies for a rate increase, Hydro applied for a rate increase based on, you know, oil price and everything else. So – but you got to assume off a given base, okay, and recognizing that that base will change depending on circumstances over those years. So we're assuming a base around 11 cents –

MR. SMITH: That's the current –

MR. S. MARSHALL: Yes, (inaudible).

MR. SMITH: – per-kilowatt-hour rate?

MR. S. MARSHALL: I think we're pretty well assuming anyway, but I think it's going up now because of, you know, rate increases and stuff. So if you – just assume the base, recognize that the base itself will change between when we started talking about this and when Muskrat comes on stream.

So, the first thing, if you're going to replace Holyrood, rates will go up. They haven't done that calculation but it will go up. You're sort of suggesting maybe 13 to 14 cents off 11-cent base; you're probably right, somewhere around there, right? That's one concept, just replacing Holyrood.

Then you've got – the other concept was how much – if you assume that you're going to replace Holyrood with Muskrat Falls, what was assumed at the time of sanctioning? And I think that was 15 cents off of that same base, I think –

MR. SMITH: Fifteen cents more or –

MR. S. MARSHALL: No –

MR. SMITH: – up to 15 cents?

MR. S. MARSHALL: – up to 15 cents. I think that's roughly the case. I think – I'm not sure of the base they used, but let's assume it's around 11 cents. So that brings you up to 15 cents with what was proposed.

The – because your load forecast dropped off, that would've gone up to 17 cents, okay? That's what I'm saying. So we were looking at – you know, it's over 22 cents in the chart we saw. Those are different components or different rates.

MR. SMITH: Yeah.

MR. S. MARSHALL: So I'm not sure if that answers your question or if (inaudible) –

MR. SMITH: Well, I don't think it does. Perhaps –

MR. S. MARSHALL: Okay, want to ask it again?

MR. SMITH: – again, because perhaps it's too complex for me, but my understanding is that the rates for consumers – I'm talking about consumers now, not the industrial people –

MR. S. MARSHALL: Right.

MR. SMITH: – but the consumers – is about 11 cents per kilowatt hour at this point in time.

MR. S. MARSHALL: Yeah, (inaudible) increased plan but, yeah –

MR. SMITH: Right.

MR. S. MARSHALL: – around roughly that.

MR. SMITH: But it increases plan because of all the refurbishing and work that had been done with – excluding the thoughts of Muskrat Falls for the moment, okay –

MR. S. MARSHALL: Right.

MR. SMITH: – so you had –

MR. S. MARSHALL: It's ongoing rate changes, yeah.

MR. SMITH: Right.

MR. S. MARSHALL: Like, Hydro's got a – had a rate hearing recently and – or an order recently that has to be put through.

MR. SMITH: Okay.

So my understanding, again, is that it was naturally expected – without thinking about Muskrat Falls, naturally expected to go into the 14-, 15-cent range because of all the actual work that needed to be done –

MR. S. MARSHALL: It had to go up and it had to go up – the big driver would've been a replacement of Holyrood, whatever it was.

MR. SMITH: Yeah, whatever that was.

MR. S. MARSHALL: Right.

MR. SMITH: Right.

So, then, you put Muskrat Falls into the equation, okay? And when you take – put Muskrat Falls into the equation, you know, ultimately, at some point in time, you'll decommission Holyrood.

MR. S. MARSHALL: Right.

MR. SMITH: Okay?

But before that happens, okay, you will have rates to – would be increased over and above the natural increase of 15, okay? And my understanding is that if it's right that Muskrat caused a doubling of the rates, then that would be 30 cents, to be double the rates. It's nowhere near there, is it?

MR. S. MARSHALL: Well, put it this way, 11 cents to 22 cents is doubling of rates.

MR. SMITH: Okay.

Eleven cents to 22, but we also know that part of that rate increase will have to be to take care of all those extra –

MR. S. MARSHALL: That would be a small part of it.

MR. SMITH: – things that were done.

MR. S. MARSHALL: A small part of it.

MR. SMITH: Yeah. All right, but –

MR. S. MARSHALL: But a rough order of magnitude is you are doubling rates.

MR. SMITH: Yeah, but –

MR. S. MARSHALL: If you just look at Muskrat Falls.

MR. SMITH: Yeah.

But let's look at, if we can, an exhibit which has been entered today – 04419, as far as I can (inaudible), Madam Clerk, 04419.

THE COMMISSIONER: Tab 40.

MR. SMITH: Now, the original forecast that appears at line 3 was about 22.89, and that has been, you know, reduced by – in terms of submissions by Nalcor – to 21.05.

Now, if you look at the natural increase in the rate, which for the most part would have to stay because Holyrood has to stay for a little while, for a couple of years at least or so, and you look at what Nalcor is now saying, it's 21.05, the difference between, say, 15 and 21 is about a six cent difference. Six cents is a long way from doubling of the rates.

MR. S. MARSHALL: That's the math. I don't know what you're asking me to –

MR. SMITH: Well, I'm –

MR. S. MARSHALL: – what the question is.

MR. SMITH: – just saying to you that I can't understand the – this concept that has been picked up by the press and others, that there's doubling of the rates. There's nothing to suggest that Muskrat Falls, in itself, is going to double the rates.

MR. S. MARSHALL: Roughly speaking, you're looking at 11 cents now. We had been projecting it going to 22 cents, which would be doubling the rates.

MR. SMITH: Yeah, but that's 22 cents forgetting –

MR. S. MARSHALL: Before –

MR. SMITH: – about the natural –

MR. S. MARSHALL: – mitigation?

MR. SMITH: – increase, forgetting about repairs to Holyrood in order to keep it running for a couple of more years, forgetting about all these other things.

MR. S. MARSHALL: Well, that would add to the cost.

MR. SMITH: Pardon?

MR. S. MARSHALL: That would add to the cost. It would be more than 22 cents if we adjust that in. I'm not – I don't follow you, I have –

MR. SMITH: Okay.

MR. S. MARSHALL: – to say.

MR. SMITH: Okay. What I'm suggesting to you is that even at 21.05 it's not double.

MR. S. MARSHALL: Double from what? What –

MR. SMITH: Well, 11 cents, it's still not double.

MR. S. MARSHALL: The math is the math. Whatever –

MR. SMITH: Okay.

MR. S. MARSHALL: – it is. So it's 10 point – (inaudible), 1.8, 1.9 –

MR. SMITH: Yeah.

MR. S. MARSHALL: – or whatever it is.

MR. SMITH: All I'm suggesting to you, Mr. Marshall, is that you can't look at Muskrat Falls as the entire cost of the rate increase from 11 cents. It's not possible to look at that because you know there are other costs involved; the replacement of the line across the Island, for example, in the last couple of years –

MR. S. MARSHALL: Yes.

MR. SMITH: – refurbishment, the brand new line. There's a brand new line from Bay d'Espoir come in over the Island. Now, all those costs would be added to the ratepayer, but they're not –

MR. S. MARSHALL: Well, they're already in it, as far as I know, the ones have been completed.

MR. SMITH: No, but there's no evidence –

MR. S. MARSHALL: So that's subject–

MR. SMITH: – that they're in it.

MR. S. MARSHALL: Subject to, you know, Newfoundland Power – Newfoundland Hydro got a rate application which is decided and rates have to go up 6 per cent or something like that.

MR. SMITH: Yeah. Okay, well, I think I've made my point.

I note, also – while we're on this particular exhibit I note also that the projected operating costs for the Lower Churchill Project has fallen $44 million. Now, as I understood it, you had asked Mr. MacIsaac to have a look at this. He came back; it's going to really cost about a hundred million. And part of that hundred million was the payments to the Aboriginal peoples and, also, I think it was water rate – water rental.

MR. S. MARSHALL: Yeah, I think with the water – those two items in, it'll be over a hundred, but I have to check that.

MR. SMITH: Yeah, okay.

But I understood from your evidence that it was about a hundred million –

MR. S. MARSHALL: Yes (inaudible).

MR. SMITH: – what he came back with.

THE COMMISSIONER: It's actually about 120.

MR. SMITH: Yeah, okay.

MR. S. MARSHALL: Yeah.

MR. SMITH: So when you come back to this, why suddenly the drop by $44 million? That's a Nalcor number.

MR. S. MARSHALL: It's a part of the rate mitigation – try to force the (inaudible) end down. What we did is we went out, you know, recognized any certain unique elements, like the payment to Aboriginals and the water tax, which varies by jurisdiction.

John went out and, look – you know, did a survey, to find out what the – you know, a good practice would be – a good practice, a well-run, efficient system and he came back with the number which was used in that estimate. And after that, you know, there was a push to say can we reduce that, especially in the early years.

And it's an estimate – I mean when you start up a new system, it tends to be this bathtub curve; the first few years you get all the failures and whatnot. So it tends to be high in the first few years, and it's good for quite a number of years, then towards the end of its life, it rises again. And a lot of companies will, sort of, try to levelize that, and that's happened at Churchill Falls where, for many years, they kept it low and found that it, you know, it wasn't providing for maintenance in later years and they put in a reserve for it.

So there's no magic to it. You're trying to get a number which is reasonable. And, in this case, because of the impact on customers, you're really trying to force it, keep it down in the early years, but it's still a work-in-progress.

MR. SMITH: Well, looking at the payments to the Aboriginals, which payments are we talking about?

MR. S. MARSHALL: Is it the – the Benefits Agreement. I think we pay $5 million a year, once the thing is operating. I think that's the amount.

MR. SMITH: What about the payments in relation to the Churchill Falls power?

MR. S. MARSHALL: Payments in relation to Churchill Falls power?

MR. SMITH: Now, my understanding from evidence at this Inquiry that there was another deal written or concluded with the Aboriginal people in respect of their claims regarding Churchill Falls.

THE COMMISSIONER: Right, that's the redress –

MR. SMITH: Redress.

THE COMMISSIONER: – redress agreement. And that's being covered by the – from the evidence, is being covered by the province.

MR. SMITH: Yeah, but I'm wondering if it got inadvertently added.

MR. S. MARSHALL: No, I never heard of it, quite frankly.

MR. SMITH: Okay.

So the decline of 44 is really just averaging?

MR. S. MARSHALL: It's not averaging, there's a push to probably keep it down in the early years, you know. There's some discretion in these things, right? But in just an estimate you – like, how many failures are you going to get in the first few years? We don't really know, but just putting the push on to try to do what you can to keep it down the first few years and then maybe go back to normalized things thereafter.

MR. SMITH: Why would the operating costs of Muskrat Falls be greater than the operating costs of Churchill Falls?

MR. S. MARSHALL: Well, a totally new system to start with. And as I said, you got a bathtub thing. The first number of years you tend to get a higher failure rate. You've got a much bigger transmission system. You're – I'm not sure if it's any higher if you compare Muskrat itself with the Upper Churchill, but you got a big transmission line too – we tend to ignore that – stretching over 1,500 kilometres.

MR. SMITH: So the transmission line represents that $70-or-so-million difference?

MR. S. MARSHALL: I can't remember the breakdown, but I suspect it was the biggest part of the difference.

MR. SMITH: You described your first year as one of chaos and crisis. I think that's –

MR. S. MARSHALL: Sure.

MR. SMITH: – a proper –

MR. S. MARSHALL: Yeah.

MR. SMITH: – paraphrasing of what you said.

MR. S. MARSHALL: I think you're right.

MR. SMITH: Okay.

So if it was, why would you add another element into the critical path, that is, the transmission line? You put the transmission line in a critical path. Why would you do that when you're already dealing with crisis and chaos?

MR. S. MARSHALL: I didn't add it.

MR. SMITH: But you –

MR. S. MARSHALL: It was my judgment that it was going to become.

MR. SMITH: Yeah, but you moved it up and made it – from taking it off, you know –

MR. S. MARSHALL: Right.

MR. SMITH: – being done, to critical path.

MR. S. MARSHALL: And if we hadn't done that, we would've been – we'd be desperate going into this winter.

MR. SMITH: That's hindsight, though, isn't it?

MR. S. MARSHALL: No, it's judgment. It's a judgment call. If I was wrong, there would've been funds spent unnecessarily. Turns out I wasn't wrong. It's a good thing we did it.

MR. SMITH: Now, I'm going to change topics a little bit, if you bear with me.

Looking at the Astaldi situation, if I could, for a minute.

MR. S. MARSHALL: Absolutely.

MR. SMITH: You identified Astaldi as probably the most critical issue you had to deal with as you took over the CEO job.

MR. S. MARSHALL: Yes.

MR. SMITH: And when did you sort of first recognize that? You came in in May, but you weren't quite all there because you were trying to –

MR. S. MARSHALL: Well –

MR. SMITH: – deal with things in your –

MR. S. MARSHALL: – I was getting my presentations, I think, the second week in May.

MR. SMITH: Yeah.

MR. S. MARSHALL: So that was when I first got acquainted with it.

MR. SMITH: Okay, so you – around mid-May, the –

MR. S. MARSHALL: Yeah, when I came back – and it may have been around the 10th or 15th – there was a week there when I set aside for the management team to give me a briefing on all the issues.

MR. SMITH: Okay.

There's another piece of evidence that we – that the Commission has heard from, Mr. Lance Clarke, and I hope to be able to put my fingers on it fairly quickly. On May 23, Lance Clarke testified before this Commission. And on page 29 of his transcript he says – and, unfortunately, this is a bit of a long quote, so bear with me if you would, okay?

Mr. Collins asked him: "Did the 2015 election and the election of a new government have any effect on" the "negotiations with Astaldi?" That was his question.

And Mr. Clarke indicated: "It affected timing. We – in fall of 2015, as this was coming clear, we had done a huge amount of work on leverage, understanding where our strength points were and how we could best possibly get to good numbers and get to the right position." He's talking about dealing with Astaldi.

"One of the key things for us was to ensure we didn't lose summer construction" season – seasons, I should say. "So, getting in the middle of a negotiation in the middle of the construction season in a hard way would clearly hand leverage over to Astaldi, because they could use the work." Okay? "They could slow down, they could do different things. It's done; it's not supposed to be, but it's done; it's natural. That was the biggest lever we felt they would have."

Did you agree that moving discussions into summer could be difficult or more – or loss of leverage?

MR. S. MARSHALL: I agree.

MR. SMITH: Okay, you would agree to that?

So – and then Mr. Clarke goes on and says: "So, we were entering heavy into the fall, late fall of '15, saying, okay, we got to figure out what these guys – what their expectations are commercially? And, of course, that's when the election was going on.

"So, we were fairly limited in terms of what our remit could be, because it was clear that if we were going to come to some sort of resolution, it would be new money to go" into "an AFE and it would have to be go" – sorry, that's what he says, I'm just reading it – "someone would have to go and have a conversation with government and get approvals. So, all we could do was explore in the fall of 2015. And … there were discussions about possible numbers, back and forth, right in through to January."

And then a little further on he talks about EY and how they got into the middle of it, okay? And then he goes and sums it up this way and bringing it to your attention: "So, it seemed we were finally getting back through that phase, and that was in – I'm sorry, I'm not" good "with dates – but that was in the spring, and Ed was still there. But then, very shortly after that, Ed left … so we had leadership change. So, we were still left in limbo. And Mr. Marshall came in. We presented the project, went through everything with him, explained where we were. And after that explanation, he asked me – I went to his office and I said – he said, so, how are things going with Astaldi, then, from what you've explained then. I said, they're not. Said we've been told to stop and we haven't gotten back. He said, well, go. He said go now. He said, I'll deal with this. He said, you need to get back to the table."

So I take it that you gave Mr. Clarke authority to go back to the table?

MR. S. MARSHALL: That – I think that's correct, what you read there. That would be my recollection to what happened.

MR. SMITH: Yeah and that's very close to what occurred.

MR. S. MARSHALL: That sounds right to me, yes.

MR. SMITH: Okay.

And then he goes on to say in this last paragraph: "So, he agreed with our – with the approach and where we were. By that point in time, however, we were now into the middle of spring – late spring – and construction season was starting. And Astaldi was imminently heading towards the wall, and we knew we were going to struggle to get a full-term, long deal to finish the whole work in a very short period." He "did not want to be under that kind of pressure and allow them to leverage the work and" so – sorry, "we also did not want to risk the work" not "getting done. Because if you lose two, three months in the summer, you've essentially lost a year."

I take you agree with that, as well, if you lose –

MR. S. MARSHALL: I would agree.

MR. SMITH: – construction season.

So, effectively, Mr. Clarke says that the government change caused a bit of a hiatus because there was, essentially, no government in place as such, other than, you know, the one that stays between elections. And that it – after the election, the issue was so critical that they brought it to your table to make a decision.

MR. S. MARSHALL: So, I think there was – if I recall, that they had gone to the government and the government had not acquiesced to the request to negotiate with Astaldi. They had told –

MR. SMITH: Right.

MR. S. MARSHALL: – us stop negotiations.

MR. SMITH: Right.

MR. S. MARSHALL: So that's the only other thing to add there.

MR. SMITH: That we're missing there.

MR. S. MARSHALL: Yeah. So, when I came along in May, we were very close to the wall and it was a crisis.

MR. SMITH: Okay.

So, that's part of the crisis that you've been describing –

MR. S. MARSHALL: Yes.

MR. SMITH: – is the Astaldi issue.

MR. S. MARSHALL: Absolutely.

MR. SMITH: Okay.

And it looked like they had been working on it for some time but got told to stop.

MR. S. MARSHALL: That's correct.

MR. SMITH: Now, when you gave instructions to go back to the table and try and find a deal within the parameters they explained to you, okay, did you involve EY in the planning to re-engage with Astaldi?

MR. S. MARSHALL: No.

MR. SMITH: Did you get a specific mandate from government – that's the new government – before engaging with Astaldi?

MR. S. MARSHALL: Not initially, but very early on, I had discussions in June with the government and I made a presentation to the Premier and to the Cabinet to outline where we're headed.

MR. SMITH: So – but in terms of starting negotiations and getting people moving on it, at that point in time, you didn't have a mandate?

MR. S. MARSHALL: No.

MR. SMITH: Were you ever given a mandate, other than just briefing the government as to –

MR. S. MARSHALL: Not specifically.

MR. SMITH: – what you're doing?

MR. S. MARSHALL: I mean, they had to concur in my update in 2016. That's why, like I said, I made the presentations to the Premier and to the minister first, then to the Cabinet and my own board at the same time, all within a few days, trying to bring everybody on side. It was difficult.

MR. SMITH: Okay. It was difficult?

MR. S. MARSHALL: Yeah, but everybody knew where we were going in terms of having a written – we agree – from the government, no, but, of course, the board had to prove it. And – but clearly, like I said, the Cabinet presentation made it clear.

MR. SMITH: Now, do you recognize the difference between a mandate and negotiating strategies?

MR. S. MARSHALL: Yeah. I (inaudible) the difference in that.

MR. SMITH: Okay.

Would you have covered negotiating strategy with the government or would that be left to you –

MR. S. MARSHALL: That was left to me.

MR. SMITH: – to decide?

MR. S. MARSHALL: Left to me.

MR. SMITH: Left to you.

MR. S. MARSHALL: Although I kept the Premier, in particular. Like, a lot of the conversations I had with the Premier were very –

MR. SMITH: Yeah.

MR. S. MARSHALL: – close and I delivered (inaudible).

MR. SMITH: So you kept him informed?

MR. S. MARSHALL: Yes.

MR. SMITH: But the strategy was an internal Nalcor strategy.

MR. S. MARSHALL: Yes, the actual strategy negotiation was internal.

MR. SMITH: Now, we've heard you say on several occasions that, you know, the board chair speaks for the board and you speak for the corporation.

MR. S. MARSHALL: Yes.

MR. SMITH: Okay? And the board doesn't manage –

MR. S. MARSHALL: Yes.

MR. SMITH: – managers manage.

MR. S. MARSHALL: Yeah.

MR. SMITH: And would that extend to government – that government also manages at the same time?

MR. S. MARSHALL: Do you want to rephrase that? Do you want to –

MR. SMITH: Well –

MR. S. MARSHALL: – talk about managing this?

MR. SMITH: – I want to know if government, in this situation as a Crown corporation, do they interfere normally in day-to-day management issues?

MR. S. MARSHALL: I wouldn't say interfere day to day. I mean, there's day-to-day contacts and pressures –

MR. SMITH: Yeah.

MR. S. MARSHALL: – for sure. And sometimes minutiae, they think it was important. Oh, there are a lot of pressures from day to day.

MR. SMITH: But government does, from time to time – I mean, they effectively told your team to stop negotiating when they had the highest leverage, which would be fall-winter of –

MR. S. MARSHALL: Apparently so.

MR. SMITH: – 2015-'16 –

MR. S. MARSHALL: Apparently so.

MR. SMITH: – and they told them to stop. So, that's a bit of government interference in a process that's really the responsibility of the corporation, isn't it?

MR. S. MARSHALL: Yeah, but I don't – I think that happens though.

MR. SMITH: Okay.

MR. S. MARSHALL: It's a practical matter.

MR. SMITH: Were you apprised by your team – Mr. Clarke involved – that they had numbers from Astaldi in the fall-winter timeline of about $525 million.

MR. S. MARSHALL: Yeah, I think they briefed me on those things.

MR. SMITH: Okay. They briefed you on that.

MR. S. MARSHALL: I would say in the briefing they were pretty open. They gave me a full briefing on that. I can't remember the number they put there, but they would have given me a full briefing.

MR. SMITH: What would be your understanding as to where the other $400 million went? Because the settlement went for $900 million total, according to Grant Thornton.

MR. S. MARSHALL: Sorry, I –

MR. SMITH: Grant Thornton said that the total settlement was $900 million.

MR. S. MARSHALL: Oh yeah.

MR. SMITH: So the question is: If they were going to settle for five and a quarter, what made up the other $400 million?

MR. S. MARSHALL: Oh, they weren't going to settle for five and a quarter when I came along.

MR. SMITH: Oh, by the time you got there it wasn't –

MR. S. MARSHALL: Oh no.

MR. SMITH: – they weren't interested in the project (inaudible).

MR. S. MARSHALL: They had made claims for something like $700 million, but what they were wanting to do is renegotiate the whole contract.

MR. SMITH: Right.

MR. S. MARSHALL: The talk was up being under a billion, but it was pretty – yeah, that was not the tone when I went there, nor did I want it, quite frankly. I mean, I wanted to be shown – like I said, the two principles that I had in mind was sharing the pain and a step-by-step approach to getting out of the situation we're in.

And I described – you know, our strategy is determine, you know, what they could bear, assess what – based on the information we did have, how much would it actually cost them to finish. And take that cost and back off enough to – you know, for things like build a dome and whatnot and compare it with, you know, what they could bear, so …

MR. SMITH: And they were also arguing, I understand from your testimony today – they were also arguing the value that they had put on the ground.

MR. S. MARSHALL: Oh, I got tired of hearing about this value concept.

MR. SMITH: Okay.

Do you think that the delay in re-engaging with Astaldi actually cost money?

MR. S. MARSHALL: Don't know, but I think Lance was right. You'd have – would've been better off to, you know, deal with this earlier. There's no question about that. At the end of the day, I don't think it probably cost us anything.

MR. SMITH: A delay is a factor in increasing costs, isn't it?

MR. S. MARSHALL: The delay to the project.

MR. SMITH: Yeah.

MR. S. MARSHALL: I have to say that, you know, once we got engaged with Astaldi and got an interim agreement, that they pursued the work diligently. As a good contractor, it doesn't mean you didn't have disputes, and Astaldi tried to claim extra monies here and there, but that's normal.

MR. SMITH: Now, looking at the Valard settlement, right, we've heard some testimony here before the Commission that about a hundred-million dollars – Mr. Kean would be very clear that was ran through the proper change processes of the – of Nalcor and was authorized – you know, should've been authorized for a hundred million, okay?

So there was another $145 million paid on top of that, which Mr. Kean, at least, can find no justification for it. Do you have any knowledge as to what was involved in the extra $145 million?

MR. S. MARSHALL: Not really. It was just what was required to get the work done, you know, at the time to get an estimate. So, as you say, I went through all the proper channels and that's what it turned out to be.

MR. SMITH: Okay, so the $145 million was a look-see, if you will; find out how much they needed to complete the project. And then a –

MR. S. MARSHALL: Yeah, we had complications there, too, because we had – remember we had the composite cable starting to come apart after we strung some (inaudible).

MR. SMITH: But that was in a change order and that was covered in –

MR. S. MARSHALL: All of this–

MR. SMITH: – the hundred million.

MR. S. MARSHALL: All of this went into the mix there and we had – you know, so I can't remember now – try to (inaudible) what went where.

MR. SMITH: A hundred and forty-five million seems like an awful lot of money.

MR. S. MARSHALL: It is a lot of money, but we got the work done.

MR. SMITH: So the driving factor there in the 145 was, essentially, to ensure the project was completed (inaudible)?

MR. S. MARSHALL: Yeah, a normal process. I have, you know, John MacIsaac and his engineering team go over all the costs, see what they're entitled to, you know. I mean that one component related to Jason Kean was just one component of it. There are other claims there, you know, for delays and stuff like that.

MR. SMITH: Well, I understand they hadn't even filed a claim by the time you started negotiating –

MR. S. MARSHALL: No, but the work wasn't going to get it done neither.

MR. SMITH: Okay.

MR. S. MARSHALL: So that's true of all the – all contractors were lining up and, ANDRITZ, as an example, they hadn't filed a claim in July neither, but they filed one, I think, in the fall. But they were all lining up with their consultants and experts and file claims. I think Valard, in fact, had done a lot of work. I think they had – if my memory serves correct, they had done a lot of work in preparation for a claim.

MR. SMITH: I'll move on to another topic then. I'd like you to look at – I believe it's 04417, but I'm doubting myself.

THE COMMISSIONER: Tab 38.

MR. SMITH: Yeah. Yes, that's it.

I'd ask you to, if you would, leave to – oh my, no page numbers on mine. Could you just scroll down, it's – yeah, it's certainly 20 or 30 pages anyhow, so try picking up, maybe, at page 30?

Okay and scroll down? Yes, right there.

THE COMMISSIONER: Turn to page 32.

MR. SMITH: Have you ever seen this projection of income for Nalcor between essentially – well, this starts at '73 and goes to 2025. Have you ever seen that before?

MR. S. MARSHALL: I don't think I – I'm not sure what this document is. I can't ever recall seeing it.

MR. SMITH: It's – the document is entitled Nalcor's evolution and covers a –

MR. S. MARSHALL: Is there a date on this document?

MR. SMITH: Yeah, the evolution – I believe it appears to be at the end of 2014.

MR. S. MARSHALL: I don't recall seeing it.

MR. SMITH: Okay. Because if you look at some of the graphs, they show the actuals up to 2014, and then after 2014, it's projected.

So if you haven't seen it, how about the – that's 32.

MR. S. MARSHALL: Page 32? Okay.

MR. SMITH: Thirty-nine, Madam Clerk.

Now, this is a more complicated graph, but it also shows the expected income of Nalcor following the construction of the Muskrat Falls Project and into the future. These are projections. Corporations, it's my understanding, frequently do this. They do their income projections over time.

MR. S. MARSHALL: Yeah.

MR. SMITH: Okay?

And this particular projection, you know, shows certainly, you know, billions of dollars in income from various sources; oil, I think, is one of them. If you look at the bottom, okay, it talks about the base net income is the light blue; the dark or black CF – Churchill Falls post-2041; market and market rates; and oil and gas low growth net income; and oil and gas high growth net income. All added into the grid as – you know, as Nalcor was prior to the spinoff –

MR. S. MARSHALL: Mm-hmm.

MR. SMITH: – of the oil company. Again, had you seen these?

MR. S. MARSHALL: I've seen some graphs similar to these.

MR. SMITH: Right.

And would you anticipate that the income projections are materially different or wrong?

MR. S. MARSHALL: They may not – as I say, any projection beyond five years, to me, is probably not worth the paper it's printed on.

MR. SMITH: Okay.

MR. S. MARSHALL: Otherwise, we have to do something.

MR. SMITH: Yeah, no, but from a corporate planning point of view you frequently do this.

MR. S. MARSHALL: You have to do something. My earlier existence, I didn't do anything beyond – or public – didn't do anything beyond five years. I mean if we had looked at a project, you'd have to sort of – with a long-term project, you do have to project out and assume something.

MR. SMITH: But, from your knowledge, you can't testify to the Commissioner that these projections are materially incorrect or changed.

MR. S. MARSHALL: No, I – (inaudible). I have no more to say about them than probably you do.

MR. SMITH: Okay.

Now, can I have P-00048, please?

THE COMMISSIONER: Be on your screen.

MR. SMITH: Could you scroll down to – and this is the Manitoba Hydro International report, okay, and we scroll down to pages 30-31.

Okay.

Try – go down to 31 if you would?

CLERK: Pardon me?

MR. SMITH: Go down to 31.

Okay.

Now, Isolated Island Option, this is MFI – sorry, MHI, Manitoba Hydro, looking at the things that you described earlier, and that is, you know, how much wind, how much triple C [sp. CCCT], I think it's called, combustion turbine engines, and also a couple of hydro projects, okay?

So they – that was looked at, and we looked at it here in the Commission in Phase 1. So, in other words, they did study your suggestion of a mix of things and maintain the Isolated Island Option.

MR. S. MARSHALL: They made a – I don't – they may have – well obviously my option – this is not my option, the Isolated one; this is a different scenario –

MR. SMITH: Yup.

MR. S. MARSHALL: – different combination of things.

MR. SMITH: Yeah.

MR. S. MARSHALL: They may have studied that. I don't know.

MR. SMITH: It's a various combination over time.

MR. S. MARSHALL: Yeah, it's – but it's not the particular scenario I suggested.

MR. SMITH: Okay.

And in what respect does it deviate from your scenario?

MR. S. MARSHALL: So this is primarily a combination of small hydro, combination of combined-cycle gas turbines, simple gas turbines and a small amount of wind.

MR. SMITH: Right.

MR. S. MARSHALL: The wind component here is very small. It's not a scenario I – if someone asked me to provide a scenario for our planning people to do, this is not what I'd propose.

MR. SMITH: Okay. But it does contain many of the elements that you suggested.

MR. S. MARSHALL: Yeah, but it's –

MR. SMITH: Gas turbines, for example.

MR. S. MARSHALL: Yeah, but it's –

MR. SMITH: Okay.

MR. S. MARSHALL: – so far away from –

MR. SMITH: Okay.

MR. S. MARSHALL: – what I suggested that it's not really the same. It's not (inaudible).

MR. SMITH: And what about the fact that you had an aversion – or it seems that, in your evidence, that you had an aversion to doing small hydro projects because of the amount of power that you actually get out of them is pretty low.

MR. S. MARSHALL: Yeah, but the problem is you spend a lot of time in small hydro with environmental, you know, that it's not justified and, you know, there's different sites. You're much better off just going at one big one at Bay d'Espoir, another one at – if you (inaudible) if you wanted to, look at Cat Arm.

But I would just simply have said look at those two because there's room for expansion and maximize. So you got to get capacity and you got to get wind, and you got to get capacity and you got to get energy. So, on the capacity side, it got to be made up with, you know, the hydro plants and the gas turbines.

MR. SMITH: Yeah, but –

MR. S. MARSHALL: Simple –

MR. SMITH: – my understanding, from one of the questions that came forward to you, was that the wind is not totally reliable, so therefore –

MR. S. MARSHALL: Correct.

MR. SMITH: – when it's on, you can then build reservoir, right?

MR. S. MARSHALL: You're storing – you're habitually storing electricity in the form of water in the reservoir.

MR. SMITH: Right.

MR. S. MARSHALL: Right.

MR. SMITH: Now, my – that's my understanding from your previous testimony.

MR. S. MARSHALL: Yes.

MR. SMITH: Now, if you add more hydro, like small hydro, I thought you said that that would mean you would have the ability to store water. Because one of the limitations of the wind power in Newfoundland is there's not enough reservoir to hold the stored water, not enough reservoir –

MR. S. MARSHALL: Forget about small hydro for the moment, just keep it simple.

MR. SMITH: Yeah.

MR. S. MARSHALL: So Bay d'Espoir uses all the water that's there now, but it has a certain capacity, 600 megawatts I think it is. So if you put in additional capacity, you're not going to get more energy.

MR. SMITH: No.

MR. S. MARSHALL: But at a moment in time you can generate more electricity to meet your capacity requirements. You can't store electricity directly, so wind doesn't give you anything, in terms of capacity, but it will give you energy.

So if you use it on a day that it's generated with the wind, you use it. If you can't use it, you back off Bay d'Espoir and the water level rises and you use it later on.

MR. SMITH: Yeah.

MR. S. MARSHALL: So that's a very simple model. And then you make up the difference with a simple cycle gas turbine close to your customer.

MR. SMITH: And were you aware that the Newfoundland Hydro people, led by Mr. Humphries, actually did the work with respect to the Isolated Island versus the integrated?

MR. S. MARSHALL: Yes, and I have the great utmost respect for these folks, they're really good. But I find lots of times that these people are very much buried in detail, and the answer you get very much depends on the question you ask and the approach you take.

The big difference is, too, you know, you – if you give them one scenario, you make assumptions. What are the assumptions? If you give them the assumption, that will frequently determine the answer. So he who gets to determine the assumptions usually dictates the outcome.

MR. SMITH: Okay.

Now, my understanding, again, that one of your criticisms of the project: It was not really done by the experts, if you will, in utility power. But it appears, from the evidence we have, that, you know, Mr. Humphries led a team, which are utility people, and they're the ones that made the conclusion that the Isolated Island project – or possibilities or the various permutations and combinations, were less valuable to the province than the integrated and the connection, particularly, to the Mainland and the grid.

MR. S. MARSHALL: Again, who made the assumptions? Who gave the assumptions? What were the bounds for analysis? You know, for example – well, that's one thing, but if you're comparing it to Muskrat Falls, Muskrat Falls has a great deal of risk associated with it.

You know, what's the price of oil for the next 40 years? What's the price of the other components? You know –

MR. SMITH: I don't know but when I fill my tank it's always more.

MR. S. MARSHALL: It's not always more, it goes down too.

MR. SMITH: Not very much.

MR. S. MARSHALL: But I'm saying that, you know, these – lots of times, the people doing analysis are given certain assumptions to make and that determines the outcome. But even if you give them the right – everything is correct, then you say: Okay, what flexibility do we have to change our – if the circumstances change, you know?

So, in my other existence, I was preaching this, the value of flexibility. If you have one big project that you have to commit to – and it might be that in terms of the assumptions of the lowest cost, but if I can – if you're talking about over 40 or 50 years, if I can do a small – much smaller project right now, that even on the calculation, it would give you a higher cost, but gives you more flexibility.

Because one thing we know: Things will change. And so rather than commit myself to what I – the next 40 years, if I had to commit – if I can commit myself in the next eight years, I'll say I'll take that. I – there's a great value in flexibility.

MR. SMITH: Okay, but isn't that just a matter of your personal style and experience?

MR. S. MARSHALL: No, that's a very sound business principle.

MR. SMITH: Because if the project is paid off in 35, 40 years, it's generating the power needs, whatever they might be at that time – generating them for virtually no cost, other than the maintenance costs.

MR. S. MARSHALL: Well, all the costs are reflected up front, right? So, anyway, the point is flexibility.

Once you're locked in this (inaudible) you are locked in, and any assumption made which would change – and you know, we always know that assumptions are going to change. Inputs are going to change, you don't know how, but now we have no flexibility to respond. We should have done a smaller (inaudible) in three or four small steps. You could've adjusted as things change and, overall, the cost would've been much lower. It's a matter of risk.

MR. SMITH: And as you've indicated, it might be a matter of public policy to move forward –

MR. S. MARSHALL: Oh –

MR. SMITH: – with, you know, interconnection with the Mainland grids and –

MR. S. MARSHALL: If – look, if this is a matter of public policy to do it, great. If the government made the public policy decision and they accept responsibility, that's fine. I mean that's what we elect our –

MR. SMITH: Pay for.

MR. S. MARSHALL: – representatives to do.

MR. SMITH: Right.

Could I have page 75, please, of this report?

No, no, no, not Exhibit 00075, the same exhibit, just page 75. Sorry.

MR. S. MARSHALL: If you could move off me – if you just keep that exhibit there for just one second, you know, just to emphasize my point, you see that, you know, making assumptions out in 2065. I mean, think about that. I mean, what certainty do you have about those things? It's none, it's just – anyway, that's my point.

MR. SMITH: Okay.

I ask you to look at page 75 and at "**5.3.3 Wind Farms Key Finding.**" And it says: "The capacity factor of 40% used by Nalcor is reasonable for a planning study. The estimated capital and operating costs used in the analysis are appropriate. Nalcor's assessment of an 80 MW limit for wind generation under the Isolated Island Option appears reasonable. Additional wind power could be installed beginning in the 2025 timeframe as the system capacity grows."

So what they seem to be saying is that we studied this wind power stuff, too, and there are limitations – like, significant limitations – on whether it can supply sufficient power to meet the requirements.

MR. S. MARSHALL: Yes and that's valid, but 80 megawatts of wind, that's ridiculous.

MR. SMITH: Yeah, well, that's what the experts say.

MR. S. MARSHALL: Well, then get a new expert.

MR. SMITH: Yeah.

MR. S. MARSHALL: I think there was a study done by Hatch which said it's up to 200 or 300, which sounds more reasonable. I think they studied up to 500, actually. So I don't know where this 80-megawatt wind – maybe they're talking about different things.

MR. SMITH: Were you aware, for example, that the Hydro planning group – Newfoundland and Labrador Hydro planning group – considered installing an additional unit at Bay d'Espoir? I think they called it unit 8?

MR. S. MARSHALL: No, I wasn't – I think I've heard that during the Inquiry, but it –

MR. SMITH: Okay.

MR. S. MARSHALL: – wasn't familiar –

MR. SMITH: You didn't know that when you took over?

MR. S. MARSHALL: No, but don't forget it must have been this – because at one in point in time because provision was made for that unit at Bay d'Espoir. So it may have been a long time ago when they were expanding Bay d'Espoir, but it was conceived as a possibility for sure.

MR. SMITH: Thank you, Sir.

MR. S. MARSHALL: Thank you.

THE COMMISSIONER: Okay, it's 20 to 5; I was hoping to get through Kathy Dunderdale.

How long are you going to be, Ms. Best, or expect to be?

MS. E. BEST: I would say a half hour.

THE COMMISSIONER: Half an hour.

I think we'd better go with you today, okay?

MS. E. BEST: Sure. Thank you.

THE COMMISSIONER: Okay. Thank you.

MS. E. BEST: Good afternoon, Mr. Marshall.

MR. S. MARSHALL: Good afternoon.

MS. E. BEST: I'm Erin Best; I'm counsel for Kathy Dunderdale.

You said earlier today that in 2016, when you started with Nalcor, that you were not happy with the reporting when you got there. I think you said there was a serious problem.

What were the problems exactly? What was Nalcor doing wrong before you got there with respect to reporting?

MR. S. MARSHALL: I didn't see any reporting to the board for – the boards, for example, or the Oversight Committee as well, you know, a good format that really portrayed what was going on. There seemed to be a mishmash of different types of report, a lot of data going around. We just needed to get – standardize it and focus on the things which conveyed the best information.

And I credit John MacIsaac doing a lot of that work for me. He led it.

MS. E. BEST: Thanks.

So you've just mentioned about reporting to the boards and to the Oversight Committee. And what about to government directly and, in particular, the Minister of Natural Resources?

MR. S. MARSHALL: Well, same thing, but, you know, I had direct access to the minister and to the Premier, and I would provide them more information. But they were getting this other information that went to the board or went to the Oversight Committee. So, it applied to everybody up the chain. We need to get a good reporting framework.

MS. E. BEST: Okay. So I take from you that you made some changes to make sure that the reporting – you know, this good framework was put in place, but what precisely was the problem before you got there with respect to reporting to government?

MR. S. MARSHALL: There was no document that you could look at – you know, when you talk about these things – in a good format, like I say, conveyed the information in a concise manner. I mean, if you're just throwing data at people, just – sometimes the message gets lost.

MS. E. BEST: Okay. Now –

MR. S. MARSHALL: So, I'm used – like, I always – in my prior existence, I developed a standard reporting format to the boards we applied throughout the organization. I didn't have a chance to do it here, but John – like I say, when I started looking at what was going around – I mean, in the first few months, we were just in chaos – first year, really. But as we worked through it – and John was working on the reporting, was – looked at the reporting. Gil had one format; John had another. Things going to the board were in a different format than what went to the Oversight Committee. I said, look, John, work on this and come up with something which seems to work for everybody. And he did.

MS. E. BEST: Okay. Fair enough.

I take from you that if Nalcor's reporting to the Oversight Committee and the board and government a little bit differently, that that could be just problematic, but –

MR. S. MARSHALL: And not helpful for the parties. You're trying to develop a format which is helpful to the people.

MS. E. BEST: Okay.

MR. S. MARSHALL: I mean, it's just not a matter of giving information, I mean, you have an obligation to inform and – so you try to structure it to the best possible format.

MS. E. BEST: Okay. Thank you.

Now, as part of this Inquiry, we have seen – well, I should say, first of all, I would like, just for the purposes of this question, just to limit my question to reporting to government. So, mainly the minister –

MR. S. MARSHALL: Okay.

MS. E. BEST: – and – or the ministers and the Premier's office. So – and as part of this Inquiry, we've seen quite a few slide decks and we understand that there were regular meetings with Nalcor executive and different members of government, and so I'm just wondering what, if anything, was problematic about that reporting?

MR. S. MARSHALL: I wouldn't say anything – you know, a general statement.

MS. E. BEST: Yeah.

MR. S. MARSHALL: I mean, you got – it's reporting of an ongoing nature, standard reporting, quarterly reporting to keep everybody posted – or monthly reporting if that's what you want. That's standard. If issues come up which are unique, then that's a special presentation. You have to go in and update the parties concerned. That's a special thing.

MS. E. BEST: So are you saying that they weren't doing that?

MR. S. MARSHALL: Oh no, I'm not saying that at all. They probably were doing that.

MS. E. BEST: Okay, so I'm asking you specifically. Like, you said, generally –

MR. S. MARSHALL: Yeah.

MS. E. BEST: – and I'm not meaning to contradict you –

MR. S. MARSHALL: No, no, no, yeah.

MS. E. BEST: – I'm just trying to get a little bit more information.

MR. S. MARSHALL: So mostly what I've been talking about is the general reporting, you know, standard monthly reporting or quarterly reporting to the Oversight Committee, to the board, to government to see that – just as a regular update. If you got special items you've got to go in to see the Premier, or you got to go see the minister, or you got to go to the board. Those are special items, those occurred all the time.

MS. E. BEST: So – gosh, I'll admit I'm just a bit – I'm a bit confused by your answer because I – it seems to me that there was regular reporting and I thought what you were going to say was that the – some of the accuracy of the reporting might have been questionable or something else along those lines. I – because we have seen these – some slide decks and we've heard that there was fairly regular reporting.

So are you just saying that the information was not standardized in those reports? I'm really asking the question, I don't have the answer.

MR. S. MARSHALL: Yeah and to a large measure, that's it, regular reporting. And you're trying – like, it's one thing to just give reams and reams of pages saying what's going on that people can't – you know, have to cipher through themselves and trying to find out what really happened here, or maybe a simple graph to portray the information.

So what they're trying to do is convey the message to the reader in the best way possible so they understand what you're saying. And this applied primarily to the regular reporting. I have no – I mean, when you do a special project, that depends on the circumstances; you'll have a slide deck going in with graphs on that special issue.

MS. E. BEST: Yeah.

MR. S. MARSHALL: Right?

I don't know – there's nothing difficult about it, nothing complex about it. It's just, you know, we have a standard reporting format to – on a regular basis.

MS. E. BEST: I take your answer, I just – I still am not sure if we've pinpointed what exactly was missing from the Nalcor reporting before you arrived?

MR. S. MARSHALL: It could be that nothing was missing; it was just that there instead of being on a graph you can understand, maybe it was in a hundred pages. That's an exaggeration but, you know, conveying information –

MS. E. BEST: Yeah.

MR. S. MARSHALL: – is not the same thing as providing data reports.

MS. E. BEST: Sure, sure.

MR. S. MARSHALL: Right?

MS. E. BEST: Okay.

MR. S. MARSHALL: How do you do it in a format that makes it – conveys the message most clearly to the reader. That's what you're focused on.

MS. E. BEST: Okay.

So have you seen some of the slide presentations that Nalcor gave to government prior to your arrival?

MR. S. MARSHALL: I wasn't focused on the slide presentations; I was talking about regular reporting. We didn't have a standard format when I was there. We evolved it over the first year I think it was.

MS. E. BEST: Okay.

And what did that standardized format – what did that entail? How was that different?

MR. S. MARSHALL: Well, just look at – just take the standard reporting the last month – or there should be one of those in the package there. It talks about graphs, showing to completion, shows the different components, red light, green light, something you can focus on very quickly in essence.

MS. E. BEST: Okay and it's your impression that that was missing from the reporting to government prior to your arrival?

MR. S. MARSHALL: Certainly, a simple, clear message was missing, yes. And when I saw it, you know, I see – I used to see reports going to the Oversight Committee, we had presentations to the board, it wasn't a standardized format. I mean it could be that all the information was there but, you know, that's not the objective. The objective is to put it in a format that everybody gets the message clearly.

MS. E. BEST: Okay, thank you.

One of the themes of this Inquiry, especially – well, in particular, Phase 2 – has been that Nalcor failed to report the 6.531 number to government prior to financial close. And now, as I understand it, there were even some other numbers floating around at that time that were also, it seems, not reported to government. What do you make of that? How do you decide when a number is accurate enough to report to government and when do you report a number to government? I mean, you must – does it have to be a firm number? What do you think of that?

MR. S. MARSHALL: No, you go back – would it change decision-making of the person you're giving information to? You know, no forecast is going to be precise, so you know that is – you know, there's always going to be a range behind it. You're trying to make that person understand what, you know, the risks are to it. So it's not any one number or any – right – but would it affect your decision? That's what it comes down to.

MS. E. BEST: Mm-hmm.

MR. S. MARSHALL: Like, for example, in the private sector, you know, we have disclosure requirements for publicly traded companies.

MS. E. BEST: Yes.

MR. S. MARSHALL: Would it impact a decision of the shareholder to buy or sell? Would it affect the share price, in other words?

MS. E. BEST: Mm-hmm.

MR. S. MARSHALL: If it's just small, then you don't have to disclose it publicly.

MS. E. BEST: But if it –

MR. S. MARSHALL: But if it impacts the decision-making of the owner, you have to tell them.

MS. E. BEST: And what would you categorize as small, in the context of a megaproject like this?

MR. S. MARSHALL: Well, it depends on the megaproject, right?

MS. E. BEST: Sure.

MR. S. MARSHALL: So I don't think it's any – like I say – just said, there's no one number, it depends on the circumstances.

MS. E. BEST: Okay. And what if you were in a circumstance where the number was potentially 6.2 or 6.531 and there was some suggestion that some costs could be mitigated, but you're unsure about that at the time. Is that a situation where –

MR. S. MARSHALL: Suppose we were working with a –

MS. E. BEST: – the number would be reported?

MR. S. MARSHALL: – $6-billion number. Supposedly, in the early stages, we had an estimate of $6 billion, in my mind – well, that's probably $6 to $7 billion – that would have been my sort of mindset, early stages.

MS. E. BEST: Yeah.

MR. S. MARSHALL: This, you know, 20 per cent variance is not unusual, especially on the upside. So it depends upon the understanding of the person at the time. You can't pick a number just out of the air; you got to do it in the context of what's been discussed and the understanding of the people concerned.

But, you know, there's no – early stages of an estimate, you know, you just can't go into the third decimal place or the third significant number. You just don't have the degree of precision or accuracy. That's why when I went to my updates I didn't use any more than two significant figures for the most part.

MS. E. BEST: You didn't – sorry; I missed what you said there. You didn't use any more than …?

MR. S. MARSHALL: I didn't want – I wanted – try to restrict it to two significant digits.

MS. E. BEST: Oh, yeah, yeah.

MR. S. MARSHALL: In other words –

MS. E. BEST: So 6.53.

MR. S. MARSHALL: Like 6.5.

MS. E. BEST: Oh, 6.5. Okay.

MR. S. MARSHALL: That's two significant numbers – digits.

MS. E. BEST: Yeah, sure.

MR. S. MARSHALL: Right?

MS. E. BEST: Okay.

MR. S. MARSHALL: Because, you know, the precision is not there. That's just a false perception.

MS. E. BEST: Okay.

And so what you just said, I just want to pick that apart a little bit, just unpack it. So you said if it was a $6-billion project, that in your mind that would be $6 to $7 billion.

MR. S. MARSHALL: At that stage. In an earlier stage, like, we just – you don't have the engineering completed, you're not committing to going. So if I was on the receiving end –

MS. E. BEST: I'm talking about at the financial close.

MR. S. MARSHALL: That's the (inaudible).

MS. E. BEST: So, yes, engineering is not –

MR. S. MARSHALL: Well, it depends, right?

MS. E. BEST: Yeah.

MR. S. MARSHALL: And, like, you asked me in this particular setting and I (inaudible) there, but I'm just talking in general terms now.

MS. E. BEST: Yes.

MR. S. MARSHALL: If I'm working on a project –

MS. E. BEST: Yeah.

MR. S. MARSHALL: – and we're looking at it and it's looked – saying – quoting $6 billion, so that could be 6.7. As you proceed with the engineering and refinements, you refine that number.

MS. E. BEST: So how do you –?

MR. S. MARSHALL: So there's no absolute, it's in the context of whatever you're doing and the understanding of the parties concerned.

MS. E. BEST: So if, in your mind – if you have a $6-billion estimate, but in your mind that's $6 to $7 billion, because the engineering is not –

MR. S. MARSHALL: Right.

MS. E. BEST: – firmed up or completed, and the variance – well, I mean – sorry, just to go back. If you have this – if in your mind, that's $6 to $7 billion, how is that – how would you communicate that to the shareholder?

MR. S. MARSHALL: I would make sure that they understood that, that this – there is no precision here. At this stage, we got – you know, realize that, you know, this will get refined as we go along.

MS. E. BEST: Okay. And –

MR. S. MARSHALL: And so, if –

MS. E. BEST: – is that that something you would explain verbally or in writing?

MR. S. MARSHALL: I'm not sure I can explain it in writing. Most of my conversations – through conversations, I just talk to people, the board and whatnot, but you have documentation to go along with it, a slide deck or something like that.

MS. E. BEST: Well, that's what I am asking, sorry, is – so I consider a slide deck to be in writing. Sorry, that's what I am talking about.

MR. S. MARSHALL: Okay.

MS. E. BEST: So are you saying that your slide decks would always have a range?

MR. S. MARSHALL: Yeah, I'd go in and talk – like, see, the process we would use is somewhat different here. We'd go and say: Here's our estimate and we'd give a range to start with. Then we'd show the variances, the sensitivity analysis. We'd take this – three or four biggest variables and say, you know, if it's the price of oil, here's a range of the price of oil which would impact it. What you're trying to get is understanding rather than get to a hard number.

In fact, if you try to get to a hard number, you're going to leave the wrong impression. When there are no hard numbers, you're going in saying: Here's a good estimate, here's a sensitivity analysis, here's the risks we're taking and here's the controls we have in place to try to mitigate those risks.

MS. E. BEST: Okay. Thank you.

Earlier today – I'm not sure – I'll give you a chance to elaborate on this, but I think you indicated that Astaldi had already paid for their mistakes and –

MR. S. MARSHALL: No, they didn't have already paid for their mistakes.

MS. E. BEST: Okay, I wanted you to comment on that. So –

MR. S. MARSHALL: But I said that in a renegotiation –

MS. E. BEST: Yeah.

MR. S. MARSHALL: – when coming in on the final price, they had to share the pain; they had to pay for their mistakes. And they acknowledged that. For example, you know, they said that, yeah, the dome was a failure because, you know, we had paid on a reimbursable – well, a labour basis.

MS. E. BEST: Yeah.

MR. S. MARSHALL: That, you know, they would expect that, you know, that would be deducted from the go-forward payments.

MS. E. BEST: Okay. So my –

MR. S. MARSHALL: And that's a – (inaudible), right? I mean, it all gets put into the pot. There's a recognition that, you know, if we'd already paid something which was a mistake, that that can't go into the mix –

MS. E. BEST: Okay.

MR. S. MARSHALL: – going forward.

MS. E. BEST: So my question, then, is: If that's the case, if Astaldi has already shared the pain, then what's the source of the overruns that we see to date?

MR. S. MARSHALL: The biggest thing that I've tried to get across many times is that the original estimate was substantially low.

MS. E. BEST: Okay.

MR. S. MARSHALL: If your estimate is low, you just can't execute it at that price, unless somebody else bears the cost. It'd be – normally, if you have a contract in a common-law jurisdiction for a certain price, you deliver on the price. If you personally can't deliver it, then, you know, you go bankrupt.

MS. E. BEST: Okay. I'm going to get right into that.

MR. S. MARSHALL: Okay.

MS. E. BEST: But before I do, I want to ask – you said the main thing is that the estimate is too low. What else has resulted in the overrun, besides the fact that of the estimate being too low, if that is a factor?

MR. S. MARSHALL: Well, I think I've outlined it in writing and I've talked about it. You know, you've got – the estimates were low, poor order execution.

MS. E. BEST: Poor execution by who?

MR. S. MARSHALL: Some – the main contractors who were unfamiliar with the territory. There's no question this thing got off to a bad start, by Astaldi, by – probably by other contractors, as well.

MS. E. BEST: So – okay, so poor execution by main contractors and got off to a bad start, and you mentioned Astaldi. But we already talked about how they already have shared the pain, so I still feel like there's a hole. I still feel like there's more to –

MR. S. MARSHALL: Well, put it –

MS. E. BEST: – the overruns than –

MR. S. MARSHALL: Look at it this way.

MS. E. BEST: – we know so far.

MR. S. MARSHALL: So Astaldi – let's say it's Astaldi.

MS. E. BEST: Yeah.

MR. S. MARSHALL: Gets off to a terrible start.

MS. E. BEST: Yes.

MR. S. MARSHALL: Right? And you – they acknowledge that they're going to pay for their mistakes.

MS. E. BEST: Yeah.

MR. S. MARSHALL: If they have enough money, you'd also make them pay for delays to the other contractors. So –

MS. E. BEST: Well, why wouldn't they pay for the delays of the other contractors?

MR. S. MARSHALL: Well, in a perfect world, where you had a very rich contractor, you would. But if you're going to drive the contractor to bankruptcy, you end up with nothing. You can't get blood out of a turnip, is the old Newfoundland saying.

MS. E. BEST: Sure.

MR. S. MARSHALL: Yeah, so it's that simple. You know, we extracted from Astaldi as much as we could without violating their covenants.

MS. E. BEST: Yeah.

MR. S. MARSHALL: If they – if their parent were as healthy – had been healthy throughout, they would probably be able to finish the work and we would have a legal dispute afterwards as to who owes what.

MS. E. BEST: Mm-hmm.

MR. S. MARSHALL: But they didn't have the money to finish the contract, that simple. And they didn't – they were never going to pay for the delays to the other contractors, they just simply didn't have the money. They wouldn't have paid them anything.

MS. E. BEST: Okay, so now –

MR. S. MARSHALL: So it's a very practical situation, right? You're trying to do the best you can due to circumstances.

MS. E. BEST: So I have to ask you, even though it's pretty blunt: Whose fault is that?

MR. S. MARSHALL: Whose fault is …?

MS. E. BEST: Whose fault is that Astaldi was unable to finish and then not rich enough to pay for –

MR. S. MARSHALL: Well –

MS. E. BEST: – and compensate for the delays?

MR. S. MARSHALL: – Astaldi was a reputable engineering firm globally. They made mistakes that they should have to pay for. At the end of the day their parent ran into financial difficulty with investments in Venezuela, in Turkey and other things, and ran out of cash. Whose fault was that?

MS. E. BEST: Okay.

MR. S. MARSHALL: I mean, who would've predicted, you know, Venezuela and Turkey and those sorts of things?

MS. E. BEST: Thank you.

Okay, so getting – going back now to – we were talking about the estimates being too low. So do you have insight you can share with us with respect to why the cost estimates were too low?

MR. S. MARSHALL: No. I have referred to some things that could be inputs. I think there's a – the southern European contractors have an approach to these things that may be different. It seems that on the surface, but I don't know.

And you're seeing that, you know, in their world, you know, political lobbying, this sort of thing, we wouldn't see in North America. So there's a cultural difference here that may explain it, but at the end of the day I don't know. Don't forget, we had two Italian contractors whose bids were very close –

MS. E. BEST: Yeah.

MR. S. MARSHALL: – whereas the North American contractors were almost twice as much and came out to be basically, you know, close to what it finally cost to put (inaudible) to the work.

MS. E. BEST: But I'm not specifically talking about the bids. I'm – are you talking about the bids? I mean the cost estimates, I understand.

MR. S. MARSHALL: Oh those – well, the bids, you had the bids.

MS. E. BEST: Yes. Yeah.

MR. S. MARSHALL: So, you know, there seems to be a difference between the European approach – some of the European approach and the North American approach. I don't know. I simply don't know. I don't know why they'd be so low.

MS. E. BEST: Well, I mean, I understand that Nalcor prepared the cost estimates.

MR. S. MARSHALL: No. They started with SNC-Lavalin –

MS. E. BEST: Yes.

MR. S. MARSHALL: –and their estimates and they're –

MS. E. BEST: Right.

MR. S. MARSHALL: – built – estimates are built up.

MS. E. BEST: Sorry, yes, but SNC –

MR. S. MARSHALL: Right.

MS. E. BEST: – with Nalcor or under Nalcor.

MR. S. MARSHALL: Yeah.

MS. E. BEST: Right? Yeah.

So is that the estimate that you're talking about that was too low?

MR. S. MARSHALL: No, I'm talking about, you know, when Astaldi bid –

MS. E. BEST: Oh, the bids were too low.

MR. S. MARSHALL: Yeah, Astaldi bid was very low. They were never going to do it for that price.

MS. E. BEST: Okay, so –

MR. S. MARSHALL: By evidence of the fact –

MS. E. BEST: – earlier today and –

MR. S. MARSHALL: – when I came in, in 2016 –

MS. E. BEST: Yeah.

MR. S. MARSHALL: – the work wasn't quite half done and we – the estimate for finishing it was about – close to the original bid for doing it all, so that tells you something.

MS. E. BEST: Okay.

I do want to go back, though, just to get back on track. So earlier today and just now, when you said the estimates were too low, you really mean the bids were too low.

MR. S. MARSHALL: Both. I meant that the estimates that were done by –

MS. E. BEST: Yeah.

MR. S. MARSHALL: – going into this were too low.

MS. E. BEST: Okay.

MR. S. MARSHALL: The $6-million bid was too low.

MS. E. BEST: Yeah.

MR. S. MARSHALL: The estimate was too low. And, Astaldi, even though their bid was higher than what had been estimated, was still too low.

MS. E. BEST: Okay. I'd like to just forget about the bids now for a minute –

MR. S. MARSHALL: Okay.

MS. E. BEST: – and just talk about the estimate. So the estimate, the 6.2, so – and the estimate prepared by SNC with Nalcor, do you have any insight as to why they were too low?

MR. S. MARSHALL: No.

MS. E. BEST: Okay.

So, then, my next question has to do – because I've taken some of the things that have come out of this Inquiry as if there has been almost a criticism of government, because nobody in the Department of Natural Resources or in Finance checked the estimate – or the estimates.

So what I want to ask you is: How could government have checked the estimates? So I'm talking about the estimates that SNC and Nalcor did. Because what I'm asking you, essentially – and I've said this before here at the Inquiry – it's almost like there was an expectation now, in hindsight, that government would have had sort of a Nalcor two to do a whole separate estimate from the ground up and then compare the two and make sure that it's right.

I mean, I want your comment on that. Is that reasonable?

MR. S. MARSHALL: I think it's unrealistic. I think that government should be entitled to rely on Nalcor for a proper estimate. There should be checks and balances, as there are. Like, you can have a board there, the CEO should be able to go in and justify it to the Premier and the energy minister. They would have to – you know, the government would ask: You know, have you engaged a consultant to check this? Normal due diligence as if you were a board –

MS. E. BEST: Yes.

MR. S. MARSHALL: – of what went into it. So I don't think it's realistic to expect the board to do – the government, rather, to do all the stuff. They should be entitled to rely on Nalcor.

MS. E. BEST: Okay, thank you.

I just want to just dig into that a tiny bit more.

MR. S. MARSHALL: I thought I gave you –

MS. E. BEST: (Inaudible.)

MR. S. MARSHALL: – the answer you were expecting – wanting.

MS. E. BEST: Well –

MR. S. MARSHALL: Carry on.

MS. E. BEST: Because I did want to point out that I think we've had evidence that the Department of Finance did check the math on the estimates. And, by that, what I mean is I've had it explained to me as if to say that there was an estimate saying we're going to need 200 bricks and that they're a dollar each, and the Department of Finance went and made sure that that equalled $200.

MR. S. MARSHALL: Mmm.

MS. E. BEST: Is that the type of due diligence you're talking about?

MR. S. MARSHALL: Well, yeah, you got to work together. I mean they – government is the owner, so they should be kept – especially the Department of Finance. This is why I recommended that the deputy minister of Finance should be on the board, to be close to it.

And if you're understanding the situation, the risks involved, the number they use may be different than the number Nalcor is using for it – and that's happened, I think in '17, when the – I think the government added on $200 million to the estimate I was giving at the time because I – explaining the risks to them. Unbeknownst to me, they used a different number in the budget and then when they asked me about the number, I didn't recognize it.

And it's – put it up because they had to tack some money on, which is the proper thing to do. I mean they got – if they understand the risks and what their circumstance is, now they're looking at it as an owner, you know, that maybe they would prefer to use a higher number just in case.

MS. E. BEST: Okay. Okay.

In terms of the baseline estimates, though, what – if government had wanted to essentially redo those estimates, what kind of work are we talking about?

MR. S. MARSHALL: Look, it's not practical.

MS. E. BEST: Yeah.

MR. S. MARSHALL: You know, you got to – when you go forward with these things, you got to have a team to do it. You know, the government should be entitled to rely on Nalcor. That's what special expertise would do. When Nalcor does it, it has a project team to do it.

You can't be double and triple checking.

MS. E. BEST: Yeah.

MR. S. MARSHALL: You got – you know, you make sure that all along the way the numbers are checked by reputable experts, and they got to make sense. They got to be reasonable in the circumstances. You got to have the skill to be able to identify them.

So I don't think that, you know, the government could have us – you know, Nalcor, too, doing these things. That's unrealistic.

MS. E. BEST: Earlier this morning you were asked about what you thought we could've done instead of Muskrat Falls. And I appreciated your answer to that because it's something we all wanted to know from you what you thought about that, right?

So – but I'll put to you that it's a little bit easier to answer in hindsight. And I'm wondering, when you describe refurbishing Holyrood at a cost of $1 to $2 billion –

MR. S. MARSHALL: No, no, I didn't say refurbish Holyrood –

MS. E. BEST: Okay.

MR. S. MARSHALL: – at $1 to $2 billion.

MS. E. BEST: Go ahead, correct me.

MR. S. MARSHALL: Replace – if – that'd be replacing Holyrood with an alternative, say, simple gas turbines. Very simple gas turbines.

MS. E. BEST: Okay.

MR. S. MARSHALL: That's not refurbishing it. It would have a much higher operating cost, too. Sorry, I didn't mean (inaudible).

MS. E. BEST: Okay.

So I don't know very much about gas turbines, I apologize for that. But I'm assuming you're burning fuel in those?

MR. S. MARSHALL: Yes.

MS. E. BEST: Okay.

So my question is when you're talking about the cost of $1 to $2 billion, does that include the fuel?

MR. S. MARSHALL: No.

MS. E. BEST: And we were looking at an estimate of either 50 years – I mean, that's what the comparison was – or else you could look at it for 25 years up to 2041.

MR. S. MARSHALL: Mmm.

MS. E. BEST: But none of that fuel was included in your costing.

MR. S. MARSHALL: Well, that's just a number I just – a rough estimate I give you this morning –

MS. E. BEST: Okay.

MR. S. MARSHALL: – off the top of the head. Don't –

MS. E. BEST: Yeah.

MR. S. MARSHALL: – don't take that to the – try to take that to the bank.

MS. E. BEST: Fair enough.

And I'm assuming as well then that if there had – if any sort of carbon credits or something like that came into play that that's not included in your figures?

MR. S. MARSHALL: No, no, that's capital cost. That's pure –

MS. E. BEST: That's just –

MR. S. MARSHALL: – taken out of the air and using it (inaudible) eyeballing what a capital cost would be.

MS. E. BEST: Okay.

MR. S. MARSHALL: It's very difficult to get anything now for less than $2 million a megawatt –

MS. E. BEST: Okay.

MR. S. MARSHALL: – all in.

MS. E. BEST: Okay.

So I just want to put to you that it's not really a fair comparison to just estimate the capital cost then, is it?

MR. S. MARSHALL: I never purported to do so.

MS. E. BEST: Okay. Okay.

And I'm gonna ask you some questions now about rates. And – okay, let me see. So as of today, how much have rates gone up since 2012 as a result of the Muskrat Falls Project?

MR. S. MARSHALL: As a result of the Muskrat Falls Project, not at all, I don't think.

MS. E. BEST: Okay. I don't think so either.

So our – the rate that we have now was set back in April 2018, right? It's 12.03 cents –

MR. S. MARSHALL: Yes, I think so.

MS. E. BEST: – a kilowatt hour. I checked the website and –

MR. S. MARSHALL: Yeah.

MS. E. BEST: – that's what I got, so –

MR. S. MARSHALL: There's one –

MS. E. BEST: – I won't hold you to it.

MR. S. MARSHALL: – a rate increase pending now –

MS. E. BEST: Yes.

MR. S. MARSHALL: – from the Hibernia, okay?

MS. E. BEST: Yeah, okay.

And that's lower than the Canadian average of 13 cents. Did you know that?

MR. S. MARSHALL: I'd say it's right.

MS. E. BEST: Okay.

So – and from 2014 to 2018, I read that it – the rates gradually went up from 11.34 cents to the rate we have now, 12.03. Does that sound right to you? About that?

MR. S. MARSHALL: Yes, those are right.

MS. E. BEST: Okay.

So if we had decided to go with this idea of increasing the output of Bay d'Espoir and refurbishing Holyrood to have gas turbines – sorry, not refurbishing Holyrood –

MR. S. MARSHALL: Mm-hmm.

MS. E. BEST: – but replacing Holyrood with gas turbines and burning the fuel there and putting in extra wind, how much would rates be then?

MR. S. MARSHALL: You're asking me now to –

MS. E. BEST: You can give me a ballpark. You can give –

MR. S. MARSHALL: As I said to –

MS. E. BEST: – me a range.

MR. S. MARSHALL: I've gone through this with other counsel here today, you know. You got to – when you shut down Holyrood and replace it, rates were going to go up.

MS. E. BEST: How much, is my question.

MR. S. MARSHALL: Well, like I say, the cheapest is – you know, you got an old asset; it's going to cost you, say, $2 billion to replace it.

MS. E. BEST: Yeah.

MR. S. MARSHALL: I don't know. It would've probably gone up to 14 cents, something like that.

MS. E. BEST: Gone up to 14 cents?

MR. S. MARSHALL: Yeah.

MS. E. BEST: So only gone up by two cents?

MR. S. MARSHALL: Yeah, it's capital cost, and then you got the operating on top of it, but –

MS. E. BEST: But that's what I'm what talking about. I do want you to factor all that in –

MR. S. MARSHALL: Oh, I can't do that.

MS. E. BEST: – when you're answering this question.

MR. S. MARSHALL: I mean, that's way too complex to do here.

MS. E. BEST: Yes, because you're – you would be more equipped to do the math than I would, right?

MR. S. MARSHALL: Yes, but I'm not – this is the sort of analysis you do and have a battery – fieldwork on it for a week –

MS. E. BEST: Okay, but –

MR. S. MARSHALL: – and look at different scenarios. This is where I get myself in trouble with government when they insist on a number that I shouldn't be giving them.

MS. E. BEST: Okay, but I'm asking you for a range or a ballpark, right? And so – and – but before you answer, I don't want you to just take into account the Holyrood gas turbine replacement and the fuel, I also would like for you to take into account the extra wind that you were talking about and the adding whatever extra capacity at Bay d'Espoir you needed. Like, if we put your whole plan in action, what would rates be?

MR. S. MARSHALL: I can't do that. That's just way too complex. Look, if you look at it, you know –

MS. E. BEST: Well, then how can you say that it's –

MR. S. MARSHALL: Well, you know the general parameters. For example –

MS. E. BEST: Yes.

MR. S. MARSHALL: – today, wind, on an energy basis, you know, you go out – wind is being quoted today between five and seven cents a kilowatt hour.

MS. E. BEST: Yeah.

MR. S. MARSHALL: Okay? So that's cheaper than putting oil at Holyrood. Doesn't give you the capacity, but you got – you're going to put in a simple turbine. Like I say, it's, you know, $2 million a megawatt, so –

MS. E. BEST: Okay, so you –

MR. S. MARSHALL: – it's just way too complex.

MS. E. BEST: Fair enough. Okay.

So you can't answer, but – well then, I guess you can't necessarily say that it's going to be less than what we'll pay as a result of Muskrat Falls either then –

MR. S. MARSHALL: I said that –

MS. E. BEST: – can you?

MR. S. MARSHALL: I can't definitively. What I would've done, I would've asked a different question, have a different analysis done, but I can't see a scenario. See, what's driving this is not so much the average cost – and I come back to it. If we were using all the energy from Muskrat Falls, hey, it would be a great deal. The problem is the construct that, you know, like, say, if everybody were paying the same rate for Muskrat Falls –

MS. E. BEST: Yeah.

MR. S. MARSHALL: – and Soldiers Pond, we'd be paying, you know, 15 cents. Hey, that's not bad.

MS. E. BEST: Yeah.

MR. S. MARSHALL: We'd take that.

MS. E. BEST: Yeah.

MR. S. MARSHALL: The problem is you're only going to need one-third of it –

MS. E. BEST: Yes.

MR. S. MARSHALL: – and you're not getting pretty well anything for the rest.

MS. E. BEST: Yeah.

MR. S. MARSHALL: That's what killing it.

MS. E. BEST: Yeah.

MR. S. MARSHALL: So it's very easy for me to say that anything pretty well would've been cheaper than what we got.

MS. E. BEST: Yeah.

MR. S. MARSHALL: I don't do the analysis, but simply this is so high that any alternative would've beat it.

MS. E. BEST: Okay.

MR. S. MARSHALL: Even replacing Holyrood with another thermal plant – which I'd not suggest we do. It's the construct – and this is the thing I keep harping on that I can't seem to get around. It's not the cost overrun, it's simply you built something three times bigger than you need it and you're paying for it all and that's a hurdle, no, you can't overcome.

The only thing that could've saved you is the assumptions they made. If the price of electricity had skyrocketed and the price of oil had skyrocketed, you'd be okay.

MS. E. BEST: Yeah.

Yes, and I'm glad you brought that up, actually, because the price of oil had skyrocketed in recent years when Muskrat Falls Project was sanctioned, hadn't it?

MR. S. MARSHALL: No. The price of oil, in real terms, hasn't changed much in decades. It goes up and down.

MS. E. BEST: Well, it had skyrocketed to the highest price in late 2008, 2009, hadn't it?

MR. S. MARSHALL: Oh, not by much. If you look at a –

MS. E. BEST: Didn't it go up to $160 a barrel?

MR. S. MARSHALL: Look, I'm not going to argue about the price of oil. It's not up substantially where it was, you know, 10 years ago (inaudible).

MS. E. BEST: That's what I'm talking about.

MR. S. MARSHALL: Yeah.

MS. E. BEST: Right?

MR. S. MARSHALL: But not like it's doubled. But, anyway, you just find a period when it –

MS. E. BEST: But that was a real risk.

MR. S. MARSHALL: – you know, it goes up and down.

MS. E. BEST: That was a real risk, wasn't it?

MR. S. MARSHALL: Absolutely.

MS. E. BEST: Yeah.

MR. S. MARSHALL: And this is what I'm talking about, trying to predict long-term prices for any of these things is a mug's game.

MS. E. BEST: Yeah. Okay.

I think that's it for me. Those are all my questions.

THE COMMISSIONER: Thank you, Ms. Best.

MS. E. BEST: Thank you very much.

MR. S. MARSHALL: Thank you.

THE COMMISSIONER: All right, we'll adjourn now.

And I think we'll start tomorrow morning at 9 o'clock. So next on will be former provincial government officials.

All right.

CLERK: All rise.

This Commission of Inquiry is concluded for the day.