



COMMISSION OF INQUIRY RESPECTING THE MUSKRAT FALLS PROJECT

Transcript | Phase 1

Volume 39

Commissioner: Honourable Justice Richard LeBlanc

Friday

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THE COMMISSIONER: Ms. O'Brien.

MS. O'BRIEN: Thank you.

Today's witness will be Richard Westney. Mr. Westney will be joining us by Skype.

Before we begin, I would like to ask to have entered the following exhibits: Exhibits P-01139 to P-01155 and P-01158 to P-01163 and P-01192.

THE COMMISSIONER: All right.

So Richard Westney, so are we – do we have him now online?

MS. O'BRIEN: Good morning, Mr. Westney.

Kate O'Brien here, can you hear me?

THE COMMISSIONER: Okay.

MS. O'BRIEN: Well, we – I can see you and I can see your lips moving, but I can't hear you. So we'll just wait and let our technical people work that out.

Can I ask you to speak again, Mr. Westney?

MR. WESTNEY: Yes, Good morning, Ms. O'Brien.

MS. O'BRIEN: Okay, thank you. We can hear you now.

I'm going to ask to have Madam Clerk affirm your evidence.

CLERK (Mulrooney): Do you solemnly affirm that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth?

MR. WESTNEY: Yes, I do.

CLERK: Please state your name for the record.

MR. WESTNEY: Richard Westney.

THE COMMISSIONER: So we're obviously going to need the volume turned up in the control room. So if they could do that for us, that would be appreciated.

MS. O'BRIEN: Thank you.

So, Mr. Westney, I know you made great efforts to come be here in person with us today, but because of high winds here in St. John's you weren't able to get in. So you got as far as Toronto and thank you for making the arrangements to still be able to give your testimony today.

MR. WESTNEY: Sure, glad to do it.

MS. O'BRIEN: Okay.

I'm going to ask you to begin by giving the Commissioner a review of your background, your education and your work history, please. And it doesn't need to be a lengthy review.

MR. WESTNEY: Sure.

So beginning with education, I have a BS in mechanical engineering from the City College of New York, an M.S. in management science from Rensselaer Polytechnic Institute and an executive M.B.A. from Harvard Business School. I'm a licensed professional engineer and a certified project management professional. And I was inducted in 2016 into the US National Academy of Construction.

I'm the author or co-author of five books on project management, and I've taught extensively at universities in the US and overseas. These would include Texas A&M University, University of Texas, Rice University, Stanford University and overseas, the Norwegian University of Science and Technology and Moscow School of Management.

Regarding professional societies, I recently ended a term of 11 years of serving on the board of directors of the Engineering and Construction Contracting Association. And I also am a past technical director, technical vice-president and president of the Association for the Advancement of Cost Engineering, AACE, which I know has been brought up a number of times already in these hearings. I received the Award of Merit and I'm also a fellow of AACE.

MS. O'BRIEN: Okay. Thank you.

MR. WESTNEY: Regarding –

MS. O'BRIEN: Oh, I didn't mean to cut you off. Is there more?

MR. WESTNEY: Well, I thought you might want me to say a bit about my work history.

MS. O'BRIEN: Yes, please do.

MR. WESTNEY: Okay.

So I began in this industry, engineering, construction and project management in 1970. I worked for eight years for Exxon Research and Engineering Company in their project management department. And in 1978 I formed Westney Consulting Group, so this is in fact our 40th year of being in business. And we focus on project management, project risk management and, particularly, providing an independent outside perspective. So the various forms of IPR are very much what is a basic part of our company's value proposition.

A little bit of our company are based in Houston, Texas. The size is roughly 20 full-time equivalents, a combination of salaried staff. And many people who deliver services on our teams are very senior executives and very experienced project managers.

We do have a Canadian company that was formed in 2005. And one thing I'll mention is that there is a consulting firm that every few years ranks global consulting firms in various categories. And in their category of capital project strategy and consulting, we are ranked in their top tier of all the companies in the world who do that kind of work.

MS. O'BRIEN: Okay. Thank you.

And you mentioned Westney Consulting Group Canada, so I understand that is a Canadian affiliate of Westney Consulting Group. And is that the company that did the work for Nalcor on the Lower Churchill Project?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

All right, now in terms of – I know you're aware that the Inquiry's been going on for some time and I just want to confirm that you have

previously watched the evidence of Mr. Jason Kean, Mr. John Mallam and Mr. Derek Owen. Is that right?

MR. WESTNEY: Yes, that is correct and, also, Paul Lemay.

MS. O'BRIEN: And Paul Lemay. Okay. Thank you.

And we – and you will have heard Mr. Kean give testimony that he left the project in early 2017, and he currently has a relationship with Westney Consulting. Is that right?

MR. WESTNEY: Yes, he is one of the external consultants that we use on a project-by-project basis, and he has been doing that for us for about a year.

MS. O'BRIEN: Okay.

And now some information that you gave me prior to your testimony, and I just want to review it with you and ensure that I have it accurate, but I understand that you have had some – a few high-level discussions with Jason Kean about the Lower Churchill Project since the Inquiry was called.

I understand the only area where you had any substantive discussions with him was as a result of a request to you by Grant Thornton, who's been retained by the Commission. And Grant Thornton had posed some questions to you regarding the risk-ranging process that was used. And you previously advised me that you then met with Jason Kean as well as Keith Dodd who –

MR. WESTNEY: Dodson.

MS. O'BRIEN: Dodson, who's a Westney –

MR. WESTNEY: Right.

MS. O'BRIEN: – senior employee. And you had some discussions with both those men in order to assist you with a response to Grant Thornton. Have I accurately summarized that?

MR. WESTNEY: Yes, that is accurate.

MS. O'BRIEN: Okay, thank you.

How did you – you know, your company first get involved in the Lower Churchill Project?

MR. WESTNEY: We responded to a request for proposal that was issued, I'm guessing – I think it was 2007 for consultants in risk management. I believe Paul Harrington and Jason Kean were already on the project and they were seeking to build a capability in that area.

So we responded to that RFP and explained our approach, risk resolution as it's called, and we were awarded a contract at that point to help them build a risk management capability using the latest techniques and thinking from the industry.

MS. O'BRIEN: Okay. And I understand you'd previously done some work on the White Rose Project, is that right?

MR. WESTNEY: Yes, that was for Husky oil and that may have been where the initial contact was made. I did not know Jason or Paul Harrington prior to the RFP.

MS. O'BRIEN: Okay.

And, Commissioner, just – I'm not going to bring up the exhibits but just to let you know, exhibits relevant to that RFP and Westney's proposal have been entered as Exhibits P-01143 and P-01144.

Mr. Westney, I'm going to ask if you can – we're going to get into some areas of your work in much greater detail, but at the outset I'd like to ask you to give the Commissioner a brief overview of the work that you have done for the Lower Churchill Project, so at a – you know, a higher level review of what you've done.

MR. WESTNEY: Okay, sure.

So our initial work in, I'm going to say 2007 and 2008 was to work with – primarily with Jason Kean on helping him set up a – really, a state-of-the-art risk management capability, work processes for risk management and so forth. But having done that, our engagements from that point on – 2008, 2009, 2010 and 2012 – were mostly around doing independent risk assessments of cost schedule and strategic risk.

MS. O'BRIEN: And I –

MR. WESTNEY: I should add and, myself, I was also involved in the IPRs that occurred at DG2 and DG3.

MS. O'BRIEN: Okay.

And so I'm just going to confirm that this is an accurate list of the work that you – that Westney performed. So I understand in July 2008 you did do a QRA for what was called Gate 2A which was the Gull Island-first scenario. Is that right?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay. And then in 2010 you did the QRA for Gate 2 at the Muskrat Falls Project.

MR. WESTNEY: Yes.

MS. O'BRIEN: And in 2012 you did the QRA for Gate 3 of the Muskrat Falls Project.

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

And I understand that between 2010, 2012 you did a few specific risk analysis engagements and workshops for Nalcor. And one of those was the work you did around EPCM mobilization in October of 2010. Is that right?

MR. WESTNEY: Yes, those would be fairly short engagements but, yes, I believe that's correct.

MS. O'BRIEN: Okay.

And then, I understand between the years of – after sanction at the end of 2010 and up until around 2015 you did not have very much involvement with the Lower Churchill Project. And in the area of time between 2015 and 2017 you have been back to do some specific areas of work. Is that right?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

And, Commissioner, again, just for your purposes, we have entered some exhibits around the October 2010 work on EPCM mobilization. I don't intend to review them with Mr. Westney, but they are entered as P-01153 and P-01154.

So during your time at Nalcor – your work with Nalcor, who was your primary contact with the company?

MR. WESTNEY: Primary contact would be Jason Kean, but we also worked quite a bit with Paul Harrington, many times working jointly with both of them together.

MS. O'BRIEN: Okay. Thank you.

So I'm going to take you to the first exhibit, Mr. Westney. And I know you should have a binder of documents before you. It's P-01002, it's at tab 8 of your book.

Commissioner, I'm not sure that Mr. Westney has the same –

MR. WESTNEY: Yes, I have it.

MS. O'BRIEN: Okay, thank you.

So, Mr. Westney, what I understand this exhibit to be is that these are some notes. This is a – there's a covering email here where Jason Kean has made a few small changes and added a couple of comments. And he's requesting Steve Lethbridge to forward this to Westney.

But the document that he's made the comments on is entitled: Meeting Notes - kickoff 12_5_07 to Jason & Steve, and this has – the copy attached has Mr. Kean's comments on it. But what's attached here, I understand, are some meeting notes that were taken on the kickoff meetings in the initial engagement between Westney Consulting Group and Nalcor. Is that right?

MR. WESTNEY: Yes.

MS. O'BRIEN: Did you take these notes or were you involved in their preparation?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

And would you – were you satisfied at the time that these notes were an accurate recording of the meetings that took place?

MR. WESTNEY: As far as – as the best I could do to record the meeting and the main points, yes.

MS. O'BRIEN: Okay.

And I'm not going to go through every page here, but there are a few that I'd just like to review with you. And I will note, you know, the notes are fairly well organized, the dates and who is in attendance at the various portions.

We can see here – if we could go to page 6, please, Madam Clerk?

So here on page 6 there's an afternoon meeting and we can see the attendees are listed here on the page there, partway down page 6, Mr. Westney.

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: And I'm just going to go – there's just some discussion here of some culture – some notes on the Newfoundland culture. I want to go here, there's a – there's notes on some other of the Aboriginal groups, notably the Metis.

It says – I'm looking at page 7 point c: "There are other aboriginal groups – notably the Metis, who are descended from Scots/Irish fathers and Innu mothers (also mixed Aboriginal and French Canadian). They are more likely to have issues regarding claims to Trap line rights that are 'fingers' of land flowing up into Labrador."

And then d. there refers to the relationship with Hydro-Québec: "The agreement made years ago when Upper Churchill was built ... was extremely favourable to HydroQuebec and unfavourable to" Newfoundland and Labrador Hydro. "This lasts until 2041 and courts have refused to allow to be reopened. Everyone resents this deeply. Consequently there is a strong animosity to" Hydro-Québec "and desire to sell the power elsewhere, even if it means longer distribution lines. Even schoolchildren are vividly aware of this."

Do you recall on these two particular points, Mr. Westney, do you recall anymore of the discussion that took place or would the notes be your best recollection of what was said on these topics during the meeting.

MR. WESTNEY: Definitely, that will be my best recollection. This was a meeting with – they paint in broad strokes what the project is all about and especially the context of the project. And so, no, there – I do remember the meeting, but I do not believe there was any further discussion on those points.

MS. OBRIEN: Okay. Thank you. I'm just going to do with just the few of the topics you've covered here.

I have question for you on page 8. This is number 4 at the top of the page. It says: important note. "Since NLH is a Crown corporation, it cannot act on its own – any actions it takes (esp with respect to aboriginal issues) can be interpreted (even if incorrectly) as an act of the Provincial Government. So they must be very careful not to do things out of proper sequence. The Law of Unintended Consequences applies strongly here. This impacts the duration of critical path leading to sanction and the sanctity of dependencies between activities."

Mr. Westney, could you please provide the Commissioner with a bit of explanation as to what you meant by this note. And, in particular, when you refer to the law of unintended consequences in this context?

MR. WESTNEY: Yes. I think this was – I said this was an important point because it's not something that you would normally encounter, let's say with a traditional client like an oil company or a chemical company. We are focused here on the fact that it's a Crown corporation. And this is something that would not have been self-evident to me that actually they can be perceived as acting, in fact indeed are to a certain degree, acting on behalf of the province.

So, in the sense of the law of unintended consequences referring to somebody who does something with good intentions and then finds there are other consequences they haven't

counted on. This was a caution that in the planning of the project, it's important to realize that whether intentional or not, what they do might be seen as acting on behalf of the province itself. And, therefore, when one is planning the project, in various types of initiatives, one would have to take this account.

MS. OBRIEN: Okay. Thank you.

Page 10, please, Madam Clerk.

Here in the notes, Mr. Westney, you have put some – there's some notes here that go to a key role for Westney in making it happen. It says "WCG role is to define the entire risk space (big picture) and facilitate resolution (brokering)," and then there is a picture here showing different parties.

Can you please explain what this graphic was intended to show and what Westney's role was?

MR. WESTNEY: Well, this was a kickoff meeting, so this was really about what Westney's role could be. I'm not sure that we actually ended up doing all of these things. But in our presentations of our methodology, we would have talked about holistic view of project risk management, that it's not just about cost and schedule as it pertains to the project team and the project management effort.

You have all these other players, as you see here, lenders, insurance providers, the province itself of course, this being a Crown corporation, other partners such as Emera, and so all of these parties have an interest in risk and the overall scope of capital project risk management has to consider all of their interests.

MS. O'BRIEN: Okay.

Page 13, Madam Clerk.

Another of the notes I just wanted to bring you to. There's a note here on page 13, Mr. Westney, regarding Terra Nova. "Their experience on Terra Nova is instructive – the project appeared to do everything right wrt risk management – yet they had a 100% overrun. We discussed the many reasons for this ... The approach on LCP must clearly address these reasons and not repeat

the same mistakes. Lessons Learned must be considered carefully.”

Do you recall any further discussion on this topic, you know, looking at the lessons learned from Terra Nova, or would these notes be your best recollection of the conversation?

MR. WESTNEY: That would be my best recollection. There are many examples of projects that are done by various sophisticated and experienced project management owners that nonetheless have big overruns, and so it's always important to consider how could that happen when they seem to have done everything right, and Terra Nova would simply be an example of that, but I don't believe we talked about it any more specifically than as an example of that general concept.

MS. O'BRIEN: Okay.

The next note I just wanted to go to here is number 10 on the same page. It says: “Note on PMT.” Would PMT be project management team?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

MR. WESTNEY: “NLH has about 1000 people of whom 130 are engineers – most are involved in the Regulated Assets. So LCP has to hire from outside. There is something of a culture clash (“old” NLH vs the new young guns from the oil patch). About 50% of LCP is heritage Hydro, 50% are new. The Energy Corporation needs to define and build an organization with the needed engineering and related competency; the LCP needs to build a team similarly ... plan is for a PSC.”

What would a PSC be there?

MR. WESTNEY: That would be a project services contractor.

MS. O'BRIEN: Okay.

Would that be similar to an EPCM?

MR. WESTNEY: It's a much more limited scope than that. Project services contractor is a

form of a project management contractor, someone who manages the project for you but with the scope of cost control, schedule control. There's a basket of things they call project services, which is largely around the non-technical aspects of project management, and there are contractors who can be hired to do that.

MS. O'BRIEN: Okay. And am I correct in – ultimately that was not done for the Lower Churchill Project, is that right?

MR. WESTNEY: That's correct.

MS. O'BRIEN: Okay.

It says – I'm continuing on: “Question of what roles and competencies should be, LCP and what can be outsourced to PSC? (WCG” – so Westney – “has some ideas here) Paul's authority as PM is evolving – he does not have all he needs yet.”

Would the reference to Paul there be Paul Harrington?

MR. WESTNEY: Yes.

MS. O'BRIEN: And PM, would that be project manager?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

And again, on that point there, is there anything further that you recall, or would these notes be your best recollection of the discussion?

MR. WESTNEY: I'm not even sure I recall that aspect of the discussion. It may have something to do with the project was still young and everybody was fairly new on board at that point, and so everybody's role was no doubt evolving.

MS. O'BRIEN: Okay.

If we can go now to the next page please, Madam Clerk, page 14.

It appears from the notes, Mr. Westney, at this point that in the meeting that you were joined by teleconference by a couple of individuals from PricewaterhouseCoopers or PwC, is that correct?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

And I see here, at this part of the notes, there is some discussion of a P-value here, which, as you know, we've had a fair bit of discussion on in this room.

MR. WESTNEY: Mm-hmm. Mm-hmm.

MS. O'BRIEN: I won't read out the note there, but is it fair to say at this point that a P-value had not been settled on at this time?

MR. WESTNEY: I think it would be fair to say that, yes; this is very early days.

MS. O'BRIEN: Okay.

And again, on this discussion of the P-value at this early kickoff meeting, do you recall anything further other than what's recorded in your notes?

MR. WESTNEY: No.

MS. O'BRIEN: Okay.

And then can we go to page 15, please, Madam Clerk.

Just one last note, here, I just wanted to ask you about. It's the first one here on provincial considerations. And again, down here, we have some history –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: – of the province, but it says: "Note the Energy Plan describes the risk to the Province – these must also be considered. The province has a DNR" – would that be Department of Natural Resources?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay, "but it will not oversee the project. Energy Corp will really be the advisor to the Province ... Williams (Premier) and Ed Martin (CEO) are very close."

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: Do you recall – again, same question – do you recall anything further about this conversation, or is your best recollection what's recorded in the notes?

MR. WESTNEY: It's what's recorded in the notes.

MS. O'BRIEN: Okay. Thank you.

Now, before we get into some of the specifics of your work for the Lower Churchill Project, I'd like to ask you a few questions at a higher level, so that you can describe, for the Commissioner, Westney's approach to risk management; that approach that it took to the Lower Churchill Project.

And I'd like to start with an article. It's been entered as P-01145. It's tab 7 of your book, Commissioner, and I believe it will also be tab 7 for you, Mr. Westney.

MR. WESTNEY: Okay. Mm-hmm.

MS. O'BRIEN: This is – the front page here is an email showing that this article was being circulated between Steve Lethbridge and Jason Kean at Nalcor, but it came from your – at that time – a new Westney webpage. There's an article attached. Are you generally –

MR. WESTNEY: Mmm.

MS. O'BRIEN: – familiar with that article?

MR. WESTNEY: Yes, I wrote it, I think.

MS. O'BRIEN: Okay.

MR. WESTNEY: Yeah.

MS. O'BRIEN: That's – okay. So I'd like – can you – there's – at the bottom here, there is a section called: When Bad Things Happen to Good Projects.

MR. WESTNEY: Yeah, yeah. Mm-hmm. Okay.

MS. O'BRIEN: And I'm just going to read – just – I'm not going to read the full of it, but I'm going to start here at the bottom of page 2. It says – it's talking about a – it starts off talking

about a project where the project, you know, thought they were doing everything right. They were very committed to front-end loading –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: – and had –

MR. WESTNEY: Mmm.

MS. O'BRIEN: – confidence in their success, and then it goes on to say: "...it did not take long for things to turn south. Unforeseen price increases caused early and significant overruns in engineering equipment and bulk materials, with corresponding increases in lead times. Host country legislation changes delayed permits and increased local content requirements, reducing productivity and further increasing cost. As the construction work began, the project found itself competing with unanticipated demand for skilled labour and supervision, and was never able to mobilize the full complement of required workforce. Since the engineering & construction contractors had been unwilling to accept project risks, the owner's executives found themselves explaining to analysts and shareholders why the project was costing much more than expect, and revenues would be delayed."

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: "We see this story repeated over and over. Clearly, in spite of all the work being done in Front-End Loading, something important is getting missed."

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: So I understand from this is a bit of a fictitious situation, (inaudible), but drawn from the experience of –

MR. WESTNEY: Yeah.

MS. O'BRIEN: – a number of megaprojects?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay. So, obviously, this is 2008, I believe, so back 10 years ago. Would it be fair to say that situation that the Lower Churchill Project has found itself in today was

not unknown to megaprojects even back in 2008?

MR. WESTNEY: It was certainly not unknown then. That's the whole purpose of this article, in fact.

MS. O'BRIEN: Okay. And as we go through the article, I think, I just want to highlight, because you do discuss an approach, and you reference black swans.

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: And that's a concept that we have heard some of here, certainly.

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: Here there is a reference to the source of *The Black Swan* reference, which is this book by Nicholas Taleb, who first described them. And then a little further on, as I understand it, you have a section entitled: Bringing Black Swans to the Surface.

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: And as I read this – and I understand that, looking at the first sentence here: "Black Swans, i.e., strategic risks outside the assumptions underlying the base case, are typically not addressed by stage gate processes ... Note that" black swans "are typically not correlated with time or progress – in fact, their severity may well increase over time."

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: And is it fair to say that in the, you know, this article when we read it in entirety, one of the – you were pointing to black swans as being one of the reasons why a failure to properly identify and deal with black swan events upfront was something that you were identifying as one of the causes that was leading to cost overruns on megaprojects. Is that fair?

MR. WESTNEY: Yes, and what I was also trying to do here was to challenge conventional wisdom that front-end loading and the influence curve, which is what I show on the previous page, the influence curve that suggests that as you better define a project your risk exposure

goes down, so if you've done good front-end loading at the time of sanction, all your risks have been managed and you have clear sailing to completion of the project within time and budget.

So I'm setting up the storyline that, well, if that were true, we wouldn't be having all these overruns, so obviously we're missing something, and what we're missing is the idea that there's a whole bunch of risks that probably get greater over time and have nothing to do with maturity of project definition.

And this was about the time that the book *The Black Swan* came out and was getting a lot of attention. And I thought it was a perfect way to illustrate what we would now talk about really as strategic risks.

MS. O'BRIEN: Okay.

And so I do say here, I had just brought it up on the screen for the benefit of the people in the room, the curve you – the influence curfew you referred to on page 3; I'm now back on page 5 and I see here, you say: "So the first thing we can do to improve predictability is to ensure that strategic risks are identified, assessed, and managed proactively."

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: And then, as I understand this – I'm moving on to page 6 – is that Westney's approach here is, I think you talk about taking a wide-angle view.

Can you please explain that for the Commissioner?

MR. WESTNEY: Yeah, I think the words that says: changing tunnel vision to wide-angle vision that recognizes all risks, and can also identify opportunities.

So, this is, I think, very consistent with what Professor Flyvbjerg talks about, the concept of confirmation bias and tunnel vision that the engineers who have been working very hard on a project for one, two, three years, very hard to imagine that there are risks that they haven't already considered and mitigated.

So, all the kinds of things that would be strategic risks such as political risks or changes in global market conditions that affect the commodities and engineered equipment a project has to buy, all those kinds of things have nothing to do with engineering and would be examples of taking a broad view of – and particularly a megaproject, exists in this world that it is, in fact, itself impacting. And one has to stand back and take this wide view in order to be able to identify strategic risks, black swans and so on.

MS. O'BRIEN: Okay.

And I understand that the way Westney approaches this is using your risk resolution process, and I understand that is what you used in your work with Nalcor. So, I'm going to ask you to, again, at a high level, explain that to the Commissioner.

And if you – to assist you with that I'm going to bring up a graphic from one of your slide decks, P-01149, please, Madam Clerk, page 166. And this is at Tab 12 of your book, Mr. Westney. It's just a – it's a graphic I think will be well familiar to you as it – I've seen it a number of times in Westney's work.

So do you have it there in front you? It's entitled: Risk Resolution Process.

MR. WESTNEY: Sorry, what page am I on?

MS. O'BRIEN: You're on page 166, and all my references are to the top right-hand corner of the page.

MR. WESTNEY: Okay. Yeah, I have it. I don't see everything on the TV screen here, so I have to look in the book. Okay, I have it. Oh, that's better.

MS. O'BRIEN: Okay. And so if you could just, maybe – I understand this is Westney's process for – that was used for helping Nalcor manage its risk, and I just thought this would be a good tool for you to explain it to the Commissioner.

MR. WESTNEY: Okay, I'll go through this quickly.

Of course, the first step that anyone would do is a process of risk discovery, which includes

tapping the knowledge of what we would call the knowledge holders on the core project team, and maybe the extended project team about where they perceive the risks in the project. And they, of course, have deep knowledge of the project, and they're a good source of that information.

To that, we also bring our own knowledge of the industry, of recent projects that we've worked on, of trends that we've observed, and the use of scenarios is useful in that, too, such as, well, we're in country X, they're supposed – they're planning to have an election next year, there's a party that, if it wins the election, will not be as favourable to whatever type of project we're talking about here. That would be an example of a scenario that would play into risk discovery.

Then, as you can see elsewhere in this document, risk framing is a term we use to say, well, let's actually dig deep into a given risk. So, for example, we might be talking about changes in market conditions that would affect our ability to acquire the bids and services that we need. How can we frame that up? What is the scope of that risk? What can be done to mitigate it? What is the impact that it might have?

Then, assessment and analysis. This is where the Monte Carlo simulation comes in, and I know you've heard about this from other witnesses, at least, in a general way. And we have a particular way of doing that kind of risk modelling that we would use to calculate the risk exposure, et cetera. Based on that, of course, one can develop mitigation strategies and analyze what the effect of those might be.

Then, finally, resolving and mitigate: honest broker really refers to being able to use that information in a positive way to reach an optimal allocation of risk amongst the various parties who hold risk and monetize that risk. We put the lenders or contractors with a fixed-price contract, and so forth.

And then, of course, it's an ongoing process. I think you've heard a bit about this in previous testimonies around risk monitoring, surveying the marketplace to see what might be happening, and providing services, on our part, to help keep the program going over the project.

MS. O'BRIEN: Okay. And when you're going through this model, I take it, the goal here is to cast that net broadly in capturing your risks and have a realistic view of, you know, how you're gonna be able to deal with those risks and what the potential impacts would be. Is that a fair statement?

MR. WESTNEY: Yes, yes, that's correct and I would add to that.

What we're really trying to do – and you've heard about this from Professor Flyvbjerg and others who are known experts on this subject. Essentially, what you have in an organization is a combination of optimism, over-confidence, confirmation bias and tunnel vision. And so I think the biggest part of the value of all of this is to kind of open people's minds to the idea that, yes, we may have done some very good engineering here, but we really need to open our minds to risk.

And so rather than just say that – going through a process like this and quantifying this and facilitating workshop discussions et cetera, is really how you make that happen.

MS. O'BRIEN: Okay, thank you.

Now, again, before we get into some of the details of the work you did, I wanna make sure that we are all on the same page in terms of the words that we're using. Can we please bring up Exhibit P-00956? I don't believe, Mr. Westney, this is in your book. I did send you an email –

MR. WESTNEY: Okay.

MS. O'BRIEN: – copy last night, I believe.

This is a document that I reviewed with Mr. Kean when he was on the stand. His – we looked at some of the definitions here – 00956 and page 6, please, Madam Clerk. We looked at some of the definitions with Mr. Kean during his testimony and if I'm recalling his testimony correctly, is that he confirmed that these were the definitions that were used by the project team in executing the Lower Churchill Project.

He did acknowledge that in some of the later documents there was, you know, slightly different wording being used than what's here in

this document, but that he felt there was not – there was no inconsistencies between the definitions but just that some definitions had a little more detail.

There's ones that – there's words here that we're gonna be talking about today with you and your evidence. I just wanna make sure that you are comfortable with these definitions and that, you know, you agree with them and you understand that this is how they were used on the Lower Churchill Project. So I just wanna make sure that we're all speaking the same language.

Have you had a chance – the definitions in particular I'm looking at are the definitions, say, for base estimate, escalation, estimate contingency, management reserve –

MR. WESTNEY: Okay, I don't have this page open in front of me, so I have to read it –

MS. O'BRIEN: Oh, okay. I'm –

MR. WESTNEY: – before they scroll. Okay. Base estimate – yes, that's fine. What was the next one? Escalation?

MS. O'BRIEN: Escalation.

MR. WESTNEY: Yes, I might – that definition is perfectly fine. I just might add a comment that this is calculated based on the project schedule.

MS. O'BRIEN: Okay. And we will come back to that, I believe. Thank you.

Estimate contingency? And this one kind of spans two pages there. I'll see – there you go.

MR. WESTNEY: Yes, that definition is fine.

MS. O'BRIEN: Okay. Next one: management reserve?

MR. WESTNEY: That's okay. Yeah.

MS. O'BRIEN: Okay. Strategic risk? Again, this one spans a couple of pages. There you go. I should –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: – have it all there now.

MR. WESTNEY: Pertaining to ...

Yeah, I'm not sure I would've said the last sentence: "... the risk of failure of the general execution" I understand what he's getting at. I take no exception to the way it's defined here.

MS. O'BRIEN: Okay.

You're saying the last sentence here: "Strategic risk is also referred to as the risk of failure of the general execution plan." That's the one that you're questioning a little? Is that –?

MR. WESTNEY: Yeah, because if – let's say a politically driven risk happens: You're in a country, there's a new government; they make some changes. I don't know that that would necessarily be said to be a failure of the execution plan. But I don't mean to quibble.

MS. O'BRIEN: Okay. That's fine.

And the last one I wanted you to look at here is tactical risk.

MR. WESTNEY: Mmm. I definitely would not agree with the words: "It excludes price escalation."

Basically, tactical risks are the risks project teams can control; which are design changes, variations to the execution plan and pricing variations. Though pricing variations are not – I'm not sure why it says: "It excludes price escalation."

If, within reasonable limits, the escalation for a particular item – structural steel, let's say – is somewhat higher than you predicted, that's a tactical risk, unless it's an extraordinary rapid change in pricing.

MS. O'BRIEN: Okay. And I – and later on in your testimony we're gonna talk about how the project team dealt with escalation, so we can come back to that.

Thank you.

MR. WESTNEY: Yes, indeed.

MS. O'BRIEN: Now, the evidence we've heard to date, Mr. Westney, is, you know, everyone

here now – certainly in this room and people who have been following – would be aware that Nalcor, in assessing its risks, assessed tactical risks separately from strategic risks and that they developed this – the estimate contingency to deal with the tactical risk, and really to deal primarily with the strategic risks that they were using what was referred to as a management reserve.

I understand that that way of dealing with risks, you know, assessing tactical versus strategic and the concepts of management reserves – these were concepts that came right from the early consultations with Westney in part with, you know, Westney's recommendation and how risks would be dealt with. Is that correct?

Maybe if you could give a little bit to the Commissioner on how Westney recommended that, you know, management reserve should be handled versus contingency and tactical versus strategic risk.

MR. WESTNEY: Sure.

I think the definitions we've just – yeah, first of all, what you said was correct. And the definitions we just looked at are helpful in answering that question. You run a Monte Carlo simulation around a model of cost or schedule that pertains to the risks that project teams can control, and which will be covered by contingency. And as I said, in a very simplistic way, there's only really three things: normal design variation, pricing variations and execution variations – which are within the normal variations that a project would experience.

And so an important concept here by separating them is that you don't want strategic risks to creep in to the tactical risk analysis, because no executive wants a project to have excessive contingency. And they don't want to tie up money for contingency that may not actually be spent, and they don't want project teams that they have – to feel they have a big slush fund.

So it's important to be very rigorous about what you mean by tactical risks and do the analysis so that the contingency is realistic. But that then says that you do have to account for these other risks, which are what I talked about in that black

swan article that we've just saw. And hence you would do a separate analysis of strategic risks, identifying those risks, quantifying the impacts they could have, modelling it once again with Monte Carlo, and now you have an idea of a probability function for your strategic risks over and above what the project team would be funded through contingency and be held accountable for. So there's the key point: You cannot hold a project team accountable for strategic risks – and we've just defined what they are. And, clearly, these are not things that they understand or could be expected to manage but, nonetheless, they're real.

And so, often, there's the – both the funding and the mitigation of strategic risks is at the executive level. They have to make those decisions about what to do about, for example, potential rapid increases in the price of goods and services because suddenly there's a whole lot of projects competing for the same pool of resources.

MS. O'BRIEN: I'm going to bring up P-00955, please. It's tab 40 in your binder.

And that would be probably – I have two binders, it's in my second binder.

MR. WESTNEY: Yeah, me too.

MS. O'BRIEN: Okay.

So this is a letter that you actually wrote to Mr. Learmonth and I at the end of September of this year, and it's been entered into evidence. And, in particular, I want to ask you to give a little more information to the Commissioner on something you wrote on page 3.

MR. WESTNEY: Okay.

MS. O'BRIEN: And this really comes down to how – you know, what Westney's recommendations were on strategic risk, in particular, and how to fund a project.

So here you wrote: "As you know from my interview, I did acknowledge that it might well be appropriate to fund a ... mega-project, such as LCP, at a P factor greater than 50. My discussions with the Westney team also confirmed that, during discussions with Nalcor,

our view was that a P factor of at least P75 would be appropriate, as would a funding strategy for strategic risks. Our discussions of schedule ... were similar.”

Mr. Westney, can you please give the Commissioner a little bit of context here around that paragraph and –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: – you know, who at the Westney team would have communicated to who at – who at the Westney team would have communicated to whom at Nalcor with respect to a P-factor of at least P75?

MR. WESTNEY: Sure.

Could you put it back up again? I don't have it open in my book.

MS. O'BRIEN: Yes, it's on –

MR. WESTNEY: Sorry, yeah.

MS. O'BRIEN: – showing on our screen here. There we go.

MR. WESTNEY: Okay, I see it.

Yeah, so the first point here is that we're very aware of the fact that this is a Crown corporation. And on top of that, it's a utility, meaning that cost overruns, obviously, will be affecting the price of the power that's delivered to people. And, also, the fact that it's a megaproject, it's hydro power, we've all heard the testimony from Professor Flyvbjerg and others, such as the IPA review at Gate 2, that such projects have a very notable track record of cost overruns.

So when one has the Monte Carlo analysis, the probability curves, it's still a question of where do you want to be on that curve? What is your risk appetite, one might say. And is that risk appetite likely to be lower, i.e., more risk averse, for a public corporation that's also a utility that's also doing a project of this size and type for the first time? And the answer is, probably, yes.

You may notice, though, that in our written reports we do not actually, formally, make a

recommendation because there are so many factors that have to do with how a project is funded, how it's financed: all the various sources of risk and how those risks are dealt with that are conversations that we, who deal in the project only, have no part in or particular expertise in.

So we do not feel it's our place to recommend to a CEO or a board of directors this – you should be doing this at P75. But it is, I think, important for us to, in conversations, say things like: If I were you, Mr. Harrington, I would be very conservative and careful here, recognizing P50 means there's a 50/50 chance it will overrun, the only question is by how much. You might want to consider a P75.

That conversation would have largely been between my partner, Keith Dodson, who leads our risk-management effort and has decades of experience in exactly these kinds of issues, and Mr. Harrington.

MS. O'BRIEN: Okay.

So just to confirm here, you have confirmed with Mr. Dodson that he communicated to Mr. Harrington that, you know, the Westney view would be that for a project of this type, given the Crown corporation and it's a utility and whatnot, that a P-factor of at least P75 would, in our view, be the most appropriate. But that you didn't put that in your formal, written report to the CEO because you consider that to be more of a communication that would just take place to the people you're reporting to on the project team? Is that – have I stated that correctly?

MR. WESTNEY: I may – let me comment a little bit.

MS. O'BRIEN: Yes.

MR. WESTNEY: I wouldn't say we said the P75 is most appropriate. First of all, yes, I've definitely confirmed this with Keith Dodson. I believe that his comment was at least P75. This is strictly from the project perspective. So we're project guys talking to project guys, this is how we feel about this project – both the project itself and the context of the project.

So, it's not like we think it should be P75 and not P80 or P60, it was more, hey, at least P75. And keep in mind when we're talking about that, we're talking about the strategic risk probability curve.

MS. O'BRIEN: Okay.

And do you have any knowledge of whether Mr. Harrington would have communicated that information to Ed Martin?

MR. WESTNEY: I have no way at all to know that.

MS. O'BRIEN: Okay. And would you have any information if Mr. Harrington communicated that to the board of directors or the shareholder?

MR. WESTNEY: I couldn't possibly know that either.

MS. O'BRIEN: Okay.

And can you make any comment into how – you know, whether that type of information and the, you know, strategic risk analysis that was done – and we'll look at it in time but, you know, the curves in the work that you did to develop the ranges for strategic risk. In your experience, is that information that the shareholder or the funder of the project should have?

MR. WESTNEY: Well, perhaps not the details of our analysis but certainly the results, yes.

MS. O'BRIEN: Okay.

And we'll look at those results in a little bit. Thank you.

Okay, I'm going to go to tab 15 of your book, please. It's P-01152, Madam Clerk.

So this is the QRA work that Westney did for Decision Gate 2, so Muskrat Falls first. It's also an appendix to P-00097, which is the broader, I think, risk report that was done.

Can we go to page 3 of this report? So you can see there – this is the document there, it's up on your screen, Mr. Westney. I'm going –

MR. WESTNEY: Yes.

MS. O'BRIEN: So I understand this was the final report that your company did at Gate 2. I'm not going to go through it in full detail, but I would like to go through the highlights of it or some of the key points of it with the Commissioner.

So if you can – we'll start, perhaps, at page 4, please, Madam Clerk. And here there is a bit of – I don't know if disclaimer is the right word, but an important note that you have put on this page. Can you just please describe what that – what those notes are there for and what they're intended to communicate?

MR. WESTNEY: Yes. You're referring to the text on the right, the second box on the right?

What we're saying here is that this is not a report where we have come in as an outside independent expert, done our own independent analysis and delivering our own independent expert decision of what we think the risks are, what the impacts could be, what the probability analysis is based on that. To the contrary, this is a report which was a collaborative effort, and which our role – which is clearly described in other documents where we had responsibility and accountability is for the actual risk modelling itself. By that, I mean the cost – tactical cost risk, time risk and strategic risk.

The ranges that go into that and which consider the risk assessment and the risk registers and all, those were set in a collaborative process where our role is to say: Hey guys, this is what we're seeing on other projects, these are the trends that we're seeing, we think you ought to consider that and help facilitate the discussion of the risk ranges. But the actual determination and setting of those ranges is with the client, Nalcor.

MS. O'BRIEN: Okay. So that's – when you look at the best-case, worst-case scenarios that we've talked about in previous evidence and sort of put dollar values on those or, in the case of schedules, days on those, you're saying the final – that Westney provides advice and guidance, particularly looking at the bigger picture but, ultimately, the decision was Nalcor's to make, to set those ranges.

MR. WESTNEY: Exactly.

MS. O'BRIEN: Okay, thank you.

Can we go to page 9, please, Madam Clerk? So, again, we're at DG2 here, but I understand that this was the overall assessment summary that Westney was making at DG2. Can you just briefly describe for the Commissioner what that summary was?

MR. WESTNEY: Well, I think I would start by saying you'll notice that the –

[4 seconds audio recording lost due to technical issue.]

– refer to P25 to P75. We call that the predictive range, and by doing that we're trying to encourage a client to think in terms of ranges rather than specific deterministic values. And so you can see the range that we're predicting there.

We go on to say, you know, this is nine to 16 months later than your target schedule of May 2017. And we go on in the box to the –

[5 seconds audio recording lost due to technical issue.]

MS. O'BRIEN: Oh, Mr. Westney, I think you've just cut out. Can you hear me?

Okay, we have a bit of a technical issue here, so hopefully that will be restored quickly.

Mr. Westney?

THE COMMISSIONER: Okay, maybe we should just take a quick break and I'll see if we can waken some people up.

MS. O'BRIEN: Thank you.

CLERK: All rise.

Recess

THE COMMISSIONER: Technology is going to be the death of me, but I think we have him back. Our computer crashed so – but we have now fixed that.

MR. WESTNEY: Oh.

MS. O'BRIEN: Hi, Mr. Westney, can you hear me?

MR. WESTNEY: Yes.

MS. O'BRIEN: Great.

MR. WESTNEY: Can you hear me?

MS. O'BRIEN: Yes, absolutely. Thank you.

So we'll pick up where we left off. We were looking at Exhibit P-01152 at page 9 and you had just reviewed, I believe, the time risk assessment that had been done at Gate 2.

MR. WESTNEY: Yes. So could you put that on the screen, please?

MS. O'BRIEN: Yes, I'll ask them to bring it up on the screen for you.

MR. WESTNEY: Well, I have it – I can't read from what's in front of me.

Okay, so I was talking about the time risk and how we like, just to recap to people, to think in terms of a range from P25 to P75 – oh there it is, yeah. That's what we call a predictive range; it gets you away from the low probability tales on either side of the distribution. And, of course, we're presenting a fairly pessimistic picture here about the – where that range puts you compared to what the target was. And then on the right we have a brief explanation of it.

Then the next row would be tactical risks. And we give a similar range from \$3.5 to \$4.4 billion and we say it's a P50. And we go on to say how the P50 compares to the base estimate, which suggested a 16 per cent contingency. And we absolutely concur the contingency is at the P50.

Then we go on to the strategic risk. And you'll notice at Gate 2 we talk about unmitigated and mitigated. Unmitigated here – you see the range, again, the same predictive range. And what Nalcor asked us to do in this case was to run another analysis where each of these ranges had been adjusted to what the range would be if there was a successful mitigation for that strategic risk.

And that analysis also included the cost to do that mitigation. And at this – you can see on the right we say so we’re thinking you need a management risk exposure level of \$400 million – in other words a management reserve – which would be 12 per cent and which is on top of contingency.

MS. O’BRIEN: And you just said there that in this case it was at Nalcor’s request to have you rerun the analysis using, you know, mitigation – taking in account mitigation measures. Is that –?

MR. WESTNEY: Excuse me Kate, our – pardon me for the interruption. That’s our IT tech – apparently the problem was on their end, so I think we’re okay now. Thank you.

MS. O’BRIEN: Thank you.

MR. WESTNEY: Sorry for the interruption.

MS. O’BRIEN: No, that’s fine.

The – you had just said that the – here you were asked by Nalcor to rerun the analysis on strategic risk looking at the effects of mitigation – sort of looking at mitigation –

MR. WESTNEY: Yes.

MS. O’BRIEN: – and rerunning it. Is that a usual part of your processes or is that something that was, you know, specifically done here because Nalcor wanted it done?

MR. WESTNEY: We might do that if a client is interested in that analysis. I have some concerns, sometimes, about doing that because it can be very easy to fall into the trap and go, like, oh yeah, we can mitigate this risk no problem, and especially at Gate 2 where you’re trying to get people’s attention to the existence of risk.

I don’t think that happened here at Nalcor. I know they paid a lot of attention to the risk frames and the risk mitigation planning, but when you ask about in general, yes, we’ll do it. I’m not sure I’d volunteer to do it unless we were asked.

MS. O’BRIEN: Okay.

Can we go to page 16 of this document, please?

So in just giving your evidence there on the assessment summary, you referred to the schedule. And here we have the S-curve for the time risk analysis that you did; this is for full commercial power. And I note here that the current schedule at this time was assessed to be a P1.

MR. WESTNEY: Yes, that’s correct.

MS. O’BRIEN: Okay.

Now looking back – we talked earlier that you done a QRA analysis at Gate 2A for the Gull Island first. And Commissioner, I won’t bring it up unless needed but I will let you know, that has been entered into evidence at P-001149.

When you did that analysis at Gate 2A for Gull Island first, Mr. Westney, can you tell us what was the schedule date? Do you recall the P-value that the schedule date that was being used at that time was?

MR. WESTNEY: I certainly know that was also a P1. I – Because it was Gull Island, the dates were about a year behind the dates for Muskrat but – that – I’m pretty sure that was also a P1.

MS. O’BRIEN: Okay.

So here we have a Gate 2 for Muskrat Falls P1. Now, we’ve heard some discussion; you know, there’s been some evidence that, you know, there was a desire to keep an aggressive schedule, you know, can you give some comment as, you know, at P1 – is that what you would consider an aggressive schedule, or can you give the Commissioner some comment on that please?

MR. WESTNEY: I will say that I really do not like the expression that people use, of aggressive schedule. What is aggressive after all? If you’re talking about a schedule that you have intentionally set as lower than P50 because there are very, very strong commercial drivers – there’s huge economic value if you can achieve a shorter schedule. And in many projects, that is the case. That’s perfectly fine, to set a target that is lower than P50; and you might call that an aggressive schedule, when there are very strong economic drivers for doing that.

Now on a probability curve, I would expect an aggressive schedule, the way I've just defined it to be, maybe P30, something like that. P1 might as well be P-zero. I mean, as I think you've heard in a couple of testimonies, when you're talking about the tails of the distribution, the zero to P5, P95 to P100, in a probability of Monte Carlo analysis, there's very little sampling, of course. By definition that will happen out at the tails and so, who knows, is it P1, is it P2, is it P3? You don't have that level of accuracy in the analysis, nor do – does one in real life either.

So my point here is, when you see the probability is P1, you might as well just say: This is a completely unrealistic schedule, we cannot work with this. We need to go back and have a schedule, which at least as its base value, is somewhere around P50.

MS. O'BRIEN: Okay. And would you have communicated – would Westney have communicated that to Nalcor?

MR. WESTNEY: I don't know exactly what the conversation would have been but I would say that it's absolutely self evident. I don't know that it would be necessary to say, by the way, a P1 should be considered the same as a P0 and a totally unrealistic schedule. I think anybody in the industry would know that.

MS. O'BRIEN: Okay. Thank you.

Can we go to page 31, please, of this exhibit? And, again, this is DG2.

So, I think this here is just showing the strategic risk exposure, and I think you already kind of covered that in the beginning, and perhaps I don't have any further questions here because you've already talked about the unmitigated and the mitigated. So that's fine, I'll just draw it to the Commissioner's attention.

I'm going to move now, Mr. Westney, to the work you did at Gate 3, so the QRA at Gate 3. I'm generally going to ask you to begin with a description of how Westney carried out the work at Gate 3, in terms of how the risks were – the workshops that were done, how the risks were identified, how the ranges were settled on.

There is a document that may be of some assistance to you in giving your testimony on this point. P-01162, please, Madam Clerk. And, it's at Tab 41 of the book, or binder, I believe, Mr. Westney. And this is actually a letter from you to Angie Brown, who I can confirm is with Grant Thornton. And this has to do – I think we alluded to this earlier, Grant Thornton had asked you for some information about risk ranges that had been done.

And I know the first part of this letter sort of identifies the various work and the ranges that was done, but at the bottom of this page, there's a discussion of the ranging process and it continues on to the next page and it talks a little bit about the process that you went through.

Can you just now tell the Commissioner, you know, summarize that, how that work was carried out?

MR. WESTNEY: Sure.

Well, I'll refer directly to the page just to ensure accuracy here.

MS. O'BRIEN: Absolutely. And it's Tab 41.

MR. WESTNEY: Yes, I have it, yes, great.

Okay, so the first thing to consider here is that by this time SLI was onboard, of course, and they brought to the project a great deal of experience in building exactly this kind of project in Eastern Canada. So this was a very important addition, I think, to the thinking about risk.

And, in addition, at this point, by 2012, Jason Kean and Paul Harrington and the team had had five years of developing and working very hard, I would say, to develop a strong risk management capability. So, with all that in mind – by the way, there also was a very – by this time, a very comprehensive schedule and of course a very good cost estimate that would, I guess, have been completed several months prior to that.

So we held a workshop in St. John's, as you see here, May 23 to May 25, and it was actually different topics and different participants on each of those three days, and the goal of each of

these workshops, over the three days, was to review the risks that were seen on the project, develop scenarios and then, based on that conversation, develop ranges for both the cost and schedule risk models.

Now, as you see here, both SNC-Lavalin and Nalcor had been working very closely together and they had very highly developed detailed risk registers, which are all in the exhibits here. So, this was not a workshop where you're starting with a blank piece of paper by any means. And so our job – the workshop was chaired by Jason Kean, and our job was to support that process by, as I've mentioned earlier, bringing in our views from outside, outside Canada even, or what our data showed for construction productivity generally and what specific knowledge we may have had around hydro power, and help the group agree on those ranges.

There – following those three days there was a meeting at our Westney office in Houston, and I think –

MS. O'BRIEN: There it is –

MR. WESTNEY: Do we –

MS. O'BRIEN: – there, I think.

MR. WESTNEY: Yeah, down towards the bottom, yeah, exactly.

You know, you have a – let me just back up a little. So you have a workshop with 25 people in the room, or something like that, from our company, from SNC-Lavalin, from Nalcor and, you know, that's a lot of people to be talking about how to set a range on a particular thing. So you do the best you can, you gather their input, and then it made sense to get a much smaller group, which Paul and – Paul Harrington and Jason Kean came down to our office in Houston to say, okay, let's finalize those tactical risk ranges, those time risk ranges, and let's talk about strategic risk, which had not really been discussed to any great extent in the May 23 to May 25 workshop.

Now, in the period of time between the meetings in St. John's – 23rd to 25th – and the meetings in Houston, of course, there's ongoing dialogue with Jack Evans in our company who does the

actual modelling and his counterparts at Nalcor. I want to say Tony Scott, I may or may not have that name right. Anyway, there was a lot of dialogue back and forth. There was dialogue about the time-risk model, which they actually even had made their own version that Jack was able to – that they offered Jack to use and then he used that as a starting point for our Westney model. It saved him a good deal of time. So there's quite a lot of dialogue going on to kind of refine those risk ranges.

So, let me see what it says: "... meeting on 4-5 ... The purpose" was to "finalizing the tactical cost-risk ranges, discussing the strategic risk and ranges," and there was also some discussion about do you want this all in one report or do you want separate reports for the three types of analysis. And because this is all – yes, I'm fine, thank you very much. IT guy just checking on me – because you can run these models fairly quickly, Jack would be able to take ranges, do a run, and then come back into the meeting with Keith Dodson, Paul Harrington and Jason Kean and say, okay, this is what it's telling us using those ranges.

So, by the time Mr. – Paul Harrington and Jason Kean left on close of business on the 5th of June to go back to Newfoundland, I would say the risk analysis was essentially done with those ranges. I think there may have been some fine-tuning after that. But the work was largely done by late June.

MS. O'BRIEN: Okay. I'm just going to bring up an exhibit, P-01158, tab 26, I believe, of your binder, Mr. Westney.

These are documents we've received from Westney, and I just want to get you to confirm that that's what they are.

This is where I understand, this exhibit here, this is where the tactical ranges had been assessed following the May meetings in St. John's. So, this was the work that had been done, you know, at the conclusion of those meetings, and then these numbers here were then further refined by Mr. Harrington and Mr. Kean in their meetings in early June with Westney. Is that right?

MR. WESTNEY: Yeah, I mean, I assume you're looking at the one that is correctly identified as the ranges as of the close of the

workshop in St. John's. I know Jack Evans has provided a chronology of those range worksheets to Grant Thornton. So yes, I mean, if you tell me that's the one that corresponds to that point in time, then that would be the starting point for the discussions in Houston.

MS. O'BRIEN: Okay, thank you.

And we can get the file name there just to confirm that, but I certainly do – that's what I do understand this to be.

MR. WESTNEY: Okay.

MS. O'BRIEN: Now, when the – in terms of the – speaking of tactical risks now; in terms of the work that was done on the ranges then in June from where it's – you know, it started at the end of May. Do you know if, generally, were those risks, the ranges, were adjusted there on tactical risks? And if so, do you know whether they were generally adjusted up or down or whether they essentially held the same?

MR. WESTNEY: I'd have to take another look at the spreadsheets to be able to answer that with certainty. I would doubt that they were larger. But I can't say for sure exactly what happened overall.

MS. O'BRIEN: Okay, that's fine. And we have the numbers now so we can –

MR. WESTNEY: Sure.

MS. O'BRIEN: – have an assessment done. Okay.

Can I bring up, please, then P-01192? I believe at tab 46. And this is the same type of document, as I understand it, for the strategic risk work. And, again, I understand that this – that you can see the title of the document there is called: "LCP Strategic Risk Ranges 24 May 2012."

I understand that this is where the strategic work had left off after the May workshops and that any further work on strategic risks would've been done by Mr. Harrington and Mr. Kean in early June. Is that consistent with your understanding?

MR. WESTNEY: Yeah. You can see most of the spreadsheet is blank. So yes, it is. And Jack Evans provided me with that and provided Grant Thornton with that. So you can see clearly that the discussion of strategic risk at the conclusion of the workshop in St. John's was just the start.

I would, if I may, correct slightly what you said, that in the meeting in Houston it would've been Mr. Kean, Mr. Harrington and Mr. Dodson from Westney together talking about the strategic risks and the ranges for them.

MS. O'BRIEN: Oh, yes, certainly, yes.

Okay, thank you.

Now, on the topic of strategic risk. We've seen at DG2 – and it's certainly there in the QRA analysis document that's in evidence and we've looked at it before – but we see there was a lot – a great number of strategic risks that were defined at Gate 2 and ranges were put to them, and then they were used in the QRA analysis.

Mr. Kean has given testimony here already that, as of Gate 3, that essentially the strategic risks were reduced down to three strategic risks. And I think if we bring up P-00130, please, Madam Clerk, page 293, we'll see those. And his evidence, just generally speaking, was that the other strategic risks had been deemed to be, you know, essentially fully mitigated, or to a level that they were low enough – page 293, please – that they did not need to be further assessed. And I think if we look here –

MR. WESTNEY: Yeah, risk – yeah, I would just say – or they were (inaudible) now considered a tactical risk.

MS. O'BRIEN: Okay. That's fine. And, actually, can you go to – take me –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: – to 287, please, Madam Clerk?

So here he said, you know, there was essentially three – and it's up on the slide deck now. This is – I'm sure you'll have heard lots of evidence before. There's been a fair bit of focus on that 497 million, but –

MR. WESTNEY: Mmm.

MS. O'BRIEN: – essentially, it's broken down into –

MR. WESTNEY: Yeah.

MS. O'BRIEN: – schedule risk, performance risk and then two different aspects of a skilled labour risk. So –

MR. WESTNEY: Yeah.

MS. O'BRIEN: – the first question I want to ask you is: Narrowing the strategic risks at DG3 down to a list of three, is that consistent with that wide-angle view approach that Westney advocated?

MR. WESTNEY: No.

MS. O'BRIEN: Would the LCP have, at this time at Gate 3, faced additional strategic risks that are not captured by the items here that were identified – the three items?

MR. WESTNEY: Well, of course – yes. I mean, one would think that – I mentioned earlier in reference to the black swan article, all megaprojects by definition have strategic risks. Often a megaproject is defined not as a billion dollars, as we've heard, but project that's – of course it's inevitably greater than that – but it's so large that it actually impacts the environment in which it takes place.

And so, it will inevitably have political risks; risks from, what I would call non-financial stakeholders, generally thought of as NGOs, people in the community who are impacted by the project, et cetera. And they can also be economic risks – particularly those that pertain to the goods and services that are procured by the project.

Keeping in mind that a megaproject is so large that it's placing big orders for steel and engineered equipment and that has huge demands for labour, and the ability of the marketplace to supply that will change over time. And so, just because a project is at DG3 versus DG2 – exactly as that black swan article says – it, by no means, means that those risks

have gone away and there's a limited extent to which you can mitigate them either.

So I would say that what strikes me when I look at that list of, effectively, three construction risks to the exclusion of other types of strategic risk that are inevitably there – it would certainly jump out at you that those types of risks are absent.

MS. O'BRIEN: Okay.

And to your knowledge did Westney – I know you said it was Keith Dodson who was meeting with Mr. Harrington and Mr. Kean when this work was done. To your knowledge would – did Mr. Dodson raise this concern with those gentlemen that they had reduced the strategic risk down to three when there was other strategic risks that were still out there; still facing the project that weren't being considered?

MR. WESTNEY: Yes, having talked to Mr. Dodson he was quite clear about the fact that he saw a lot of strategic risks in a project like this and he not only, as stated earlier, encouraged the use of a P75, at least at the project level, but to include a broad range of potential strategic risks in the management reserve.

MS. O'BRIEN: Okay.

And I know you've talked about political risks, market condition and I believe the other one you said was, sort of, a non-technical risk as I – you said referring to NGOs –

MR. WESTNEY: Another phrase for non-financial stakeholders is – the impact of those types of actions on a project are sometimes called non-technical risks, yes.

MS. O'BRIEN: Okay.

And I just wanna make sure that – so the Commissioner has a clear understanding of those terms, I'm just going to mention a few specific types of risks and just to get your comment on whether you would consider those included in those three categories or three broad categories you've given us.

So things like risks of protests from, you know, grassroots organizations or, you know,

Indigenous groups who have an interest in the relationship with the land and whatnot around the project, would that be the type of risk that would be covered in that non-technical or non-financial stakeholder list?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

What about risks associated with scope change? So I know we're gonna have some evidence that – and we have had some evidence already that there was reliability – you know, reliability requirement changes that ultimately required a scope change on the project. Is that the type of thing that would be captured in one of those risks or not?

MR. WESTNEY: Yes, I would simply make the clarification that really a scope change can be either driven by external force such as what we've mentioned and that would be perhaps a – considered a political risk where there's a change in regulations that will immediately apply to the project that caused an extensive redesign and effectively increased the project scope.

Or they can be internally driven where the executive committee decides we – for example, in the chemical manufacturing industry, we see a strong product demand for such and such a product that we can make in this facility. To do that, we'll have to have another process unit; it's a scope change. That kind of change you would not try to cover with strategic risk because there's absolutely no way to know whether that would ever happen and, if so, what form it might take.

MS. O'BRIEN: But what about the first – sorry – the political –

MR. WESTNEY: Yes, definitely.

MS. O'BRIEN: That would be captured in strategic –?

MR. WESTNEY: Absolutely.

MS. O'BRIEN: Okay.

MR. WESTNEY: That's the whole point, yes.

MS. O'BRIEN: Okay.

And, like – you've talked about market conditions, so for example, if you were going out to tender with a contract package, and it turns out there was, you know, only, you know, very few suppliers of that – it was such a, you know, unique type product or scope of work that there was very few suppliers and such that there was not that much competition for the package. Is that something that would be captured by this market-condition strategic risk, or am I misunderstanding that?

MR. WESTNEY: I'd say that's partially correct.

So when you are doing your tactical risk analysis, and your cost estimates – obviously, if you're purchasing turbine generators for a hydro dam, of course you know who the suppliers are, you may have even gotten budget quotes to use in your estimate from those suppliers.

So it's no surprise that there's a limited number of qualified suppliers to whom you will go for that, and in your tactical risk analysis and your project contingency, you would allow for the fact that, hey, when we actually go out and buy this, the price could be higher or it could be lower, and here's a reasonable range that we can expect market conditions and pricing can vary from today to a year and a half from now when we actually buy that.

On the other hand, in strategic risk – and by the way, let me back up, so when you make that judgment for tactical risk, you would do your best to try to figure out what's the demand going to be 18 months from now when I actually go to tender for this equipment, and you try to assess that, put that into your estimate and put that into your ranging.

Now strategic risk would be like, wow, who would have thought, 18 months later, the market is completely changed, there's a huge demand and now we're in the back of the line. Our lead times are going to be longer, our prices are going to be higher, and it's for forces that – market forces – that we could not reasonably have been expected to predict in our tactical risk analysis. That's what we covered by strategic risk.

MS. O'BRIEN: Okay.

So like, so if some of the financial – maybe if you give – probably the better way to do it is ask you to give the Commissioner a few more examples of the types of strategic risk that you would deem to be covered by this – these market conditions?

MR. WESTNEY: Sure.

So the – again, the differentiator is – for tactical risk, it's within the reasonable range of outcomes one would expect for a typical project in this location over this period of time. The strategic risk is for things that are much greater than that that we could not reasonably have been expecting.

So another example would be structural steel or more common forms of engineered equipment like large diameter valves, let's say, or instruments – instrumentation where, once again, these are highly engineered items and there's demand and supply – well, supply is fairly fixed, demand will fluctuate a lot over time. So for example, if we had \$100-a-barrel oil – which, a very short time ago, people were actually thinking might happen – you'd have a lot more demand for a lot of these kinds of materials and equipment than otherwise.

Now, the same would apply to labour. The same would apply to engineering, the people who provide the engineering services. Again, there's a normal variation that you would have in your tactical risk, and then there's the more strategic risk for things that are outside a project team's ability to predict.

MS. O'BRIEN: Okay, thank you.

You've referred to escalation a few times already today, so I'd like to take you back to that. Jason Kean, as you're probably aware, has already testified to some of the items that were considered and items that were not considered in assessing the potential costs of delay on the project.

But one of the items I would like you to give the Commissioner some evidence on is escalation. And as I understand it, that when Westney did this QRA work – and I know it's DG2 and DG3,

but we'll focus on DG3, please – that you were doing the work based on an un-escalated base estimate. And can I get you to explain the impacts of that to the Commissioner and give him some evidence on whether that would be your – the usual way or your preference for how this would be done?

MR. WESTNEY: Sure. So the idea here – the way the estimate was structured for this project was that the estimate is in base costs, which were January 1, 2012. And I have certainly been involved in projects where other people did this, and I have always found that it creates a lot of unnecessary difficulties, because people get used to dealing with numbers that are, in fact, numbers that are completely unrealistic.

So sometimes people refer to this as overnight costs. So it would be – if you started the project at midnight on January 1 and finished it 24 hours later, this is what it would cost. Well, we're talking a five-year project here; obviously that's not going to happen. So different elements will cost whatever they cost depending on when they are actually incurred according to the schedule.

So I like the expression money of the day. You say, well, what will this cost in money of the day, who cares what the base estimate is, that's not a value that really is useful to us.

So the problem you have, then, when you run your risk analysis as we did, as we were instructed to do, using January 2012 costs – and in that slide you showed with the 497 million that's been quoted as the management reserve, it says right at the top this is 2012 dollars as a kind of warning that this number would actually be quite a bit higher if it was escalated.

So I'd much prefer to see a situation where everybody is looking at costs in terms of money of the day, and the second important point is that money of the day is based on a realistic schedule.

Here, apparently, you – we were not involved. The escalation analysis, as you know, is completely separate, but the schedule that was used to calculate escalation, and hence the basis of the sanction estimate, was the P01 schedule. If I'm – I'm virtually sure from the documentation that it says that.

So now you have two impacts. You have a figure like 497 million for strategic risk; you have whatever the contingency figure was, 368 million or something like that. These are numbers that are much too low, because they're operating on an estimate, which is January of 2012, not money of the day.

If, in fact, you adjusted those numbers to be commensurate with a P50 schedule, of course they would be considerably higher.

MS. O'BRIEN: Okay.

And would this – you know, Westney's views on this, you know, it's more properly to calculate your strategic reserve and calculate your contingency using a realistic schedule and also including escalation, is that information that would have been provided to Nalcor?

MR. WESTNEY: I don't know if that conversation actually happened or not.

Once again, I would say that's something that's self-evident to people who are experienced in this field. They've elected to do it that way to present the estimate as a base estimate, add contingency based on the base estimate, i.e., January 2012, then add escalation based on the target schedule, and that's your total cost.

So, that's the way they chose to do it. I don't know that we would've said, hey, guys, you know, we would prefer to do it a different way. It's not our project. That's the way they chose to do it; that was our instruction.

MS. O'BRIEN: Okay.

But you're saying that people experienced in this area would know that by doing that you're really not accounting in your, you know, overall numbers for the effects of escalation, which everybody knows is there and are, you know, these are dollars that you're – they are real dollars that will be spent.

MR. WESTNEY: Yes, of course.

Just to make it very clear. So, we, in the tactical risk analysis for project cost, suggest a 7 per cent contingency. In fact, it was 6.7, if I recall, if you actually literally read it off the curve, but

the text in our report says, okay, that's a 7 per cent contingency.

If you were to have calculated that same percentage on – that – excuse me, if you had taken those dollars – if memory serves it's like 368 million or something like that.

MS. O'BRIEN: That is correct.

MR. WESTNEY: If you take those dollars as a percentage of the base estimated, escalated to a P50 schedule, it would be 6.3 per cent. So, in actual fact, you have the equivalent of a megaproject here with a 6.3 per cent contingency.

MS. O'BRIEN: Okay.

And, well, that's probably a good place to look at that in – I'll just – sorry, I will come to that in just one moment, and come back to that, that point on the contingency. But before I go there, I just – I wanna talk a little bit more, before I leave it, about the P1. And can we, please, bring up P-00828, please? It'll be tab 27 of your book.

And I – this document, Mr. Westney, you can – I will advise you, this is the draft – the first draft – you can see here by the covering email of the: Owner's Contingency Analysis that Westney provided. This is just a draft document.

Could we go to page 14, please, Madam Clerk?

So there are a number of changes between this draft and what became the final version, but the one I wanna look at here is here at DG3, you – in the first draft, the schedule – I'm looking at the full-power schedule right now – is clearly identified as a P1. That P1 is removed; it's not there in the final draft.

Can – do you know the reason why the P1 was removed?

MR. WESTNEY: You mean just the: equals P1?

MS. O'BRIEN: Yes, identifying –

MR. WESTNEY: Those characters?

MS. O'BRIEN: – the date. I think the date stayed the same, it's just that the – identifying it as a P1, that was taken out. Is that – first of all, do you recall that and do you know the reasons for why that happened?

MR. WESTNEY: Yeah, we were instructed to take that out of the report.

MS. O'BRIEN: Okay. And do you know who gave you that instruction?

MR. WESTNEY: I'm pretty sure I have a marked up version of the report with Mr. Harrington's edits. I'm pretty sure I've seen that, that actually showed, strike that reference to P1.

MS. O'BRIEN: Okay, so you believe it's Mr. Harrington who gave the instruction?

MR. WESTNEY: Yeah, I mean, I should say that it's self evident from the curve anyway. I wouldn't view that as a big deal. If anybody is interested in seeing a probability curve in the first place, it would be immediately apparent that it's P1 or P0 or something like that.

MS. O'BRIEN: Sure, if someone came and read the curve.

MR. WESTNEY: So it's not a big deal to have taken that out. I mean, it is self evident from the curve anyway.

MS. O'BRIEN: Okay.

Now, I do – we've had some evidence already from Mr. Kean that there was further work done on schedule by Westney in September 2017, and I'll just bring up a few of the emails around that.

Can we go to P-00130, page 326 please, Madam Clerk? 326.

So this is, of course, the DG3 QRA document. So this is an email here, I'm just gonna bring it to your attention, it's September 5, 2012 from Jason to Jack Evans of Westney; Jason Kean to Jack Evans, and he's posing a question: "Does our current knowledge –

MR. WESTNEY: Yeah.

MS. O'BRIEN: – of the project, increase the –

MR. WESTNEY: Yeah.

MS. O'BRIEN: – PXX of our base planning schedule? I believe the answer is yes," that we are "now at P20 or P30?" And if we go down now a little further in this chain here, we will see a listing of a number of, you know, scheduled changes that were being made. They're listed here –

MR. WESTNEY: Yeah.

MS. O'BRIEN: – and some of them are like, starting earlier excavation, early – awarding that contract pre-sanction and a few other items there.

And if we could just go to P – sorry, page 321. This was on September 5, those emails, and then we see another email a little while later. Another email chain a few days later, September 10 and actually the response came actually on September 6. And I believe this is Mr. Evans response back, and I understood from this that this is him reporting back on what the effect on the scheduled review was.

MR. WESTNEY: Yeah.

MS. O'BRIEN: Were you aware that this work took place?

MR. WESTNEY: Not at the time. I mean, I was not directly engaged in this nor is it my job to supervise the work that Jack Evans and Keith Dodson do, certainly. So, at the time, I was not in the loop on these conversations but I do know from talking to Jack Evans, recently, that, yes, that's exactly what happened.

MS. O'BRIEN: And when they – when Mr. Evans reanalyzed the schedule based on the new information that Mr. Kean had provided, what was the result?

MR. WESTNEY: It changed very little.

MS. O'BRIEN: Okay.

MR. WESTNEY: As you can see, it's P3, you know, it had very little impact.

MS. O'BRIEN: And earlier in your testimony you sort of made an indication like a P1 is like a

P0. I mean, do you see a big – any substantial difference between a P3 and a P1?

MR. WESTNEY: No. Not from – there's a mathematical difference, obviously, but these are meant to be tools for executives to use for decision making; for project managers to use for planning; for cost estimators to use; for the people who run the economics to use. It's sending a very clear message – these dates are completely unrealistic and you should not use them for any of these important tasks.

MS. O'BRIEN: Okay.

MR. WESTNEY: So that three versus one is the same message.

MS. O'BRIEN: Okay. Thank you.

Commissioner, I am at an appropriate time to take the break and I am making good time with my evidence. So if –

THE COMMISSIONER: So we'll take our morning break here then.

So, Mr. Westney, we're going to take a 10 minute break at this stage, and I'm not sure if we're going to keep you on the line. I'm hoping that the crowd inside is going to keep you on the line so we don't lose you again and – but we will see you in 10 minutes or so.

MR. WESTNEY: Okay.

THE COMMISSIONER: All right. Thank you.

CLERK: All rise.

Recess

CLERK: Please be seated.

THE COMMISSIONER: We're just waiting just for a couple of people.

Is everybody in, or ...?

UNIDENTIFIED MALE SPEAKER: Would you like me to go out and –

THE COMMISSIONER: We have somebody out there looking.

All right, Ms. O'Brien.

And Mr. Westney, are you there?

MR. WESTNEY: Yes, I am.

THE COMMISSIONER: Perfect.

MS. O'BRIEN: Thank you.

Mr. Westney, I'm going to look now at – a little bit at some of the work you did on the contingency, sort of the tactical risk at DG3.

Can we please have P-00763 brought up? And that should be tab 31 of your book, Mr. Westney.

Okay, so this is – this appears – this is the final report. It does appear in – it appears in P-00130 as well, but this is –

MR. WESTNEY: Mmm.

MS. O'BRIEN: – Westney Consulting's final report on the estimate accuracy analysis for tactical risk and contingency at DG3.

Can we please go to page 9, please? Sorry, I'm looking for the overall recommendation; I clearly have a wrong page number here.

I'll start out, Mr. Westney, for this line of questions I want to point out something on this page. So we know what the total base cost is and I'm just – because I'm going to bring you to this, but here on this page here, page 7, we have the overall base estimate broken out between the three difference components: Muskrat Falls generation facilities, Labrador-Island Transmission Link and Labrador Transmission Assets. And I'm going to refer to that in a moment; I just wanted to identify that for you.

MR. WESTNEY: Yeah.

MS. O'BRIEN: And, overall, you've already testified, I believe, that here when we get to your overall recommendations – here we go, it's page 12 – that the recommendation here for – after your tactical risk analysis for contingency is noted here at 7 per cent. And I understood you to say a little bit earlier that that was actually when you look at the – when you run the numbers,

that's actually 6.7 per cent that was rounded up to 7.

MR. WESTNEY: I'm pretty sure that's correct.

MS. O'BRIEN: Okay.

And, again, when you talked about the effect of not including escalation on this number, did I understand you correctly that you said that, really, when you – if you were to account escalation here, this equates more to a 6.3 per cent contingency?

MR. WESTNEY: Yeah, I did a little back-of-the-envelope calculation the other day just for my own curiosity where I said, okay, if I look at the time risk curve and take the P50 value, it's about, I'm thinking, a year and a half later than the P1 was. And then I took the escalation that they had included – which I think, if memory serves, something like 6.6 per cent – and I just pro-rated it up for that additional period of time to come up with, I think it was, 8.4 per cent, which I then applied to the various numbers to come up with that – the 368 would be equivalent, actually, to 6.3 per cent.

MS. O'BRIEN: Okay.

And you're going to take my word for – on my math skills here for a moment but – because we do have – that's the overall curve that we just looked at here. But in this presentation you broke it out between the three different components of the project. And so here, for example, is the one of the Muskrat Falls generating facility –

MR. WESTNEY: Yup.

MS. O'BRIEN: – and then there's a curve then for the LIL – or the Labrador-Island Transmission Link.

MR. WESTNEY: Yeah.

MS. O'BRIEN: And then there's another one for the LTA.

MR. WESTNEY: Yup.

MS. O'BRIEN: And I – using those base numbers that I pointed you to and then looking at –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: – how those contingencies would've broken out between the three different components, I got numbers for the Muskrat Falls generating station of 7.6 per cent, for the LIL I got 3.1 per cent and for the LTA I got 7 per cent.

MR. WESTNEY: Okay.

MS. O'BRIEN: So the one of those that certainly jumped out to me is the LIL, and this is a, you know, a 1,100 kilometre long line – transmission line. I understand that would include the Strait of Belle Isle crossing as well. Is that right?

MR. WESTNEY: I'm pretty sure it does, yes.

MS. O'BRIEN: Okay.

And I just, I mean – I wanted to get – the 3.1 per cent contingency, does that appear a reasonable level of contingency, for you, for a project such as the LIL?

MR. WESTNEY: No. That's a megaproject too, right? It's \$2-point-something billion, un-escalated. It's a very long power transmission system over difficult terrain. In fact, I did – that's jumped out at me as well: Why is that particular contingency low? And why is it low relative to LTA, which is much smaller, but it's essentially the same kind of project only smaller?

MS. O'BRIEN: Okay.

And do you have any comment as – I mean, was this noted to Nalcor at the time? Or what's the reason for this low result coming out of here – 3.1 per cent?

MR. WESTNEY: Yeah.

Well, I asked myself the same question which meant that I then asked Jack Evans that question. Particularly, I said how could these two similar pieces, LTA and LIL, be so different in their contingencies, particularly with LIL being itself

a megaproject and coming in at 3-something per cent?

And he said: Let me get back to you. And he went and he looked at the ranging sheets and – I don't have it in front of me – but we actually went through it. If you look at those ranging sheets you can see you have the three projects; actually, there's a bunch of the cost model elements that apply to Muskrat Falls and there's a group that apply to LIL, and then a group that apply to LTA. And so when you look at the group that applies to LIL, it really comes down to how the ranges were set.

And he gave me, I think, three examples where the final ranges were set such that the distance from the base estimate to the worst case, versus to the best case, was either a much tighter range on the worst case side than we would normally expect to see, or actually in one or two cases, actually a bigger range to the best case side.

Now that can happen, because when you're doing these ranges you are effectively calibrating your estimate. And the estimate is kind of frozen at a point in time, but every day there's new information becoming available and you now maybe know when you're doing these ranging, something you didn't know six months ago about the price of item X.

And so there was various rationale – in fact, I think somewhere there's a comments field that says why – something like, well, we took the highest of three bids, therefore, we feel there's more potential range to the best case and there is further upside potential to the worst case.

But the point is if – a few of these can actually move the contingency around quite a lot. It could make what might have been a 5 per cent contingency a 3 per cent contingency. Even a 5 per cent would have been low, I believe, for a project like this, but at the end of the day we are – our job is to take the ranges that have been settled upon by the client after all the discussion, and run the model, and that's the result.

MS. O'BRIEN: Okay, thank you.

And do you know whether – from Mr. Evans – whether he raised any concern about this with Nalcor at the time when he was meeting with – I

take it this was the final ranges that were settled on with Keith Dodson there, I guess, and Mr. Harrington and Mr. Kean in June of 2012, is that right?

MR. WESTNEY: I assume so. I can't say for sure exactly who was in the conversation when that – those specific ranges were set but I would say certainly if that's what was published then that's what was agreed a few weeks later on the 20th or so when we finalized the analysis.

MS. O'BRIEN: And that would be the 20th of June?

MR. WESTNEY: Yes, sorry, yes. Yes.

MS. O'BRIEN: Okay.

And I guess, do you know whether either Mr. Dodson or Mr. Evans or anyone at Westney raised any concerns with Nalcor about this – what you're, you know, saying now is a very low contingency for what is a megaproject of its own?

MR. WESTNEY: I'm afraid I would also put that in the category of experienced people see this, they can draw their own conclusions, but the concern would be self-evident.

MS. O'BRIEN: Okay.

MR. WESTNEY: But there may have been a conversation – I don't know if there was or not – but I wouldn't have necessarily think it would be required for us to point out something that was pretty obvious.

MS. O'BRIEN: Okay so for anyone with experience doing megaprojects – should know that?

MR. WESTNEY: Yeah, I would think. Yes, of course.

MS. O'BRIEN: Okay.

Okay now you – in June of 2012, you were asked – and Westney Consulting and – was asked by Nalcor to do a – give an opinion on the PIRA fuel forecast that had been used. I believe if we go to P-01159 – or sorry, P-01160, actually

has that document if – it's in tab 30 of your book.

So here is attached – it says, “paul – latest version of opinion letter” and that's from you to Mr. Harrington and there is this, “Observations on the Use of Price Forecast to Determine the Current Present Worth of” the Muskrat Falls Project.

First of all, I'd like to ask: is this the type of work that Westney normally engages in? You know, have you – prior to this, were you ever asked by a client to give opinions on fuel forecasts and the appropriate fuel forecasts to use?

MR. WESTNEY: No. This is absolutely not our expertise. And we made that clear to Mr. Harrington.

MS. O'BRIEN: And how did it come about that Mr. Harrington then asked you to do – or to the best of your knowledge – that came about Mr. Harrington asked you to do this work on something that wasn't an area of your expertise?

MR. WESTNEY: Well, because the scope of our work was a much more narrow question. We were not asked, as you put it, to comment on their forecast of fuel prices and so on. His request – and we were willing to accommodate this request – he said: look, you guys do risk analysis all the time, particularly Jack Evans who prior to going into consulting work had held corporate positions – actually in Canada, Amoco Canada, if you remember Amoco oil company – and so he would be somewhat more conversant with the use of probabilistic analysis and present worth analysis in general.

And so we said: look, we – this is not our expertise, on pricing forecast or anything like that, but if you want us just to take a day and give you our viewpoint of the various techniques that were used and which one we think, from a purely statistical analysis point of view, would be preferable, then we'll do that.

And so we spent a total of, I think, 17 hours – effectively a day, for Jack and I – and we took a look at what was done and what the question was and we – as you can see in our – it's just a two-page memo – we just say: given the various

approaches, we think that this particular one is the – rather than using specific scenarios, the one that uses more of an aggregate of the various scenarios is probably more statistically representative of what the answer might be. But we left it at that.

MS. O'BRIEN: Okay.

And if we could just bring up P-01159? This is an email where afterwards we see Mr. Harrington – it's – this is an email here from Mr. Harrington to you. I won't – I'm not going to read it but he was making some suggestions for changes to the memo and things that could be said in it. Do you recall whether you made those changes, incorporated his requests or not?

MR. WESTNEY: I'm not aware that we created a new document with this – particularly words like it's not appropriate or prudent. We would have been uncomfortable doing so. There may be such a document but I don't recall doing it and I suspect we would have not felt comfortable doing it.

MS. O'BRIEN: Making the changes, is that what you mean?

MR. WESTNEY: Yeah, because now you're getting into an area where we truly do not have expertise.

MS. O'BRIEN: Okay. Thank you.

Now I'd like to ask some questions about the IRP so you – you've said and we have previous evidence that you are on the independent project review team at both DG2 and DG3. Prior to DG2, had you ever been involved in an IPR review before?

MR. WESTNEY: Well that – yes, even when I worked at Exxon in the '70s that was – I was the person that they used to send out on projects and do an independent assessment of where the project stood and independent forecasts and time and cost to complete. So IPRs can take many different forms. They can happen when a project is halfway through construction as I just said, or they can happen in the middle of a stage, or at the end of stage.

Our whole value proposition of Westney Consulting Group revolves around being an independent expert voice on a project or perspective on a project so, yes, of course I'd done that for many years. Maybe I could give an example of a big power company. The US base that built power plants – IPPs as they're called around the world – and we were engaged by their audit department, actually, to go out and do effectively a project audit on these projects. Their – I led a Westney team of experts who did that and we did that for, I don't know, two or three years, doing these IPRs on power plant projects around the world and whether they'd be able to meet the terms of their Power Purchase Agreements, et cetera.

MS. O'BRIEN: Okay.

So I take from that you have had a fair bit of experience with these, so I'd like to – really focusing on the DG3 IPR review if you could. Could you give the Commissioner some comment as to how that review would have compared to other reviews of this nature you did, you know, sort of a sanctioned time review, because we've obviously, we've had a lot of evidence so far about, you know, the IPR was really, has been cited by many people as a very important part of the project –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: – assurance work or due diligence that was done prior to sanction. And so your comments on how that process was carried out, compared to what you've seen elsewhere, I believe would be of some use to the Commissioner.

MR. WESTNEY: Okay.

Well, there's actually several points, Ms. O'Brien, that you have raised there. I would say that I'm troubled as I listen to the testimony in this hearing that that IPR effort in August of 2012 is seen as some sort of due diligence in terms of readiness for an actual sanction gate. Of course, this occurred four months before the sanction decision actually happened, and so that would be the first point is that it's a kind of a snapshot of a project, where it stands now.

But even more to the point, I guess my second point would be that, compared to other projects of this nature where due diligence of a \$6, \$7 billion capital investment is so important, I kind of use the image in my mind if there was a scale of 1 to 10 with 10 being the level of due diligence effort that a petrochemical company, an oil company, a mining company might do for a project of this magnitude, and then you add to that that we have a Crown corporation, that we have a utility where people are directly impacted by the cost of the project, we have a first megaproject ever for the organization and first hydropower project, that 10 might now be a 15, if I can kind of use that scale to represent level of due diligence you would expect to see before sanction.

This IPR, I would say, is maybe a 1 on that scale. And it was, I have to say, different from most other IPRs, even though IPRs can be many different things. But some of the differences are these: number one, it took place under an extremely compressed time schedule, over a period of essentially two weeks. Why the schedule was so limited in time, I don't know, that was never explained. Basically, you have a situation, which was the same as in DG2, but at DG2 it's not such a critical decision. So you're right, let's focus on DG3.

You had, I believe I went back and looked at the charter for a DG3 IPR, if I recall correctly there are 65 focus areas, as they were called, as such, and there were some around engineering, a lot of them around – maybe half of them around project management of various sorts, and so on and so forth. For each of these focus areas, there were documents that were uploaded to – I think it was called Aconex – the name of the document management system – it was uploaded there, we all had access to it.

So you have about a week in your office to review these documents that pertain to your area, which is really just enough to take a cursory view and say, hey, does this look like a project execution plan should look? Then we assembled on Sunday – and this is all documented in the agendas that I'm sure you have – to kind of get our team organized in how we're gonna approach it. And then Monday, Tuesday, Wednesday, there are a series of meetings. I don't know there were ever any one-

on-one, although there could've been, but generally there are meetings with several people involved where we have anywhere from 30 minutes to an hour and a half to talk about the topic. Three days of that – remember, there's 65 focus areas. Thursday you start pulling everything together and then you present to the CEO and the executive team on Friday.

I'm hard-pressed to think of another situation where we made a C-level presentation, 24 hours after we finished our work. Normally, you would expect there's a week or two of report generation and analysis, et cetera.

So that's the next important point about the compression of the schedule, meant you could only have a superficial kind of view of things. And if you – I noticed that in Mr. Owen's testimony, he said, look, our job was not to validate or verify or audit, it was just like: Was there a reasonable process followed and do we see any – do we have any comments or recommendations on what we've seen? But we did not audit or validate or whatever.

So my question would be: Well, okay, well if we didn't do it – and of course you couldn't possibly do it in two weeks – was it done? I – of course, I assume that all these things would have been done by IPA or somebody else.

The third difference here was that, unlike most IPRs, where a client comes in and says: I want you to take a look at my project. How would you go about it? How long would it take? Who would you talk to? What would your work product look like? And, of course, we have very good answers to all of those questions. This is our approach and this is how we would adapt it to your situation, et cetera.

Here, this was very, very tightly prescribed. These are the 65 areas. These are the questions you have to – or rather, specifically, the statements you have to agree or disagree or comment on. These are the documents you look at. These are the meetings you will have. You finish it up on Thursday. You report to the CEO on Friday.

So any opportunity to say: Well, wait a minute, we think we'd like to dig a little deeper over here. We were wondering about your safety

program. How would you do that? Or a good example would be: Is there a project execution plan? This is a \$7 billion – \$6 billion project, you really need a project execution plan for the overall project and you need one for Muskrat Falls LTA and LITL.

There's all kinds of questions about how you manage a program like this. A project execution plan would deal with what's the cost management plan, the schedule management plan, the quality management plan, the safety management plan, the document management plan, the interface management plan, et cetera, et cetera, et cetera?

And you would want to dig into those things and talk to the people who are specialists and really figure out do they know what they're doing? Have they figured out what this project needs and adapted that in their – addressed that in their planning?

None of that was done. So this was an IPR that took place over two weeks. Four people plus a team leader. Made some slides. We had some spreadsheets with colour coding. Is it good to go or not? Presented it to the executives. That's it.

This is not something that you could literally take to the bank. This was a snapshot. And I assumed, at the time, that this was just one step in what would be a fully fleshed-out, due-diligence process – what we actually call in project terminology: project assurance. You're assuring the quality of the deliverables to support the decision at the Gate.

MS. O'BRIEN: Okay, thank you.

Just one point from what you just said. You said, you know, you never before had finished the work and then had to give a C-level presentation sort of 24 hours later.

I just want to confirm, by C-level presentation you would mean to the CEO or some – one of the top executives. Is that what that means?

MR. WESTNEY: Yes, the executive team. The CEO, CFO, the – sorry, yeah. I mean the – Mr. Martin, in this case, and his executive management team.

MS. O'BRIEN: Okay.

And your comments here in terms of the reliance that was being place on that IPR, am I right in understanding that you're making these comments in particular because what you – the comments you've heard people make about the IPR in the evidence before the Inquiry to date? Is that ...?

MR. WESTNEY: Yes, exactly.

MS. O'BRIEN: Okay.

I want to go, please, to the Grant Thornton report. You do get a reference in that report.

P-00014, please, Madam Clerk, and it's page 8. And this is something that we have covered with Mr. Owen and I believe Mr. Mallam as well because they were obviously two of – they were – one was, I guess, the lead and one was one of the other members of the team.

And if I just scroll down here, I just want to make sure – oh, I think I – yeah, sorry, I have a wrong cite. It's on page 11 of the report and I'm bringing it up on this screen.

Under Findings and Observations at line 30 on this page, Grant Thornton wrote: "We note that one of the IPR team members was a founder of Westney Consulting ... Westney was also engaged by Nalcor to participate in the risk assessment of the Project. Potentially this could be viewed as a conflict of interest (whether actual or perceived)."

So that's the extent of the comment there. I wanted to give you, Mr. Westney, an opportunity to respond to that statement for the Commissioner.

MR. WESTNEY: Sure.

Certainly, when this was discussed in my interview with Grant Thornton, I was surprised by this comment. And this is the first time I had heard a comment like that, and it took me quite a while to wrap my head around the fact that, yes, this is a valid concern or a valid observation.

What would normally happen – and I will parenthetically say that in – for many, many

years when I taught project management – I've taught engineers to be project managers – sometimes I was asked to include a module on ethics which is usually around conflict of interest. So I completely understand the idea that you do not have to benefit from a situation that's been created; as long as there's the possibility of benefit, then there's conflict of interest. In this case, it's probably less a matter of benefit than it is an ability to be objective.

So I do see that more clearly now than I did at first. Normally, that what would happen is your client would be the project director, in this case Mr. Harrington, who is the same person who asked me for DG2 and DG3 to be on the IPR team. So, clearly, of all people, he would know exactly what my firm had been doing, although I, myself, really did very little consulting on the project, outside of my work on these IPRs. So, no doubt to him, it was like, okay, Mr. Westney understands the project somewhat, but he hasn't been directly involved, all except the fact that his company had been – and one of the items to be reviewed, one of the 65, would be the risk, the work on risk.

And I was interested to note: In Mr. Owen's testimony he said that we all recognize that, and he said that he remembered my offering to say: Look, anybody who's going to be reviewing work by Westney – that should not be me. And Derek Owen said: No problem. He, himself, has a lot of knowledge of this subject and, no doubt, others on the team did, too, and so that I would be recused from that.

As it happened, we never did review the risk work, but I do appreciate there could be that perception because of the more public nature of this project, as compared to a comparable situation in a private company.

MS. O'BRIEN: Okay.

I'm not going to review the report of the IPR in detail, simply because the report is entered in evidence; I am going to bring it up, P-00504. We've already reviewed this work rather extensively with Mr. Owen and Mr. Mallam. P-00504; it'll come up there on the screen.

So I understand this to be the report that you presented to the CEO and others, with the – your

fellow members of the Independent Project Review team. When you –

MR. WESTNEY: Excuse me, Ms. O'Brien, I'm just – pardon me for interjecting. Derek – Mr. Owen was the one who presented the entire report to Mr. Martin and the executives.

MS. O'BRIEN: Were you there?

MR. WESTNEY: We were all in the room, of course, yes.

MS. O'BRIEN: Okay.

MR. WESTNEY: Maybe it's a small point, but he's the one who made the presentation and we were all fine with that.

MS. O'BRIEN: Okay, so you were there. So this is the report.

MR. WESTNEY: Of course.

MS. O'BRIEN: At that time, I should say: Was this report – did this represent the views of the team as a whole? Were you speaking with one voice in this report?

MR. WESTNEY: Yes.

MS. O'BRIEN: Okay.

And when you – when that report was presented then by Mr. Owen, did you believe you were presenting a final report or a draft report?

MR. WESTNEY: This was our final report. This – we were expected to present our final report on Friday afternoon, which is what we were doing.

MS. O'BRIEN: Okay.

And we know there were some suggested changes; I'm just going to go through this somewhat quickly.

P-00508, please, and this at tab 33, I believe, of your book. Again, I'm going to go over it somewhat quickly because we have canvassed it already with Mr. Owen. But what we have here, Mr. Westney, as I understand, that – and please correct me if you believe I have anything

inaccurate here, but that Mr. Harrington had, in this email here that's currently up on the screen –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: – he had proposed some – he says: “We are proposing some wording for the draft IPR report” –

MR. WESTNEY: Mmm.

MS. O'BRIEN: – “(slides 13 and 40) following our meeting ... on Friday with Ed which we believe” –

MR. WESTNEY: Mmm.

MS. O'BRIEN: – “does not change the substance of the first draft and the messages it contained it simply uses language that could not be taken out of context and easily used in a negative sense.” And that –

MR. WESTNEY: Mm-hmm.

MS. O'BRIEN: He forwarded that to Mr. Owen, I believe –

MR. WESTNEY: Yeah.

MS. O'BRIEN: – as we can see here. Mr. Owen had his initial thoughts on it, which he communicated to you.

MR. WESTNEY: Mmm.

MS. O'BRIEN: And then you, actually – I understand you took those changes. And attached to this exhibit are some comparison of text that I understand you did this? You created this document here that's currently up on the screen?

MR. WESTNEY: You know, I actually don't remember doing that, but it's clear from the email string that I did and I wouldn't dispute the fact that I did.

MS. O'BRIEN: Okay.

And I understand it was – you were comparing what you, the IPR team, had put in their final report with the changes that Mr. Harrington and

potentially others were asking for. And at the top of this email chain here we get your response to it.

MR. WESTNEY: Mmm.

MS. O'BRIEN: And I understand you were not agreeable to making those changes, is that fair to say?

MR. WESTNEY: That's fair to say.

MS. O'BRIEN: Okay.

And you – maybe – I know this email does – it does speaks to it – for itself, but I note you are – I would say some fairly strong wording here: “Here is the first point: we absolutely cannot allow our work product to be dictated or edited by Nalcor management or the” lower – I guess, LCH? Is that just a typo?

MR. WESTNEY: Oh, it's a typo, yeah.

MS. O'BRIEN: Okay – project management and then issued as an IPR team work product.

MR. WESTNEY: Right.

MS. O'BRIEN: “This violates our obligation to the Gatekeeper and our IPR charter, not to mention our professional ethics.”

So is it a fair comment, Mr. Westney, that you felt very strongly that it was inappropriate to change the report in the way that Mr. Harrington was suggesting?

MR. WESTNEY: Yes, yes. And I might add a comment that I hadn't noticed having been made in the discussions you've already had on this topic and it's this: If you look at the original text, I would say that it's very mild, it's very gently worded.

What we're really trying to say is, guys, you know, you haven't shown us a risk analysis or anything, but we see there's a lot of risk here, and instead of just making a blanket statement, we say, by the way, if you look at your own documents, you talk about management reserve, you talk about contingency, you talk about strategic risk, you talk about how all these things need to be covered; we'd suggest you take your

own documents seriously and make sure you have adequate provisions here. And by the way, that's all we can say, because we don't really have any documentation to refer to at this point.

MS. O'BRIEN: And now, your company was involved in preparing the reports that we've seen, so we know your company was very involved in preparing those actual documents, but are you – so can you just please explain that to the Commissioner, why you'd be saying we didn't see it, but yet we know that those documents were at this point – some point – had been – we're talking about September 3, here – so essentially finalized the work by Westney.

MR. WESTNEY: I certainly had the information.

Yes, before I left to go up on the IPR in, you know, late August, I talked to Jack Evans and Keith Dodson, and I said, you know, what have we got, what have we done, and they shared that information with me. So I certainly knew what had been done.

But I believe the tactical cost-risk report was finalized. Whether it was issued or not by Nalcor, I don't know, but I think we considered that to have been completed in June, but the strategic risk and the time risk, (inaudible) schedule risk model, had not been finalized by late August, but I knew what the work was. On the other hand, it's not for me to bring that information forward. These are documents that are Nalcor's responsibility to manage, and if they decide that it's not complete, then it's not complete.

MS. O'BRIEN: So –

MR. WESTNEY: So I knew about it, but the others would not have seen it.

MS. O'BRIEN: So it was not provided to the IPR team to review, is that correct?

MR. WESTNEY: That's correct.

MS. O'BRIEN: Okay.

And I just want to confirm. I'm just looking at one of the – this is from the changes you made, but I believe, here – at the bottom of this page

here – I’m at the bottom of page 4 of P-00508. This conclusion, I believe, would have been the IPR team’s conclusion: “The IPR Team concurs with the expectations set by the LCP Project Execution and Risk Management Plans that adequate provisions for Management Reserve and Schedule Reserve be included in the Project Sanction costs and” schedule.

So I – was that the recommendation or one of the recommendations of the IPR team?

MR. WESTNEY: I believe the black text is taken from the actual report that we presented on Friday afternoon, the 31st.

MS. O’BRIEN: Okay.

MR. WESTNEY: So I’m pretty sure that’s what that report said.

MS. O’BRIEN: And do you stand by that recommendation today?

MR. WESTNEY: Of course, yes, absolutely.

MS. O’BRIEN: All right. Thank you.

Couple of, just a, sort of miscellaneous type questions, sort of housekeeping. Can we please bring up P-01147, please?

This is at tab 10 of your book, and I just – it’s been filed as an exhibit. This is going way back to February of 2008, so very early on in your engagement, and I think at this time you probably would’ve been working on the DG2A QRA-type work, but it’s an email between Gilbert Bennett and Paul Harrington. Mr. Harrington writing to Mr. Bennett.

“Jason wants this travel because we do not want Westney to issue any report that we do not have confidence in. Also he is carrying a message from me to Richard Westney that is best delivered face to face. I agree that we cannot suspend all the cost and schedule risk work,” and it goes on from there.

When we saw this email, it piqued our curiosity. Do you recall, are you able to recall, what message that Mr. Kean might have been delivering to you for face-to-face delivery?

MR. WESTNEY: I have tried very hard to remember that, and I have no recollection of that at all.

MS. O’BRIEN: Okay. Thank you.

Can we go to P-00898, please? This will be tab 45 of your book.

So this is another email that’s come up. You’re not on this email. It’s between Jason Kean and from him – from Jason – to – Jason Kean – to Mr. Mark Bradbury, copied to Rob Hull – these are all people within Nalcor – its subject is contingent equity, and I wanted to ask you about a line here.

It says – Mr. Kean wrote, and it’s September of 2010: “Generally I do not feel confident enough in the simulation results to use the P95 values – I think this is outside of the predictable range of the model and have confirmed same –”

MR. WESTNEY: Mm-hmm.

MS. O’BRIEN: “– with Westney.”

MR. WESTNEY: Yeah.

MS. O’BRIEN: “Westney’s view has always been that a P75 outcome using their PRIMS risk modelling technique is equivalent to P90 modelled using other industry standard techniques.” And then he goes on to – using this –

MR. WESTNEY: Yeah.

MS. O’BRIEN: – rationale.

So I just – that’s the line there about the idea –

MR. WESTNEY: Yeah.

MS. O’BRIEN: – that Westney’s view being that a P75 using your software is equivalent to a P90 in other industry – using other industry standard techniques.

Is that an –

MR. WESTNEY: Yeah.

MS. O'BRIEN: – accurate statement, or can you please provide the Commissioner with your view on that?

MR. WESTNEY: It's – it is accurate, but it's very misleading, and I don't believe it was intended in a misleading way. But when you just read it with cold eyes, it does seem to imply something that I think is actually the opposite. Looking at that now, I would say that's kind of a compliment.

And I'm gonna try not to get into the weeds here. But basically, there is a combination of an art and a science in the way you do risk modelling. And generally speaking, less experienced or sophisticated people or firms will approach it in a way that, when you've been doing this a long time and constantly improving and refining your methodologies, you tend to move away from.

So one example is in the selection of the probability distributions. So for example – and particularly going back some years when the models were – the software was more crude, people would maybe use a triangular distribution. Here's your base estimate, maximum, minimum, triangular distribution or maybe an asymmetrical triangle. Well, what that does is it doesn't give you a very long tail. And you heard Professor – excuse the use of jargon, but you know, the tail of the distribution – you heard Professor Flyvbjerg – or it may have been in his paper – where he talks about fat tails or you have to understand the tails, et cetera.

So as the software gets more sophisticated, and more different types of distributions are available that can be used to fit different types of situations, the better you understand this, the more realistic your model will be.

When your model is unrealistic, such as with a triangular distribution, because the range is too tight, because the tails are understated, the standard deviation – that is to say, you know, how broad or narrow the potential deviations are will be small. And I think you heard Mr. Owens say this gives you a very steep curve to where you only have to add a little bit of money to get to a much higher probability value. When the proper curve would have been more – leaning

over more, reflecting a broader standard deviation.

And a second factor has to do with the way you build the model, with the way you use correlations, et cetera.

So I'll stop here with the technical stuff. But the fact is when you've done it properly, our P75 is more likely to be a real P75, whereas others who are perhaps doing it with less experience will have, for various reasons, too small a standard deviation and hence they will think that same value was a P90, thereby implying confidence that's not really justified.

MS. O'BRIEN: Okay, thank you.

The final question – I just wanted to go back to something you had said earlier in your evidence. And I can bring up the document if it's of help. But I just need to – just – if you can just be patient with me for just one moment.

Can we please bring up, Madam Clerk, P-00828, page 14? We've already looked at this, Mr. Westney, but I just wanted to clarify something.

This would have to do with the idea of removing the P1 from the box here, and I know – and when I was questioning you earlier you said: Look, even if you remove the P1 it would still be – I believe your words were – self-evident. But please excuse me if I've misquoted you. It would still be self-evident to anyone that the actual – that that date, you know, December of 2017 for full power at this time was a P1.

And I just wanna get a little bit of clarity here, because I certainly understand what – there – what is self-evident to you, or for people who regularly work on project teams and who are familiar with S-curves and have seen these before. I can certainly appreciate your comment that that would, you know – that could be self-evident to them that you just look at that date; you find it down here and you track it over and you get your probability.

But would the same be true – I mean, if this was being looked at by people who don't have that type of experience or familiarity with this type of work, would you still think that that would be self-evident?

MR. WESTNEY: No, probably not.

MS. O'BRIEN: Okay.

MR. WESTNEY: I have found over the years that many people at the executive level or, you know, investment banking or something who, as you say, are not accustomed to dealing with even basic things, like you know, probability distributions or how is an S-curve is different from a bell curve or something like that. No, you would be doing them a service to point that out, for sure.

I was really – and you're right, I think, to correct me – I was really referring to people like Mr. Harrington or Mr. Kean who – this is what they do. They would certainly understand that. But others outside the project community or who are not used to statistical analysis, you're quite right, it might not be self-evident at all.

MS. O'BRIEN: Okay. Thank you, Mr. Westney.

Those are my questions for you.

I should say other counsel will have questions, so don't – please don't go anywhere. Stay where you are.

MR. WESTNEY: Okay.

THE COMMISSIONER: The Province of Newfoundland and Labrador?

MR. RALPH: No questions, Commissioner.

THE COMMISSIONER: Nalcor Energy?

MR. SIMMONS: Good morning, Mr. Westney.

I'm Dan Simmons. I'm with counsel for Nalcor Energy.

MR. WESTNEY: Good morning, Mr. Simmons.

MR. SIMMONS: You started out this morning giving us some information about your own personal background and credentials and that of your company. And your own credentials are certainly impressive, as are those of your company.

I want to ask you a couple of things, first, about Westney Consulting. And you say that it was founded by you in 1978. Is that correct?

MR. WESTNEY: Yes.

MR. SIMMONS: And if I understand correctly, the type of work that Westney does is consulting; probably, largely in the oil industry, but also to other industries that carry out large projects such as these megaprojects and that the work has been primarily focused on risk, identification of risk, assessment of risk and management of risk. Is that fair to say?

MR. WESTNEY: I would make two qualifications or –

MR. SIMMONS: Please do.

MR. WESTNEY: – supplements to that. I would say you could define – and I wanted to make the initial comments brief, so I didn't go into that, but I –

MR. SIMMONS: Yes.

MR. WESTNEY: – will give you a little more background now.

MR. SIMMONS: Certainly.

MR. WESTNEY: So basically, our value proposition is to provide services to – our mission, you might say, is to help organizations – people in organizations manage their projects better. So the broad umbrella of what we do has to do with project management.

MR. SIMMONS: Yes.

MR. WESTNEY: And risk within that, of course, is one specialty that benefits greatly from an independent view. And, of course, if you're in a business of providing an independent view, these are the areas that you like to focus on. So risk has always been an area of interest – it was for me, personally, back when I worked for Exxon in the '70s, and it has been ever since.

So, basically, the services we provide fall into two categories, really – two big buckets, you might say. One bucket has to do with specific services for a particular project. And certainly,

the things that you see us doing here – have done here and actually, recently (inaudible) doing for Nalcor, all around this specific project. Of course, a perfect examples of that: QRAs, IPRs, assistance – from 2015, I guess – on like, hey, we're having problems in construction, what are our options? And so on. And there's others things I could add to that list, but these are services to support a specific project.

The other big bucket has to do with the organizations that deliver projects. How should a company be organized to deliver its current portfolio of projects? So, for example, if they now have megaprojects to do, and they never did before, what should an owner organization look like? And there's a whole area of services that are around that. I tend to focus more on the latter bucket.

The second thing I would add is that we do not try to address every type of project. We would not look at roads or bridges or skyscrapers or, you know, that type of project. Typically the projects where we are most focused are those that have a – I'll just say – a complex engineering component to them. And so that's typically – in the energy industry broadly – oil and gas, LNG, but that also includes power generation but it's typically power generation that would be a difficult project to do – nuclear power in this case, hydro power. So that's the second part of it in terms of the industry sectors that we might focus.

MR. SIMMONS: Hmm. So for these industry sectors and the size, scale and scope of the projects that you provide these services to are there many other consulting organizations at your level that provide these services? Are there dozens, hundreds, or is there a small number at the top tier – the way you've pretty –

MR. WESTNEY: Oh, oh.

MR. SIMMONS: – well described your company as being?

MR. WESTNEY: It's – of course, it's a very hard question to answer because you have – oh my goodness, there must be thousands of very small firms –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – that are one person or one or two people and they consult in various ways.

I will share with you this organization that used to be called the Kennedy Report, it's now called the ALM Intelligence report. I believe ALM bought the company that was the Kennedy Report. It's the one I was referring to earlier where we've been ranked in the top tier. They had, I think, a total of 26 companies, which is a combination of the big consulting firms, the household names that we've all heard of, as well as speciality firms like ours who work in this area.

So those might be considered 26 that are apparently well enough recognized to be included in their survey and in their benchmarking assessment. And I would just say there's probably hundreds more that are smaller or more localized and specialized in what they do.

MR. SIMMONS: Right, so that's an indication of the number of firms that carry out the type of work that you do at the level that you do. So how important is it to your consultancy in particular that you have – you are able to maintain the kind of reputation that you've described as having in this industry?

MR. WESTNEY: How important –

MR. SIMMONS: Yes.

MR. WESTNEY: – is our reputation?

MR. SIMMONS: Yes.

MR. WESTNEY: Very important, of course.

MR. SIMMONS: Right. And – okay.

Now, I'd like to ask you a few questions about your personal involvement in some of the matters that you've described to us today.

I think you said at first it was fairly early on in the process, maybe 2007 there'd been an RFP that you'd responded to and your consultancy had been engaged to provide some services in relation to setting up the risk-management framework for the Lower Churchill Project. Do I understand that correctly?

MR. WESTNEY: Yes.

MR. SIMMONS: Okay.

And tell me what your personal involvement was in delivering those services, as opposed to other people in your organization who might have been tasked with doing that?

MR. WESTNEY: I'm going from memory here; I could certainly know exactly from our time sheet records, but my recollection is that I was involved in the early discussions, and sort of framing up the approach. I think I made some trips to St. John's to do some planning workshops, or whatever, but from that point on, that initial early involvement, or – I don't know, six months or something – I did not really have any direct involvement with this project at all until the IPR.

So, by that I mean, when they did the QRAs for 2 and 2A and that – I had zero involvement with the performance of those. All the information I've conveyed here, I've gathered recently for the purposes of this hearing.

MR. SIMMONS: Mmm. Okay.

So, stick back in 2007, you would've been – it sounds to me that you would've been involved at the point where Westney submitted its proposal, got the work and then you came in in order to get the work underway and establish the relationship.

MR. WESTNEY: I would say that's fair to –

MR. SIMMONS: Right.

MR. WESTNEY: – say it that way, yes.

MR. SIMMONS: And I presume that, given the position you occupy in the company, that would probably be fairly consistent with the kind of role you play for work that Westney Consulting does for other clients as well. Would that be correct?

MR. WESTNEY: Yes, you could say it's consistent; it doesn't describe every situation.

MR. SIMMONS: No.

MR. WESTNEY: There may be situations where I, myself – which is indeed a current situation – might actually be directly involved and lead the team – have a very heavily – heavy involvement, particularly in that second bucket that I referred to, which is around organizational improvement. At least, for recent years, that's where my focus has been.

MR. SIMMONS: Certainly.

So, I presume then, that the model is to make sure that you find and retain skilled expertise in the people that then go in and actually do the hands-on work with your clientele.

MR. WESTNEY: Exactly.

MR. SIMMONS: Yeah. Okay.

And you would include Mr. Dodson and Mr. Evans in that category.

MR. WESTNEY: Absolutely.

MR. SIMMONS: Okay.

So, you've been asked various questions about the analysis that was done for Decision Gate 2, and if I understand correctly now, you actually had, as you said, zero involvement in the actual performance of that work. Is that correct?

MR. WESTNEY: Yes.

MR. SIMMONS: And at – for DG3, we've looked at a couple different sets of reports that were prepared; one dealing with assessment of the contingency to cover strategic risk and another dealing with an assessment of an amount that might be put aside for management reserve.

Do I understand now that, as far as the doing of that work goes, you also had zero involvement?

MR. WESTNEY: I'm pretty sure that's correct. Yes.

MR. SIMMONS: Okay. So does zero involvement mean not being aware of what the work was that was being done and what the outcomes were at the time?

MR. WESTNEY: I would certainly be aware that Keith and Jack were doing this work. I would be aware that Paul Harrington and Jason Kean were in our office. I would see them, probably, and say hello and we might have a cup of coffee or something.

MR. SIMMONS: Sure.

MR. WESTNEY: But I – pardon me – I would not be actually reviewing their work product and saying: Yes, it's okay. I've blessed it.

MR. SIMMONS: Hmm.

MR. WESTNEY: It's good to go.

MR. SIMMONS: Hmm.

MR. WESTNEY: When the work is being done by Keith Dodson and almost anybody working for him or certainly risk analysis being done by Jack; I, myself, have worked very closely with Jack in risk analysis work on other types of situations, so I know Jack and the work he does and how he does it, extremely well.

But in a case like this there would be no reason for me to be directly involved in the work or even just reviewing the work or even knowing that the schedule was a P1 when they actually published the report. I have my own areas that I'm paying attention to.

MR. SIMMONS: Okay. So you had a lot of confidence, obviously, in Mr. Evans's abilities to carry out this work, having worked with him on these sorts of things before. So I take it for that then that you didn't participate in the workshop that was held in the spring of 2012 in St. John's.

MR. WESTNEY: I did not participate in that workshop. Correct.

MR. SIMMONS: Were you there?

MR. WESTNEY: No.

MR. SIMMONS: What about in June when Mr. Harrington and Mr. Kean came to Houston to further the finalization of the risk ranges? Did you participate in those meetings?

MR. WESTNEY: No.

MR. SIMMONS: Okay. Were any of the reports that were prepared by Westney Consulting at DG2 or DG3 passed over your desk for you to approve them before they were finalized?

MR. WESTNEY: No.

MR. SIMMONS: Were they –

MR. WESTNEY: And it would not be normal practice for that to happen.

MR. SIMMONS: Right. When is the first time you would even have looked at the – I'll say the DG3 reports on contingent equity and management reserve?

MR. WESTNEY: Well, I – that's a good question – I'm thinking for a minute. I said earlier that before I left for the IPR in August of 2012, I certainly talked to Keith Dodson and don't remember if I ever talked to Jack Evans or not and asked him to brief me on the work that had been done.

MR. SIMMONS: Yes.

MR. WESTNEY: Which he did.

MR. SIMMONS: Mm-hmm.

So –

MR. WESTNEY: Whether I was aware of it before that, I don't know, but I don't remember –

MR. SIMMONS: Right.

MR. WESTNEY: – that I was.

MR. SIMMONS: So that briefing was that a, stop by Jack's office, say, hey, I'm going to Newfoundland, I'm going to be doing an IPR, where do things stand now with the work we're doing? Or was it some form of a session where you sat down for a morning or an afternoon, worked through risk range work that had been done, understood what the recommendations were that were being made?

Where did that consultation with Mr. Evans fit in on that sort of scale for –

MR. WESTNEY: Well, I would be –

MR. SIMMONS: – (inaudible)?

MR. WESTNEY: It certainly involved Mr. Dodson, the only question is whether it was also Mr. Evans.

MR. SIMMONS: Oh, sorry.

MR. WESTNEY: Could've been, but I would say it's somewhere between –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – your two examples.

MR. SIMMONS: Mm-hmm. Okay.

MR. WESTNEY: I only, you know, all I needed was to know that this work had been done, what the results were. I didn't need to know, at that point, the details of there was a workshop and who was at the workshop or anything like that. I –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – really just needed to make sure that I was aware, when I was up there in St. John's, what our company had been doing –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – and at least where the results were at that point in time.

MR. SIMMONS: So everything you've told us this morning, then, about how the DG2 risk analysis work was done and how the DG3 risk analysis was done, has that been derived within the last, I'll say the last year, from your review of documents or from subsequent discussions with Mr. Evans and Mr. Dodson?

MR. WESTNEY: Yes.

MR. SIMMONS: Okay.

Now, I know you've been interviewed by Commission counsel prior to the Inquiry. Do

you know if Mr. Dodson or Mr. Evans have been interviewed?

MR. WESTNEY: Mr. Evans I know for sure was interviewed by Grant Thornton.

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: I'm not sure if he was interviewed by counsel or not.

MR. SIMMONS: Okay. So –

MR. WESTNEY: If I had to guess, I'd say I don't think so, but I –

MR. SIMMONS: Right.

MR. WESTNEY: – I can't say for sure, but I know for sure he was interviewed by Grant Thornton.

MR. SIMMONS: Right.

So you're here today reporting on information that you've learned from Mr. Evans and Mr. Dodson, from speaking to them, I guess, in anticipation of coming here and – or well, not coming here, of giving this evidence here today, since you're in Toronto.

Is – did those discussions all take place after your interview with Commission counsel?

MR. WESTNEY: I'm trying to place the date of my interview with Commission counsel.

MR. SIMMONS: Probably get that. It's –

MR. WESTNEY: I think it might've been July?

MR. SIMMONS: – September 11 this year –

MR. WESTNEY: Oh, September?

MR. SIMMONS: – was your interview –

MR. WESTNEY: Oh, September.

MR. SIMMONS: – with Commission counsel. That's the date on the transcript.

MR. WESTNEY: No, I would – sorry, so your question is when –

MR. SIMMONS: Well –

MR. WESTNEY: – did I kind of start –

MR. SIMMONS: – let me back up.

MR. WESTNEY: – picking up the learning curve on this –

MR. SIMMONS: Yeah.

MR. WESTNEY: – right?

MR. SIMMONS: Yeah.

MR. WESTNEY: Mm-hmm.

MR. SIMMONS: Yeah, let me ask you: Were you interviewed by Grant Thornton as well?

MR. WESTNEY: Yes, I was.

MR. SIMMONS: Okay.

All your conversations with Mr. Dodson and Mr. Evans about what happened at DG2 and DG3, have they happened since your interview with Grant Thornton?

MR. WESTNEY: I think I would have to say that once I learned that this Inquiry was happening –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – and that we would be involved in some way, I realized that – and I was the one they wanted to talk to, at least to start with, so I realized I needed the process of really coming to understand everything that was done, how it was done, where all the documents were and so forth.

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: And so I did have some documentation, of course, on my laptop or in our files from the IPR work I had – that had been done in IPR2 – DG2, excuse me.

MR. SIMMONS: Yes.

MR. WESTNEY: And, of course, we have a knowledge management system at Westney

where all of our documents are so I could certainly find a lot of the stuff there. By the way, I'm noticing our network connection looks like it may be going away.

MR. SIMMONS: Okay. Well, it's –

MR. WESTNEY: Can you hear me?

MR. SIMMONS: Yes, we can –

MR. WESTNEY: Can you hear me?

MR. SIMMONS: – hear you fine. I don't know if you can hear me.

MR. WESTNEY: Mr. Simmons? Okay.

Oh, yes, I do. I'll continue.

MR. SIMMONS: Okay, yes.

MR. WESTNEY: So it was kind of a parallel process. I wanted to be well prepared for the Grant Thornton interview –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – and that – I did my best to be prepared for that but, of course, I only had a general idea of what would be discussed. And then I followed that up with learning more and then preparing for the interview with Ms. O'Brien and Mr. Learmonth. So I would say it's been a kind of an ongoing process.

What also has happened is that Grant Thornton has raised certain questions that they asked for me to answer, such as how ranges were set.

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: And so each time that came up, I did quite a lot of internal research and learning and accumulating documents, mostly from talking with Jack Evans and Keith Dodson, so that I was fully informed about it.

MR. SIMMONS: Okay.

So I will ask you this. You've been aware, I guess, since your first contact about this, that this is a public Inquiry. And since you've been asked to appear here as a witness, you would

have been aware that your testimony would be public and given here, I think it's – that's correct, is it?

MR. WESTNEY: Yes.

MR. SIMMONS: Yes. Have you had any concern about potential impact on the reputation of either you or your company from the evidence that you give here?

MR. WESTNEY: No.

MR. SIMMONS: Okay.

Okay, it's just – it's getting close to 12:30, Commissioner. That's – I have some more specific things I need to ask about, so perhaps if we can break here and come back after lunch?

THE COMMISSIONER: If this is a good spot?

MR. SIMMONS: Yes, it is.

THE COMMISSIONER: Okay.

MR. SIMMONS: Yes.

THE COMMISSIONER: All right, so we'll break here – take our break.

So, Mr. Westney, we're going to take a break for an hour and a half. I realize –

MR. WESTNEY: Mm-hmm.

THE COMMISSIONER: – there's a time difference there.

MR. WESTNEY: Mmm.

THE COMMISSIONER: So I think it'll be around 12:30 that we'll be starting, Toronto time. So if you could be in the same place, and hopefully we get the connection working, we'll –

MR. WESTNEY: Yeah.

THE COMMISSIONER: – proceed this afternoon and I think the plan is to finish with you this afternoon.

All right, so –

MR. WESTNEY: Good. Okay.

THE COMMISSIONER: – we'll adjourn then for an hour and a half.

CLERK: All rise.

Recess

CLERK: All rise.

Please be seated.

THE COMMISSIONER: All right, do we have Mr. Westney here now?

MR. WESTNEY: Yes, I'm here.

THE COMMISSIONER: Okay, perfect.

Mr. Simmons, when you're ready.

MR. SIMMONS: Thank you, Commissioner, and good afternoon now, Mr. Westney.

MR. WESTNEY: Good afternoon, Mr. Simmons.

MR. SIMMONS: I'm going to start back a bit again towards the beginning when you were first involved. And one of the exhibits you'd been referred to by Ms. O'Brien early on was P-01145. Maybe we'll bring it up just as a key; I'm not going to refer you to anything in particular in it.

If you can scroll down a little bit –

THE COMMISSIONER: Tab 7.

MR. SIMMONS: Scroll down, please, to the beginning. Yes.

Okay, so this was, this is an article on the Westney website from August of 2008 and you'd been asked some questions following the reference to that this morning. And in that discussion I recall you referring to things like optimism bias, confirmation bias and tunnel vision as sort of known factors that could affect the planning and planning for dealing with risk and cost estimating in megaprojects.

So these were things that were well known back in 2008 as factors that could contribute, potentially, to cost overruns, were they?

MR. WESTNEY: Yes. Actually what I said was optimism and overconfidence, plus the other two things you mentioned. Sorry –

MR. SIMMONS: Yes, optimism and ...?

MR. WESTNEY: Overconfidence.

MR. SIMMONS: Overconfidence.

MR. WESTNEY: Yeah.

MR. SIMMONS: Okay.

MR. WESTNEY: Two different things but, yes, that's what I said.

MR. SIMMONS: Okay. So –

MR. WESTNEY: And so your question was: Would that have been true in 2008? Yes.

MR. SIMMONS: Would that have been known, well known in 2008?

MR. WESTNEY: (Inaudible.)

MR. SIMMONS: Because your article is from 2008.

MR. WESTNEY: Would that tendency have been recognized you ask?

MR. SIMMONS: Yes.

MR. WESTNEY: That's a great question. It's a hard thing to measure.

If I – I'm really just kind of reaching here, my impression would be that I would say it was recognized. You know, Nicholas Taleb points this out in his book; Daniel Kahneman's book, *Thinking, Fast and Slow*, which is what Professor Flyvbjerg referred to, I think probably came out as a bestseller shortly after that. So I would say that while it was recognized in the past 10 years, my observation – and this is just sort of a gut impression –

MR. SIMMONS: Mmm.

MR. WESTNEY: – would be that it's more recognized now.

MR. SIMMONS: So it's more recognized now than it would have been 10 years ago in 2008. Can you give me some idea –?

MR. WESTNEY: That's my opinion.

MR. SIMMONS: Yes.

MR. WESTNEY: I have no way to know for sure –

MR. SIMMONS: Yes.

MR. WESTNEY: – of course.

MR. SIMMONS: Yes. How well known were those concepts to you in 2008?

MR. WESTNEY: Well it's, I think, part of the value proposition of our business –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – was then, as now, to help organizations overcome that. So with – well, what is it now, 40 years plus eight? So, at that time, it would've been about 40 years in the industry, including my time with Exxon. This is certainly something that I would've observed over time up to that point, and indeed, I'm kind of writing about it in the article.

MR. SIMMONS: Yes, because that's what I took it to be.

MR. WESTNEY: Yeah.

MR. SIMMONS: So aside from you personally, the consultants that Westney engaged –

MR. WESTNEY: Excuse me, Mr. Simmons, I'm very sorry to interrupt you. I'm having a hard time hearing you. I don't know if it's a mechanical – a setting somewhere. I have my speaker turned up, but I don't know if there's something else they can do?

MR. SIMMONS: Okay.

MR. WESTNEY: I can hear you but I have to struggle to hear you.

MR. SIMMONS: Okay, maybe we'll have it looked at, at this end. If I try speaking a little bit louder, does this add – any better?

MR. WESTNEY: That's perfect. Thank you very, very much.

MR. SIMMONS: Okay, good. So the problem is not technological, it sounds – seems like it's just me.

So back in 2008 then, were these ideas that optimism bias, or overconfidence, or tunnel vision were things that needed to be recognized and addressed. Was that something that was known not just to you, but you would say to the consultants that Westney brought to doing this work?

MR. WESTNEY: The people that were actually working in our group you mean –

MR. SIMMONS: Yes.

MR. WESTNEY: – on projects like this?

MR. SIMMONS: Yes.

MR. WESTNEY: I suppose so. Yeah, that's a hard question to –

MR. SIMMONS: Hmm.

MR. WESTNEY: – answer definitively, but I suppose so.

MR. SIMMONS: Well, you've just said that it was part of the value proposition that Westney Consulting brings to the work that it does for its clients.

MR. WESTNEY: Right.

MR. SIMMONS: Now, I could understand now, where it's more well known today, but if back in 2008 it was well known to you –

MR. WESTNEY: Oh –

MR. SIMMONS: – my question simply is: As part of the value proposition that you brought to your work at Nalcor, did you bring knowledge that optimism bias, overconfidence and tunnel vision were factors that could affect project

planning and risk assessment and should be recognized and dealt with up front.

MR. WESTNEY: Yes.

MR. SIMMONS: Yes. So is that part of what you brought to your work and the advice that your consultancy gave to Nalcor through the course of its work from 2008 and on?

MR. WESTNEY: We wouldn't be saying, hey guys, you know, you're being overconfident here or I think you're too optimistic all the time, but part – recognizing that part of our mission is to help address those issues, then I would say, yes.

MR. SIMMONS: Okay, so what would your consultants actually do in order to try to impart that value to the work you're doing?

MR. WESTNEY: Yeah, well keeping in mind that our role was focused on the project model, cost, time and strategic risk.

MR. SIMMONS: Yes.

MR. WESTNEY: And that to do that role we would participate in the setting of ranges with Nalcor, or later Nalcor and SNC-Lavalin.

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: The discussion of those ranges is where we, as we would with any other client, try to encourage – I think, we spoke about this with Kate – Ms. O'Brien, the idea of encouraging them to think more broadly, think of what's the worst-case scenario, what could happen, if this were to happen how would it affect the cost. So I would say that's certainly an area where this would be part of the conversation.

Another area would be, I believe there was a diagram we looked at earlier very briefly describing the risk resolution process and encouraging people to think about strategic risks, that even if you're on a project team, there are these strategic risks that will affect the project, and you may actually be in a position to at least identify some of those risks in a specific way.

So those would be two examples, and then maybe the third would be the way we actually discuss the report that we've presented.

MR. SIMMONS: Okay.

So it would – if I understand it correctly, it would be people like the project team members who are closer to the doing of the work who would be more susceptible to suffering from optimism bias. And a value of bringing a consultant like Westney into the picture is that Westney consultants are at some distance, can recognize if there's optimism bias and can do some of things you've just described to try and counter the effects of it. Is that fair?

MR. WESTNEY: Yes, that's fair.

MR. SIMMONS: Okay.

And it would seem to me –

MR. WESTNEY: (Inaudible.)

MR. SIMMONS: – that that's kind of the very thing that the client would expect Westney to bring to the process.

MR. WESTNEY: Well, part of it.

MR. SIMMONS: Yeah, okay.

MR. WESTNEY: Another part of it is the knowledge and skills to be able to build these probabilistic models.

MR. SIMMONS: Right.

Now, something else that Westney brings to the process, if I am correct, is proprietary knowledge derived from other projects that Westney consultants have been involved in or have had exposure to. Is that correct?

MR. WESTNEY: Yes, I'm not sure I would say it's proprietary. When we use that word in this context we more mean the actual risk modelling methodology that we used.

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: But it is definitely knowledge that we bring to the conversation

from our work with other projects and our internal research to examine trends and so on.

MR. SIMMONS: Right.

Do you maintain any kind of databases of information that can be useful in doing things like risk ranging?

MR. WESTNEY: Yes.

MR. SIMMONS: You do? And where do you get the information that goes into that – those databases?

MR. WESTNEY: We get this from various – but we actually publish a report –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – which is called Construction Insider –

MR. SIMMONS: Yes.

MR. WESTNEY: – which is a very comprehensive data-centric report about actual construction productivity and installation rates around the various crafts such as piping and concrete and so forth. We would also have data that our various consultants have, people that have been active in managing engineering construction firms and engineering construction projects, often fixed-price contracts where you're responsible for bottom-line results for that contractor. So they have a lot of data and experience and norms that they bring to the table. So we have some internal knowledge that we would consider to be intellectual property around those things.

MR. SIMMONS: Right.

So when consultants like Mr. Evans or Mr. Dodson are involved in things like the risk-ranging workshop that was done in – I think it was May of 2012, they bring that kind of knowledge with them when they participate there, do they?

MR. WESTNEY: Yes.

MR. SIMMONS: Yes, okay.

And that's knowledge that Westney has that is, I'll say, supplementary to what would otherwise be available to the Nalcor and SNC participants in that workshop?

MR. WESTNEY: I wouldn't suggest that SNC-Lavalin would not have their own data on such things. As a matter of fact, when it came to hydro power dam construction, as I think I mentioned earlier, they had very good data from recent projects; one was called Eastmain, as I recall, and one was called Romaine.

And so their data didn't – that specific way for that type of project in this location in Canada would certainly be superior to ours, which would be more of general type of observations about industry trends in Canada and the US, and elsewhere in the world that we try to stay on top of.

MR. SIMMONS: Okay.

But I am correct, though, that Westney does bring a block of data information and experience that could be useful in the risk ranging that the participants from Nalcor would not have available to them. Am I right about that?

How would they have this other data –

MR. WESTNEY: I don't know.

MR. SIMMONS: – that you do?

MR. WESTNEY: I don't know but – how would they have the –

MR. SIMMONS: Yes, exactly.

MR. WESTNEY: – exact data we have?

Oh, well –

MR. SIMMONS: Yes.

MR. WESTNEY: – I don't suppose they would, but they might have good knowledge of their own –

MR. SIMMONS: Okay.

MR. WESTNEY: – of similar trends.

MR. SIMMONS: Okay.

So didn't you consider it part of Westney's work that Westney was retained to do to bring this kind of extra knowledge expertise, and even proprietary data, to help in the risk-ranging process that came out of the workshop in May 2012?

MR. WESTNEY: The process during the workshop, I guess you mean? Yes.

MR. SIMMONS: Yeah. Okay.

You'd – the article we were looking at there a moment ago also speaks of front-end engineering. And I take it be – one of the points you make is that there can be an overreliance on doing a lot of engineering work up front and thinking, well, that solves our problems about potentially needing a large contingency because we've reduced the risk associated with not having the project scope well defined. Have I understood that correctly?

MR. WESTNEY: Essentially, I think I would maybe not use the word overreliance –

MR. SIMMONS: Yes.

MR. WESTNEY: – on it. I mean doing a lot of engineering work is a great thing. No one would ever suggest that that's –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – not a very good thing to do, but I would say it's overreliance on the generally accepted principle, particularly at that time, that that's what front-end loading is about. And remember that picture of the influence curve that's in that article that we were referred to earlier in that if you've done this front-end loading, which is largely about maturing the engineering definition, then your risks are, essentially, mitigated at sanction. And so that would be overreliance on that idea, to the extent that it closes your mind to other sources of risk –

MR. SIMMONS: Mmm.

MR. WESTNEY: – which is really the point of the entire article, I think.

MR. SIMMONS: Right.

And I understand that point. Is it correct, though, that doing the front-end engineering work does lessen some risks?

MR. WESTNEY: Oh, of course.

MR. SIMMONS: Yeah, and there is considerable value in doing the front-end engineering work as opposed to not doing it, and going ahead to start a project without the engineering well done and the project well defined?

MR. WESTNEY: Absolutely, and I hope I did not create the –

MR. SIMMONS: No.

MR. WESTNEY: – impression otherwise.

MR. SIMMONS: No and I don't think you did, but I just wanted to make sure we understood that.

Okay, can we go to Exhibit P-00130, please, which is the DG3 quantitative risk assessment document and page 264.

THE COMMISSIONER: It's at tab 39.

MR. SIMMONS: Page 264, please?

Okay, so this is the first page of the appendix to the quantitative risk analysis, which is the Estimate Accuracy Analysis for Lower Churchill Project and it says May 23 to June 4, 2012.

MR. WESTNEY: Mm-hmm.

MR. SIMMONS: Do you know what that date range means, why we've got a date range on this document, Mr. Westney?

MR. WESTNEY: I don't know that I can tell you for sure. I've already talked about the dates that were involved. I guess it refers to the dates of the workshop, and then the subsequent visit to our office in Houston, where the ranges were essentially finalized and the probabilistic analysis runs were done. But I can't tell you exactly why that date is there, and I think there was some publication of these reports, even in

September, they still carried those dates. So I really don't know the answer to your question.

MR. SIMMONS: Okay.

Can we scroll down a tiny bit, please, Madam Clerk? Okay.

At the very bottom there, it says: "Proprietary & Confidential Nalcor Energy and Westney," and then it says "© Westney Consulting Group, Inc."

So whose report is this?

MR. WESTNEY: This is a report we prepared for Nalcor. It's work for hire that we provided to Nalcor, so –

MR. SIMMONS: Okay, so –

MR. WESTNEY: – it is their property, for sure.

MR. SIMMONS: It is a Westney Consulting report. Okay.

And –

MR. WESTNEY: It's the report that we developed jointly with them in accordance with that introductory statement that's made about how it was a collaborative effort.

MR. SIMMONS: Right.

Does Westney Consulting take responsibility for the content in this report?

MR. WESTNEY: Our responsibility in this report was to run our probabilistic models based on the ranges that were discussed, into which we brought our knowledge, and in some cases data, the setting of ranges, and then created this report to document the results of that analysis. So I would say it's a joint Westney-Nalcor report.

MR. SIMMONS: Okay.

And the work in this particular report, that's based on the, what was known and the facts that were in place as of June 4, 2012, no later than that. So the contingency estimate that's contained in here for tactical risk is a contingency estimate based on this state of

knowledge of where the project was, no later than June 2012. Is that right?

MR. WESTNEY: June 4, I think you said a minute ago.

MR. SIMMONS: June 4, 2012, yes. Apologies.

MR. WESTNEY: Well, I think I discussed earlier that as I had these discussions with –

MR. SIMMONS: Yes.

MR. WESTNEY: – Jack Evans about the actual timing of this, the ranges, the runs of the probabilistic model and – I must say I spent a great deal of time having these conversations and documenting the results so that I could be properly prepared with accurate information. So I think I said that the runs were actually – on the tactical risk was actually finalized around June 20.

MR. SIMMONS: Okay. So I'll come back to that for just – in just a second.

So do I understand correctly that you've documented the results of your conversations with Mr. Evans?

MR. WESTNEY: Well, yes, in a certain sense, because a lot of it had to do with questions from Grant Thornton.

MR. SIMMONS: Mm-hmm. Okay.

MR. WESTNEY: And just general questions, so I used some of those results in the memo that I wrote to Grant Thornton and other places I documented with my own notes.

MR. SIMMONS: Right. And has all that documentation or any of it been provided to the Commission?

MR. WESTNEY: The memos to Grant Thornton and the materials that we've sent to Grant Thornton such as those ranging worksheets have.

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: I would say most of it would be captured in the memo. For example, the dates

and coming to Houston and what was done when, that was in the memo that we referred to –

MR. SIMMONS: Right.

MR. WESTNEY: – earlier.

MR. SIMMONS: You –

MR. WESTNEY: So I think most of it, yes.

MR. SIMMONS: Yeah.

MR. WESTNEY: I'm not gonna say I have a pile of notes that I could simply hand over. I think I've tried to summarize what I've learnt in those –

MR. SIMMONS: Yes.

MR. WESTNEY: – communications.

MR. SIMMONS: Okay. I don't want to dwell on the point, but just so I can understand clearly. Do you have original notes you kept of your conversations with Mr. Evans?

MR. WESTNEY: I'm trying to remember because we have a room that we use, a small workroom with big whiteboards on the walls and we've fleshed all that out and I took pictures of it and then – yes, I think I do, I have some notes that I used to record that.

MR. SIMMONS: Okay. Well, we can leave that for now.

So back to this report: Estimate Accuracy Analysis, which I think deals with the tactical risk. If I understand correctly now, you're telling me that based on what Mr. Evans told you, the content of this report is complete as of June 20, 2012.

MR. WESTNEY: I may not have the date precisely right, but I'm just working from memory of what we discussed.

MR. SIMMONS: Yeah.

MR. WESTNEY: I think that's the case.

MR. SIMMONS: Okay. So –

MR. WESTNEY: The June 20 or something – or close to that.

MR. SIMMONS: So it leads me to a fairly simple question. Do you know anything about what might have been done on the Nalcor side since the date of completion of this report up until December 2012 to further mitigate any of the risks that are addressed in this report?

MR. WESTNEY: The best way to answer that would be to recall the discussions during the IPR because that's really the only time after June that I was involved, and, in fact, our firm was not involved really in anymore risk work after we finalized the reports in September. So I really would have to say I do not have a very good idea of what was done after that point.

Was your question at – between June 2012 and, sorry, and December 2012?

MR. SIMMONS: Yes, please.

MR. WESTNEY: Yeah. So, of course, there was an update in September, as we saw earlier, the memo about schedule changes.

MR. SIMMONS: Right.

MR. WESTNEY: And that was the basis of finalizing the schedule risk model –

MR. SIMMONS: Right.

MR. WESTNEY: – in September, which I think was also finalized along with the strategic risk model at that time.

MR. SIMMONS: Right. This one is the tactical risk. So this one stands as of the end of June.

MR. WESTNEY: As far as I know the answer would be yes.

MR. SIMMONS: Okay.

MR. WESTNEY: Or at least as far as we're concerned.

MR. SIMMONS: Okay.

Can we go to page 267, please?

So one of the things you were asked about and commented on this morning, Mr. Westney, was how escalation was treated here, and if I understand the point that you made was to say that the tactical risk assessment was carried out on the basis of costs – a base cost estimate that was fixed as of January 2012 without provision within that estimate for escalation due to inflation or other factors over the life of construction of the projects. Did I understand that correctly?

MR. WESTNEY: Yeah, as a matter of fact, there was a sentence on the page we just saw that says that.

MR. SIMMONS: Yeah. Well –

MR. WESTNEY: We wanted to make sure that was clear.

MR. SIMMONS: Okay. Now is this the one you're referring to on page 267 where there's an asterisk under cost estimates and says: "Cost estimates are in January 2012 Canadian dollars and do not include any contingency."

MR. WESTNEY: That is what I was referring to, yes.

MR. SIMMONS: Okay. Now I see contingency, I don't see escalation referred to. So –

MR. WESTNEY: Well, when you say it's in January, 2012 –

MR. SIMMONS: Yeah.

MR. WESTNEY: – Canadian dollars, that's what you are saying.

MR. SIMMONS: Okay. So –

MR. WESTNEY: (Inaudible.)

MR. SIMMONS: – someone would have to be knowledgeable enough to recognize that January 2012 Canadian dollars means that there hasn't been an escalation applied in the sense in which you've spoken about it.

MR. WESTNEY: I suppose so.

MR. SIMMONS: Yeah.

MR. WESTNEY: I assume – once again that’s one of those things that – at least some people it would be self-evident but maybe not to everybody.

MR. SIMMONS: Yeah.

Are you aware whether someone else was engaged to assist with the calculation of escalation for the project and brought some other skill or expertise and that escalation was separately calculated?

MR. WESTNEY: Yes, I’ve been told that Mr. Hollmann and Validation Estimating, his company, were involved in that.

MR. SIMMONS: Right. And do you know anything about what process was used? How the calculation was done? What it did and didn’t take into account?

MR. WESTNEY: I think some of the documents – the exhibits – that I’ve reviewed speak to that, how there were escalation bins. It struck me as, actually, a very thorough approach to calculating escalation.

I’ve checked to confirm, in my own mind, that it was escalation based on the 2017 schedule, but – and I don’t know – oh, sorry, yeah, I do know. There is some documentation that talks about their sources of escalation rates that they used. So I took a cursory look at it, whichever exhibit that was in, and it struck me as a very thorough –

MR. SIMMONS: Right.

MR. WESTNEY: – piece of work.

MR. SIMMONS: Right. So aside from preparation you’ve done in looking at exhibits filed in this Inquiry, you or your company had no involvement in the separate calculation of escalation back in 2012. Correct?

MR. WESTNEY: That’s correct, nor at any other time that I’m aware of.

MR. SIMMONS: Okay. Now, you told us this morning that you did do a back-of-the-envelope calculation to determine –

MR. WESTNEY: Mm-hmm.

MR. SIMMONS: – if escalation – and I understood you to say that if escalation and the schedule analysis had been applied to the determination of the tactical risk contingency, that the 368 million that was used for the contingency figure here would only have represented 6.3 per cent contingency. Do I have that –

MR. WESTNEY: That’s –

MR. SIMMONS: – right?

MR. WESTNEY: I don’t have the paper in front of me, but that’s my recollection.

MR. SIMMONS: Yeah.

MR. WESTNEY: Yeah. So you’re exactly correct. There were two factors there using the P50 schedule and incorporating escalation and making another kind of back-of-the-envelope adjustment to account for the extra year and a half or so –

MR. SIMMONS: Okay.

MR. WESTNEY: – that that created.

MR. SIMMONS: Right. And I know, no one’s holding you to the math and the reliability of that calculation, really, because you say it was a back-of-the-envelope, a rough thing. But what I just wanted to confirm was all – you took all those factors into account, and the adjustment you came up with was – instead of the original actually 6.7 per cent, you’re saying –

MR. WESTNEY: Mm-hmm.

MR. SIMMONS: – what was used would amount to 6.3?

MR. WESTNEY: If you assume the same dollar value of – I think it was 368.

MR. SIMMONS: Okay.

MR. WESTNEY: So you're just – I'm just recalculating what that would be on a different basis as opposed to January 2012.

MR. SIMMONS: Okay, good. Thank you.

Page 272 of this document, please?

So this is a slide that shows the curve, the risk curve for the tactical risk assessment. And on the left of it, it says: "Risk Analysis for the overall Lower Churchill Project suggests, at a P50 value, the project contingency would be \$368 million" – gives some of the math – "which equates to 7% of the estimate."

And I don't see anywhere else in this presentation where a specific value – P-factor – is pulled out and used other than the P50. I know there are ranges of P25 to P75 on some of the charts as you've said, but on this one –

MR. WESTNEY: Mm-hmm.

MR. SIMMONS: – P50 is the one that's pulled out, and it's the basis for the 368 million. And I want to ask you first of all, in relation to that, do you agree that it's a generally accepted practice that a project team that's going to run the project is given a contingency based on P50?

MR. WESTNEY: Yes.

MR. SIMMONS: Would you also agree that the practice of your consultancy, Westney Consulting, was not to make specific recommendations for contingencies for use by management in matters like funding or project sanction?

MR. WESTNEY: I believe you're referring to management reserve, not contingency.

MR. SIMMONS: Sure, try that.

MR. WESTNEY: So your question is –

MR. SIMMONS: That is the practice –

MR. WESTNEY: – have I said that it – it's not our practice to advise, in a formal way, upper management of what P-factor they should use for management reserve?

MR. SIMMONS: Okay.

MR. WESTNEY: That was your question?

MR. SIMMONS: Let me ask you this, then.

MR. WESTNEY: (Inaudible.)

MR. SIMMONS: Has it been, and, back in 2012, was it, Westney Consulting's practice to not make any recommendations to a client for a P-factor to use for a management reserve?

MR. WESTNEY: I think what I had said or tried to communicate earlier, so let me say it now, when it comes to making a formal recommendation that you put in writing and say we recommend that the CEO, the executive committee, the board of directors fund this project in a certain way, that is something that would require a whole lot of knowledge that they have at that level about the project, about their business, about their weighted-average cost of capital, et cetera, that we clearly do not have and would not have been asked to comment on. So in that case we would not make – we do not generally, or ever that I can recall, make a formal recommendation.

When we're having conversations with the project director, deputy project manager, whatever, and we're saying, look, this is what this all adds up to, this is what that means, we might very well say – I think I may have said earlier – look, guys, we see a lot of risks here, we're not convinced we've accounted for all of them – we, meaning jointly they and us together: we – and given the history of this type of project, if I were you, I'd go forward with a P75, even maybe a P90 on strategic risk.

That's definitely a conversation we could have, and from what I've been told, that is the sort of conversation that took place.

MR. SIMMONS: Okay. So let me start first. Did you personally ever speak to anyone at Nalcor in any capacity about what P-factor should be used?

MR. WESTNEY: No.

MR. SIMMONS: And you've told us that Mr. Dodson reports having had a conversation with Mr. Harrington about this. Is that correct?

MR. WESTNEY: I think he reported actually numerous conversations at various points in time.

MR. SIMMONS: Okay. Tell me exactly what was reported to you by Mr. Dodson, because Mr. Harrington is coming up next week.

MR. WESTNEY: Yeah.

MR. SIMMONS: He'll get a chance to speak to this, so it's important for us to know exactly what has been reported to you by Mr. Dodson about those conversations with Mr. Harrington.

MR. WESTNEY: I understand.

What was reported to me by Mr. Dodson was that he felt, even at DG2 and certainly at DG3, that this was the type of project that required a very conservative approach to the funding for the reasons that I've mentioned earlier.

And another reason was that he felt that – and this was discussed in the workshop on May 24, I suppose, when everybody was there talking about tactical risks and ranges – that the estimate that SNC-Lavalin had for (inaudible) installation rates specifically – and I know there are some exhibits that talk about that, for example: the email from Mr. Lemay – Mr. Dodson's data and experience and viewpoint was that it was important not to be too optimistic about –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – the ability to sustain these very high rates of installation.

And they had some discussion about that, he has told me very clearly, and the discussion was we, at SNC-Lavalin, and working together with Nalcor, we have very good data, as I mentioned earlier, from these two recent projects. This is what we do. We are genuinely experts in this.

And so Keith Dodson had to take the position, all right, you know, I've made my point; you've heard me. I defer to your better data on this.

MR. SIMMONS: Okay.

MR. WESTNEY: And so we will go with your assessment of the estimate and the ranges.

MR. SIMMONS: Okay. So that's estimate and ranges.

So did Mr. Dodson say to you that he had ever recommended any P-factor other than P50 to actually be used for the setting of either the tactical contingency or management reserve?

MR. WESTNEY: I never heard him say that anything other than P50 would, in his view, be appropriate for contingency, but the –

MR. SIMMONS: No, that's not my question. My question is –

MR. WESTNEY: Okay, sorry.

MR. SIMMONS: – did Mr. Dodson say to you –

MR. WESTNEY: Mm-hmm.

MR. SIMMONS: – that he had ever told Mr. Harrington or anyone else at Nalcor that they should use a P-factor other than P50 for either of those things?

MR. WESTNEY: Yes.

MR. SIMMONS: Okay.

And can you tell us anything about when he said that and what the circumstances were because, again, Mr. Harrington gets a chance to speak to this?

MR. WESTNEY: Sure.

Mr. Dodson's comments to me were that he, over quite a period of time in these meetings, consistently took a view that a conservative approach was necessary here –

MR. SIMMONS: Yeah, a conservative approach is different than saying, use P75 instead of P50.

MR. WESTNEY: Oh, I see what you mean.

MR. SIMMONS: Yeah, that's what I mean.

MR. WESTNEY: Yes, he did say that P75 or greater would be appropriate. That's what he told me – that he had conveyed that on numerous occasions.

MR. SIMMONS: Okay.

Okay, well, if that's all – and – if that's all you can tell us about the circumstances – can you tell us anything else about the circumstances of where or when or ...?

MR. WESTNEY: Well, I –

MR. SIMMONS: Because if not, that's fine –

MR. WESTNEY: – it's – yeah.

MR. SIMMONS: – 'cause I know it's not your knowledge.

MR. WESTNEY: Of course, and I'm sorry I did not actually ask him specifically: When and where did you make these comments, and to whom? And exactly what did you say?

MR. SIMMONS: Sure.

MR. WESTNEY: I think he was saying: I've always been on the side of pick a high P-value for this project, and I've said that many times over – in many meetings over many months. That's kind of what he told me.

MR. SIMMONS: Okay. Well, that's a little bit different. Saying I've always been on the side of a high P-value is a little bit different than saying: You shouldn't use P50, you should use P75.

So did he go so far as to say that?

MR. WESTNEY: He certainly said P75, and maybe as high as P90 –

MR. SIMMONS: Okay.

MR. WESTNEY: – on strategic risk.

MR. SIMMONS: Okay, so why don't we see any of that in anything that we've seen that's a report by Westney? Because if – I mean, you know, you're – you know, you're a significant,

major player in this consulting industry; you've got a reputation to uphold.

If your consultants have got doubts about what's ending up in the reports that you're delivering – where it singles out P50 here – why don't we see that in here?

MR. WESTNEY: We're talking about P50 on tactical – the tactical risk curve –

MR. SIMMONS: Yeah.

MR. WESTNEY: – which is what's being used to set contingency.

MR. SIMMONS: Okay.

MR. WESTNEY: So I'm not sure we're taking a position that that should be higher than P50 –

MR. SIMMONS: Okay.

MR. WESTNEY: – although there are many companies that would do that.

MR. SIMMONS: Right.

MR. WESTNEY: And I can't say for sure that Mr. Dodson never said that one should be P75, either. But generally speaking, there are some companies who will fund a project at higher than P50, but of course the other side of that – the unintended consequence, really, is that you now have a higher level of contingency; money tied up in this project that could be used somewhere else, to meet, perhaps, unnecessarily high confidence level –

MR. SIMMONS: Right.

MR. WESTNEY: – on tactical risk.

MR. SIMMONS: Okay.

MR. WESTNEY: So he may or may not have said that. But generally speaking, I think the higher probability value would be around strategic risk.

MR. SIMMONS: Okay.

So I – and I take your point, we are looking here at the report that deals with tactical risk –

MR. WESTNEY: Sorry, Mr. Simmons, to break in. I realize now I didn't ask – answer your question fully.

MR. SIMMONS: Okay.

MR. WESTNEY: Which was: Is it not our obligation to write in this report that we think P75 is the right thing to do here, guys?

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: Isn't that your question?

MR. SIMMONS: Sure.

MR. WESTNEY: Okay. So remember (inaudible) –

MR. SIMMONS: Well, actually, if we stop for a moment. Because I understand your point here now – that we're dealing with tactical risk, and that if I understand you correctly, P50 you would regard as being acceptable for a tactical risk? Is that correct, or –

MR. WESTNEY: Yes –

MR. SIMMONS: – have I got that wrong?

MR. WESTNEY: – for the reasons that the – you have that correct.

MR. SIMMONS: Okay.

MR. WESTNEY: For the reasons –

MR. SIMMONS: All right.

MR. WESTNEY: – that I've just stated. The definition of contingency is generally for – it's a fairly narrow definition: design variations, pricing variations, execution variations, you want to keep that tight because that's what project teams can control. You don't want them to have a bucket of money for things they can't control.

MR. SIMMONS: Okay.

MR. WESTNEY: So you were asking, though; I wanna make sure I've answered your question. I hope I heard it correctly. That the – is it our obligation, in a report, to say we recommend

such and such a probability value be used, either for contingency or for strategic risk?

MR. SIMMONS: Well, under –

MR. WESTNEY: And –

MR. SIMMONS: – circumstances where you are saying that your consultant has doubts or concerns, is it then your obligation to make sure that that's reported in the written material that you deliver?

MR. WESTNEY: In this case, our role was very clearly defined, and there's numerous documents that you can see and that I've referred to in one of the memos I wrote – that says our responsibility is to build the probabilistic Monte Carlo model tactical cost risk for time risk and for strategic risk; that's our primary responsibility. The actual setting of ranges, while we contribute to that discussion, is the responsibility of Nalcor. And indeed, that is often the case because if a client doesn't accept, in a case like this, what went into the model, they're not gonna accept the results either.

So it's not really appropriate for us to put in this report something that is the answer to a question that we have not been asked.

MR. SIMMONS: Let me ask you, then, in relation to the strategic risk: Was there a Westney Consulting view, at all, on what the appropriate P-value was to use for strategic risk? Or do you know?

MR. WESTNEY: I think we're having the same conversation now as to conversations we would've had. Just as we have conversations around what ranges should be. Just as we say: Well, our data will suggest a lower production rate per day in concrete installation than yours. I would also say that we can have conversations that say, just as I said earlier: Mr. Harrington, Mr. Kean, you know, these projects have a lot of risk; we may not have accounted for all them here; at least from a project point of view, you may want to go forward with a P75 or even higher. But it's not something we would document because it's not really in our scope of work to make that recommendation.

MR. SIMMONS: Okay, all right.

Can we go to the Grant Thornton Report please, P00014?

When was the first time that you saw this report, Mr. Westney?

MR. WESTNEY: I'm not sure. It would be – the first time I saw it was when it was on the website with the Exhibits.

MR. SIMMONS: Okay, when were you first – when did you first become aware of the existence of it?

MR. WESTNEY: Well, I was interviewed by Grant Thornton in –

MR. SIMMONS: Right.

MR. WESTNEY: – I'm going to say – May or June, or something like that. So, I mean, of course, I knew there would be a report.

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: I actually thought somebody might send it to me –

MR. SIMMONS: Yes.

MR. WESTNEY: – when it was done, since I contributed to it. So I actually – it was quite some time before I realized I could just get it on – as an Exhibit.

MR. SIMMONS: All right. Had you actually read it before you were interviewed by the Commission counsel?

MR. WESTNEY: I'm not sure actually. I really don't know.

MR. SIMMONS: Okay, all right.

Let's go to – let's try page 65, I might not have that right but – scroll down please, scroll down further. Stop. Hmm. Okay, can you just scroll up, please, so we see what page number this is in the document? Page 65. Try 63. Okay, scroll down.

Okay, well, I'm not going to be able to find it on the screen now, Mr. Westney, so we can remove that.

But do you recall seeing in the Grant Thornton report the section that reported on investigation that they'd done regarding P-values and what P-values were used by others, or what had been reported to them?

MR. WESTNEY: I recall that Mr. Hollmann –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – is quoted on that.

MR. SIMMONS: Yes, okay.

MR. WESTNEY: Yes, so I do recall that, yes.

MR. SIMMONS: All right. And do you recall in the report that there was also reference to interview with SNC, and also information from some unnamed consultant that Grant Thornton had consulted with, and that all three of those referred to P-values well higher than P-50?

MR. WESTNEY: Yes, I recall that the – they quoted an SNC engineer saying: best practice is P90 or that P50 is a bad practice –

MR. SIMMONS: All right –

MR. WESTNEY: – or something.

MR. SIMMONS: And –

MR. WESTNEY: Some words to that affect, and I recall Mr. Hollmann referring to, I think, Suncor –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – and some other examples of companies he knew –

MR. SIMMONS: Right.

MR. WESTNEY: – that he believed used P75.

MR. SIMMONS: Right.

MR. WESTNEY: I do remember there were some comments around that.

MR. SIMMONS: Right.

So your discussions with, either Mr. Evans or Mr. Dodson, about these issues, did they occur after you'd read or become aware of those comments in the Grant Thornton report?

MR. WESTNEY: Oh, gosh, I can't say. I mean this activity – my activities on this have been a major, major level of effort over months now. So it's very hard – I'm sorry, but it's very hard for me to kind of place exactly what I said and what I may have read before or after I had talked about it. So I don't know that I can answer that with any accuracy.

MR. SIMMONS: Okay, thank you.

This morning when you were answering a number of questions generally in relation to this topic, you told – you gave us some of the considerations that would go into using a higher P-value for strategic risk in a case like this because, for example, Nalcor's a Crown corporation, because there's a utility element in it. You listed off a number of things like that. Do you recall doing that this morning?

MR. WESTNEY: Yes.

MR. SIMMONS: Did you ever have a conversation where you talked about any of that with anyone at Nalcor?

MR. WESTNEY: I don't know. It's hard for me to say one way or the other. Yes, I basically was referring to risk appetite –

MR. SIMMONS: Yes.

MR. WESTNEY: – as kind of like, an overall force that – what kind of appetite would Nalcor, doing a megaproject like this, with all that that entails and its effect on so many people, have compared to a big oil company or some other company that has a portfolio of projects, that even a \$6 billion project is not a particularly big piece. Clearly, there's a different level of risk appetite.

MR. SIMMONS: Yeah.

MR. WESTNEY: So how that transfers to a specific P-value though is an – I was talking about that with regards to the need for due

diligence and how much due diligence would be required.

MR. SIMMONS: Sure.

MR. WESTNEY: But it's also true, and I think I've documented that in one of my memos that, you know, if asked to just venture my view of someone who's not sitting in a sea-level chair or on the board of directors or in the provincial government. But would I say that there's probably a low risk appetite and the need to be conservative and hence a high P-factor when you go out for funding and financing and all that stuff. Yes, (inaudible) economics, yes, of course, I would say that.

MR. SIMMONS: Yeah. So it's fine to express all these opinions now, here, today. Did you or can you say that anyone in your organization ever expressed those opinions back in 2012 to anybody in Nalcor?

MR. WESTNEY: Well, Mr. Simmons, I have to keep referring to the fact that we had a certain role to play in the overall risk management program that Nalcor had worked five –

MR. SIMMONS: (Inaudible.)

MR. WESTNEY: Let me finish, please – had worked five years to develop and which was quite impressive.

In our role, as I've said before and it's well documented, is to build, run and document the results of the risk model. No one is asking us to opine on the subject of cumulative probability levels for executive decision-making for project funding, for calculating project economics or anything like that.

So, my answer would be, we probably did not have long discussions about that and, once again, I would come to the fact that you're dealing with a – at that point, while your organization may not be particularly mature, as we would say, with regards to hydro power, it was quite mature with regards to its understating of project risk analysis, risk management and so forth. And I don't think we would've thought there was a lot of need for us to make more than informal conversations about where we thought P-values might be.

MR. SIMMONS: Okay.

Let's go to page 283 in Exhibit P-000130, please.

So this is the beginning of the report on: Potential Management Reserve and Lender's Owner Contingency, and although it's dated May 23 to June 4, I think we understood from this morning that the actual finalization of this happened at sometime in September of 2012.

And can we go to page 287, please.

So you've been brought to the slider earlier, Mr. Westney, and it's where there's a – it's called: Potential Strategic Risk Exposure and Risk Adjusted Capital Costs, and it has four numbers there, which add up to be a total of mean values of \$497 million.

MR. WESTNEY: Hmm.

MR. SIMMONS: I have a question for you about the first one. First one there's Potential Schedule Risk – Time Extension: \$184 million.

Do you know what that took into account in order to come up with number?

MR. WESTNEY: I didn't try to unpack that with Keith or Jack, but the – certainly, my understanding would be that you're talking about, look, there are a number of things that would affect schedule as the schedule gets longer. Of course, that affects the cost of the project in numerous ways.

It may be that you have the same number of work hours in the field but you're just expending them over a longer period of time, so that just would affect your construction (inaudible) maybe interest during construction, although we are not dealing with that particular number. Or it may be that there's lower productivity because you can't get the quality of labour you need or the supervision or whatever, and that is the reason which would cause it to be a little bit higher.

So what we're doing here is calculating a best case, worst case. If this strategic risk should occur, what percentage of the project cost

estimate would it affect and to what degree would it affect it?

MR. SIMMONS: Okay. Go to page 296, please.

So this is a few pages on in the same presentation, Mr. Westney, and this is where there's an S-curve for risk adjusted schedule. And this is one of the suggested potential for 11- to 20-month delay for full power, and there's a couple of others curves like this dealing with first power and so on.

MR. WESTNEY: Mmm.

MR. SIMMONS: That number that we just saw of \$184 million, is that the quantification of the risk that's presented in this part of the report on this slide?

MR. WESTNEY: I don't know exactly how they came – that's a good question. I don't really know how – exactly how they came up with that number, or to what degree they may have used that probability curve.

MR. SIMMONS: Okay.

When we go back, please, to page 287, the \$184 million figure that's included within the 497, is that intended to account for all the risks associated with the analysis of the proposed schedule?

MR. WESTNEY: For all the risks associated with the – well, first of all, this is a mean–

MR. SIMMONS: The quantified risks.

MR. WESTNEY: Yeah, this is a mean value of a range, right?

MR. SIMMONS: Okay.

MR. WESTNEY: So, if you were to say all the risks and all the potential impact, I suppose you would have to refer then to the worst case, high value of that range.

MR. SIMMONS: Okay. Maybe it's a simpler question I should be asking.

MR. WESTNEY: Okay.

MR. SIMMONS: Westney was involved with Nalcor in doing a schedule analysis that is reported in this report that we're looking at now. Is that right?

MR. WESTNEY: Yes.

MR. SIMMONS: Okay. Does this number of \$184 million, does that quantify the exposure to there being a risk of the schedule not being met as a mean value?

MR. WESTNEY: I'm not sure I understand the question. What's – a mean value for what? For the –

MR. SIMMONS: Let me try it another way.

MR. WESTNEY: Sorry, but okay.

MR. SIMMONS: Yeah, let me try it another way.

The strategic risk exposure on this slide is quantified at \$497 million. In order to take it –

MR. WESTNEY: In 2012 dollars, yes.

MR. SIMMONS: Million dollars.

In order to quantify the impact of the schedule risk, do we have to add anything to that or is it already included because of the \$184 million? Or do you know?

MR. WESTNEY: When you say do we have to add anything to that, are you asking is there something missing from that?

MR. SIMMONS: No, I'm just asking about the math – I'm just asking about the math.

MR. WESTNEY: Okay, well then, the math –

MR. SIMMONS: Is there a separately quantified number somewhere that we need to add on to this in order to fully take account of the schedule risk that's been identified?

MR. WESTNEY: The reason I'm trying to figure out the right way to answer this question is it depends who is setting the range that resulted in this value. So I would expect the kind of conversation that happened to set this risk

was you have Jason – you have Kean, you have Paul Harrington and you have Keith Dodson and they're having a conversation, and they say, yes, this is definitely a strategic risk. There's lots of other things that could cause the schedule to be extended, to go beyond what a project team could control, what's the worst-case scenario?

Well, I would expect they would know about that curve or maybe actually refer to it. My guess is probably they just talked about it because they were familiar with it, and say, well, hey, you know, this curve says we'd put a P75 a year later or a P90 a year and a half later, what would be a scenario for that? Well, I've just given you two different scenarios, one of which had a constant level of hours just stretched over a longer period of time, others – the other which had productivity involved, so there were more hours and more time. Clearly, that's a worst worst-case scenario than the first one would be.

So they would, I would expect, have had a conversation like that and said: What do we think the worst case is? Now, maybe Mr. Dodson had a different view than Mr. Kean who had a different view than Mr. Harrington, and at the end of the day the value is selected that Nalcor would have felt was appropriate.

And so to that degree then, that's the high value and then you had an optimistic value and based on the probability distribution, you now have this mean value. So I could not say that 497 million, 2012 dollars, would be enough to cover all possible outcomes of schedule-related risks.

MR. SIMMONS: Okay so do you know if any of things you've just described actually happened? Or are you just assuming that this is the way it might have played out?

MR. WESTNEY: I was not in the room, so I am telling you a scenario that seems reasonable to me from the conversations that I've had with people. But, of course, I was not in the room, and there aren't really meeting –

MR. SIMMONS: Okay.

MR. WESTNEY: – notes that we can refer to, at least that I have. So I am speculating here, I freely admit that.

MR. SIMMONS: Okay, well, I'm going to leave this, but I'll give it one more try here. Limit yourself to what you know – don't speculate – and tell me, do you know if that \$184-million figure fully encapsulated or included what had been quantified for schedule risk? If you don't know, just tell me you don't know.

MR. WESTNEY: I can't – when you – so, Mr. Simmons, I'm sorry, but when you say what had been quantified, do you mean in the form of a P75 schedule, a P90 schedule? What do you mean by what had been quantified and how it would impact that number? I don't quite see the connection.

MR. SIMMONS: Okay, well, I referred you a moment ago to a slide further on which has an S-curve on it for schedule. And it has a range –

MR. WESTNEY: Right.

MR. SIMMONS: – of potential schedules and you're familiar with that, you saw that.

MR. WESTNEY: Yeah, of course.

MR. SIMMONS: Okay? Now, based on that, I assume it would be possible to arrive at some kind of quantification of a number for exposure to risk. And it might vary depending on which P-value is selected.

MR. WESTNEY: Right.

MR. SIMMONS: I accept that, okay?

MR. WESTNEY: Okay.

MR. SIMMONS: If you were to look at that slide and apply, let's say, a P50 value, because I think these numbers –

MR. WESTNEY: Mm-hmm.

MR. SIMMONS: – are probably P50 we're looking at here to make the 497. If we look up that slide –

MR. WESTNEY: It's the mean actually.

MR. SIMMONS: – P50 value –

MR. WESTNEY: But that's a small point. We'll ignore that.

MR. SIMMONS: Pardon me?

MR. WESTNEY: It's the mean actually, but that's a minor point. We can ignore it.

MR. SIMMONS: Okay, so apply that standard, a mean, to the work that was done on the schedule risk. Does the 184 million fully reflect the mean quantification of the schedule risk?

MR. WESTNEY: I don't know.

MR. SIMMONS: Thank you.

MR. WESTNEY: I can't unpack that for you.

MR. SIMMONS: Okay. All right.

Okay, you were asked some questions about the contingency – and I think it was the tactical contingency and how it broke down between the three main elements of the project, the Muskrat Falls plant, the Labrador Transmission Assets and the Labrador-Island Link or LIL. And I understood you to say that you determined that the contingency on the LIL part was 3.1 per cent. Do you recall that?

MR. WESTNEY: We discussed some numbers that Ms. O'Brien had come up with which seemed to be in the right ballpark.

MR. SIMMONS: Okay.

MR. WESTNEY: Yes, I do recall that.

MR. SIMMONS: Okay. So do you know independently whether the contingency that was derived for the tactical risks for the LIL was 3.1 per cent, or are you relying on information given to you by Commission counsel?

MR. WESTNEY: I know that her calculation is close to what it would have been. I haven't actually gone in and looked to see exactly what's on the curve or what we might have reported, but I think it's a ballpark value.

MR. SIMMONS: Okay.

So do I understand correctly then that you know from – at least from probably what you’ve learned from Mr. Dodson or Mr. Evans – correct me if I’m wrong – that the 3.1 per cent contingency for LIL was incorporated into the calculation of the 6.7 overall project contingency that then got rounded up to 7 per cent?

MR. WESTNEY: Yes, I think that’s exactly what their report says.

MR. SIMMONS: Okay. And you’ve said the 3.1 jumped out at you as being something that didn’t seem reasonable? Is that right?

MR. WESTNEY: I don’t know that I’d be quite as strong as to say it’s not reasonable, but –

MR. SIMMONS: Okay.

MR. WESTNEY: – it certainly struck me as being low, as I said earlier, particularly when you compare it to LTA, which is a very similar project –

MR. SIMMONS: Mmm.

MR. WESTNEY: – and had a contingency of more than double.

MR. SIMMONS: Right. So –

MR. WESTNEY: Or about double, I should say.

MR. SIMMONS: So why is there nothing in your reports reporting that?

MR. WESTNEY: It is in the report. You can see it right there in the ranges.

MR. SIMMONS: Yeah, but why isn’t there anything in there saying this is not – I mean are you suggesting 3.1 wasn’t an appropriate figure to use?

MR. WESTNEY: I’m saying that our job is to facilitate the discussion of risk ranges and when Nalcor is satisfied that these are the correct ranges, in effect we are instructed to then run our risk analysis model using those ranges. And this is the result of that.

Now, if Nalcor – if Mr. Harrington or Mr. Kean or anybody else says wait a minute, we need to go back and look at these ranges that we have told you Westney analysts to use, well, of course, we can certainly have that conversation. But if they say, okay, you know what, we’re good with this and there is a storyline around those three or so ranges that I discussed with Jack, that he went and did some research and he said there was a storyline about – and I gave the one that sticks in my mind, if we had three budget quotes and we took the higher one; therefore, we feel confident that there’s a bigger excursion to the best-case value than there is from there up to the worst-case value.

MR. SIMMONS: All right.

MR. WESTNEY: That’s their input and this is the result.

MR. SIMMONS: Okay.

MR. WESTNEY: So it’s –

MR. SIMMONS: So –

MR. WESTNEY: It’s not a question of whether we think it’s high or low, they can see perfectly well what it is and it’s the result of the ranges that they’ve set.

MR. SIMMONS: Right, but if I understand from what you’re saying, that your consultant, though, wouldn’t blindly accept that, he would want to have some explanation and kind of test it with his own knowledge and expertise to make sure it was reasonable.

MR. WESTNEY: No, what I’m saying is that in the discussion of those ranges, our consultant, Mr. Dodson or Mr. Evans, will opine on the scenarios that are being offered, the excursion from the base estimate that’s being used to set those ranges, and having done that, accept the final placement of the high and low values that the client says they want to use.

MR. SIMMONS: Okay.

Just a question, too, about the IPR that you’re involved in personally. You’d mentioned that there were 65 focus areas; were those divided up among the five team members?

MR. WESTNEY: Yes.

MR. SIMMONS: Right, so –

MR. WESTNEY: No, well, maybe among the four team members.

MR. SIMMONS: Ah, yes. Right. So –

MR. WESTNEY: Well – okay. Mr. Owen also participated – four or five. Sorry, it's academic. Yes, they – we all had areas that we would focus on and then areas that we would all contribute to.

MR. SIMMONS: Right, so there was some allocation of the workload there. Okay.

MR. WESTNEY: Mm-hmm. Sure. You can see that in the agenda as well, who attends which meetings on which topics.

MR. SIMMONS: Yeah.

Were you surprised that your independence was challenged by Grant Thornton for your participation in the IPR?

MR. WESTNEY: Yes.

MR. SIMMONS: And I gather for the reasons that you've given, you have, upon reflection, determined that there might be some basis for that, or have I got that wrong?

MR. WESTNEY: Well, to be – no, you don't have it wrong, but to be clear –

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: – the usual circumstance is that the person has to be satisfied about the balance between independence and familiarity with a project; obviously, there is a price to be paid when you bring in somebody who's entirely unfamiliar and getting them up to speed and so on and so forth. So, generally speaking, the party that has to be satisfied in this regard would be the project director, in this case, Mr. Harrington.

MR. SIMMONS: Mm-hmm.

MR. WESTNEY: And I'm thinking, of course, of typically a private company where if the

project director is satisfied, then there – it doesn't go beyond that.

What took me a while to internalize was the fact that because this is a public project and people who do not have that perspective would be looking at it, they could certainly have that view. And I think I said earlier that, certainly at that point in time, I actually thought all of this work was confidential. I didn't realize it was something that would become public knowledge.

So, yes, I could see later why people might think that, but at the time it didn't occur to me and it's not something I'd ever experienced before.

MR. SIMMONS: Right. Okay. So...

Good. Thank you very much, Mr. Westney. Those are all the questions I have for you.

THE COMMISSIONER: All right, Concerned Citizens Coalition?

MR. BUDDEN: Good day, Mr. Westney.

My name is Geoff Budden. I'm the lawyer for the Concerned Citizens Coalition.

MR. WESTNEY: Good afternoon, Mr. Budden.

MR. BUDDEN: As you may know, if you've been following the Inquiry a little bit, which I gather you have, the Concerned Citizens Coalition is a group of individuals who, for a number of years, have been concerned about the Muskrat Falls Project.

I don't have a lot for you today but I do have some questions, perhaps we can start, Madam Clerk, by calling up exhibit 00508?

THE COMMISSIONER: Tab 33.

MR. BUDDEN: And this actually opens to the – where I want to go. This, of course, is the exchange of emails, among other things, between yourself and Mr. Owen that –

MR. WESTNEY: Mm-hmm.

MR. BUDDEN: – occurred in early September 2012. And I'd like to bring you to the second paragraph.

MR. WESTNEY: Mm-hmm.

MR. BUDDEN: And perhaps you can just read that to us, Mr. Westney.

MR. WESTNEY: Starting with: Here is the first point?

MR. BUDDEN: Yes, the one that the pointer's on there now. The one that –

MR. WESTNEY: Okay, okay.

MR. BUDDEN: – begins: Here is – yeah.

MR. WESTNEY: Sure.

“Here is the first point: we absolutely cannot allow our work product to be dictated or edited by Nalcor management or the” – that should say LCP, I think –

MR. BUDDEN: Sure.

MR. WESTNEY: – “project management and then issued as IPR Team work product. This violates our obligation to the Gatekeeper and our IPR charter, not to mention our professional ethics.”

MR. BUDDEN: Okay.

The – my question, Mr. Westney, is: Have you ever otherwise in all the IPR reports you've done – and you've testified you've done many – have you otherwise been asked to have a final report – quote: dictated or edited by management and then issued as IPR team work product?

MR. WESTNEY: Your question is have I ever been asked to do that?

MR. BUDDEN: Yes, as you were in this occasion, essentially.

MR. WESTNEY: I do not remember an occasion where that happened.

Just to be clear, we normally would say: Look, this is our report, you requested it, you have it, you can burn it, you can share it with other people, you can put it in your drawer and take it out a year from now and see whether you want to reveal it then, that's your decision but it's our report. You asked us for our opinion and we gave it to you. The only exception would be if there's a challenge to our fact base, if we missed something or misinterpreted something or just flat out got something wrong, of course, we want to fix that. But, otherwise, that – it's our opinion.

MR. BUDDEN: Okay.

MR. WESTNEY: So that's why no one would ask us to do that, typically.

MR. BUDDEN: Okay.

I guess we could all infer what we wish from the tone of this, but perhaps you can just tell us, what was your, I guess, state of mind upon being approached in this fashion by Mr. Owen?

MR. WESTNEY: My state of mind?

MR. BUDDEN: Yes, in terms – were you surprised, shocked, any of those words perhaps apply or other words that you may choose.

MR. WESTNEY: Disappointed.

MR. BUDDEN: Pardon?

MR. WESTNEY: Sorry, disappointed.

MR. BUDDEN: Okay.

MR. WESTNEY: And I think I mentioned earlier that – a point, I know this has been discussed in other testimony too, but a point that I felt was, if you look at the original text that we had, you have to say like what's wrong with it? I mean, it's really saying, guys you have this in your procedure, your philosophy, you know, just do that. We feel strongly you should do what you yourself say here, so why – the fact that something is being proposed to be changed, which is actually in the first place, a very mild statement of generally accepted good practice that – I really struggled with that.

MR. BUDDEN: Okay.

Well, then you – I supposed you struggled but you put your foot down, you wouldn't go along. That's fair reading would you agree?

MR. WESTNEY: I think I expressed that very clearly, yes.

MR. BUDDEN: Yes.

MR. WESTNEY: I'm not doing it; what I said.

MR. BUDDEN: Okay, fair enough.

I'd like to move on a couple of more general questions.

So, I gather from your evidence then, both on direct and on cross, was that the actual determination and setting of the ranges, the ranging, was done by Nalcor and not by you or your company. Am I correct on that?

MR. WESTNEY: If I may, I would change your statement a little bit to say that the final setting of those ranges with input from ourselves and possibly SNC-Lavalin, but the final setting of those ranges was the responsibility of Nalcor. I wouldn't just say they set the ranges.

MR. BUDDEN: Okay.

MR. WESTNEY: They listened and they made their decision.

MR. BUDDEN: Okay, but at the end of the day it was their decision.

MR. WESTNEY: Of course, yes, absolutely.

MR. BUDDEN: Sure.

And so I take it (inaudible) that the Westney is responsible for the modelling itself but not for the inputs into the modelling such as the ranging, so, obviously, you cannot take responsibility, I would suggest, for the accuracy of that ranging. Would you agree with me?

MR. WESTNEY: I feel I should be a little more precise, when you say the inputs to the model, there are more inputs than just the ranges.

MR. BUDDEN: Of course, but those particular inputs.

MR. WESTNEY: Oh.

MR. BUDDEN: Yeah. You would agree with me if we restricted to just the inputs of the ranging, would you, Mr. Westney?

MR. WESTNEY: Would you please just complete the sentence so I make sure I know –

MR. BUDDEN: (Inaudible.)

MR. WESTNEY: – what I'm answering.

MR. BUDDEN: Okay. So I take it that – as we have just determined or you just said – that while there is a process of discussion, ultimately, the Nalcor decides on the appropriate ranging, what they believe to be appropriate?

MR. WESTNEY: Absolutely. Yes.

MR. BUDDEN: Yes.

MR. WESTNEY: That's pretty clear.

MR. BUDDEN: And then the Westney – the modelling that you folks have developed is then – the ranging is inputted into that model along with other factors.

MR. WESTNEY: The ranging is put into the model – I wouldn't say factors – but the inputs to the model, for example, could be your choice of probability distribution that you use for each cost element or schedule element. How you take that range and convert it into the input, into a probabilistic model, there's kind of an art to that as well, but I don't mean to harp on that – just to say that there are other inputs that we do, based on our experience, in order to make the model work.

MR. BUDDEN: Sure and the making of the model – the working of the model, making it work. That's you guys. That's Westney. That's not Nalcor?

MR. WESTNEY: Correct. As course we – in a case like Nalcor where you have a lot of work being done on the schedule, some very good people doing scheduling and – well, of the

course, you had a very good estimate. We heard about that from Mr. Lemay and, perhaps, others and so – just to be clear what happens here, I’ll just take a minute.

So let’s take schedule, for example. It would be very common to have a project like this with a schedule that has 10,000 activities. Now, if you’re going to run a Monte Carlo probabilistic analysis of the schedule, and you try to do it on 10,000 activities – I’ll just be very brief – it’s really very clumsy, and you will not get a very accurate result, and there’s all kinds of reasons for that.

So what you have to do is make a purpose-built time risk model where you distill – in this case, I think, there’s 68 activities out of, let’s say, 10,000 that are the key, core activities – the activities that have, what we call, hard logic where one activity is related to the other in a very direct way as opposed to activities that can move around with relationships to each other.

So you do all of this to create this abbreviated, but very much purpose built, model for time risk analysis, and it’s much the same conversation with cost estimating. You want to group things in appropriate ways that will lend itself to a good risk analysis.

So that is also what we bring to the table, but once again, we wouldn’t necessarily do that in – well, I guess, we would do that in isolation, but we would share that and discuss that with our client and say does this make sense to you, we’re going to put ranges on these, what do you think. Because it’s important that they believe what was done was something that they agree with or else they’re not going to agree with the results.

MR. BUDDEN: Okay. And I presume that this is typically done internally. This is not, as you said a moment ago, this is not something you ever expected to see become public. This is a private process intended to inform the decision-making of the client.

MR. WESTNEY: Well, we were talking about IPR a minute ago. I was being –

MR. BUDDEN: Yes, that’s correct.

MR. WESTNEY: – questioned about that and how the perceived issue of conflict of interest or lack of objectivity would – there would be people aware of that and perhaps forming a view of that in a public company than would be the case for a private company. Here, we’re talking about the probabilistic risk analysis. I mean, I would want people to – I would want people in government to understand these things, what they mean.

MR. BUDDEN: Okay.

Perhaps we could go to Exhibit 01152, Madam Clerk, and it’s page 4 that I’m interested in.

THE COMMISSIONER: Tab 15.

MR. BUDDEN: And at page 4, again, Madam Clerk.

The wording on the right there beginning: “It is important,” perhaps you can just –

MR. WESTNEY: Mm-hmm.

MR. BUDDEN: – briefly read that, Mr. Westney, just to set up my next couple of questions.

MR. WESTNEY: Okay. It’s “important to note that the scope of work for Westney Consulting Group was for Westney to guide and facilitate the Risk Ranging Process, using the consultants’ experience to ask the right questions and, where appropriate, challenge the Nalcor participant’s thinking. This resulted in an outcome of the analysis that represented the best thinking and efforts of both the Nalcor participants and the consultants from Westney.”

MR. BUDDEN: Okay. Was there anything different about the way this process unfolded in this instance than it typically would in Westney’s experience?

MR. WESTNEY: Well, there’s always differences and similarities. It’s a little hard for me to think of something profoundly different. You – as I’ve said before, you want the client to agree that the ranges are reasonable; you want the client to believe that the input to the model was sound so that they can accept the output.

If you're asking me whether there was more influence in this case than might otherwise be the case, I don't know that I can really answer that.

MR. BUDDEN: Okay, well, let me break it down to a couple of specific questions.

MR. WESTNEY: Okay.

MR. BUDDEN: Line 2 of the scope of work – well, beginning of line 1: "... the scope of work for Westney Consulting Group was for Westney to guide and facilitate the Risk Ranging Process" So I guess as a starter, in the manner in which you or Westney guided and facilitated the risk ranging process in this instance, was there anything unusual about that that distinguishes it from your typical experience, the way this client responded to being guided and facilitated?

MR. WESTNEY: That's a hard one. I would say – I'd rather not use the word unusual, because, you know, there's all kinds of situations, and to be able to say, oh, this is usual and this is not is difficult.

What I would say is – I'll maybe just repeat something I said earlier. You had here in Nalcor a very capable risk-management organization. Goes back to when we started with Mr. Harrington and Mr. Kean in 2007 and kind of told them this is what's going on, here's the ideas that we can contribute, and they worked very hard for four or five years to build a very capable organization.

So this would then be an organization that would clearly be confident in their views of what's in the risk register, what the potential impacts could be, et cetera, and I'm not suggesting this is in any way a bad thing. This is what everybody would like to have.

Many times we would have a client who doesn't even want to hear about risk management or doesn't have anybody in the organization who's focussed on risk management or – there's all kinds of scenarios. Many times they've gotten into trouble because they didn't have that, and now we're helping them understand where they are and what they might be able to do about it. So they would probably be much less likely to question the ranges we would use.

So I don't know that there's a baseline that I could easily use to say what's usual or unusual. I'm sorry I can't be more definitive.

MR. BUDDEN: Okay. Let me try this. Did the confidence which – of which this client was possessed cause it to be, in your opinion, unusually resistant to being guided and facilitated by Westney in the determination of the risk-ranging process?

MR. WESTNEY: Unusually resistant. I don't think I would be comfortable saying that.

MR. BUDDEN: Okay.

Is – don't get hung up on the word "unusual." If you have something to say there, you know ...

MR. WESTNEY: Okay. All right. Sorry. Okay. I'll try not to convert it to a P-value or something, right?

MR. BUDDEN: Okay. Are you done your answer to that question? Is there anything more you wish to say or have to say?

MR. WESTNEY: You asked whether I would consider their confidence in their ability unusual in terms of the level of impact they had on our work?

MR. BUDDEN: Not quite. Well –

MR. WESTNEY: Oh.

MR. BUDDEN: – what I'm asking, I guess, you've described them as being confident, a confident client.

MR. WESTNEY: I think I meant –

MR. BUDDEN: And you've explained –

MR. WESTNEY: – to say "competent." Sorry.

MR. BUDDEN: A competent and I presume confident client.

MR. WESTNEY: I suppose those things do go together.

MR. BUDDEN: And in the result, did you find – I mean, the statement here is that Westney is

“to guide and facilitate” and obviously if Westney is the guide, that presumes that Westney has a sense of where this is going. And perhaps – otherwise why would you be there? However for a guide, there must be somebody who is being guided.

And what I’m asking: Were they unusually resistant to being guided by the knowledge and expertise of Westney?

MR. WESTNEY: I’m trying not to get hung up on the word “unusually.”

MR. BUDDEN: Please don’t.

MR. WESTNEY: Look, I would say this: We’re talking specifically about Mr. Kean and Mr. Harrington. My view is that these are very competent people. They are great to work with, they treat people with respect. They – I would even say Mr. Harrington has many of the characteristics that you would train people to have. As I said I’ve done a lot of training in past years to train engineers to be project managers. You listen to everybody’s input, you listen carefully, respectfully, you take your time and then you make your decision. And once the decision is made, everyone understands; they do not question it – they move forward. And I think that’s – those are the signs of good project management.

So I do not want to ever create the impression that somehow we are dealing here with people who are obstinate, or difficult in some way to work with. I absolutely would say the opposite.

MR. BUDDEN: Okay.

Of course, I’m not asking whether they are good to work with, I was asking whether they were resistant to guidance. Do you appreciate the distinction?

MR. WESTNEY: I was kind of – in the context we’re talking about I was kind of thinking of it as the same thing.

MR. BUDDEN: Okay.

MR. WESTNEY: If they are resisting guidance then they’re making our work very, very difficult. If they are saying: No, this is crazy. I

don’t believe you. This could never happen. And arguing with you all the time when you’re trying to get them to think about – that would be resistance to guidance in them saying – no, the example I used was people who listen well, take their time to let you put everything forward, and others, and then make a decision.

MR. BUDDEN: Of course, you can listen politely, respectfully pay attention and still disregard the advice, of course. You don’t see a distinction there?

MR. WESTNEY: I’ve been accused of that myself.

MR. BUDDEN: Okay. Perhaps we all have.

As we move on in that quote, the second area, I guess, where I’m interested in: “This resulted in an outcome of the analysis that represented the best thinking and efforts of both the Nalcor participants and the consultants from Westney.”

Was the result here – and I’m thinking the – perhaps the P-factors that were used. Did they represent the best thinking and efforts of Westney?

MR. WESTNEY: Well, I don’t know what P-factors were used eventually.

MR. BUDDEN: Okay.

MR. WESTNEY: I mean, that’s not the conversation we’re having with them at the time we’re doing our work.

I mean, keep in mind, this work has a beginning and an end. We are not risk advisors in the sense of someone who’s on the team all the time; who’s there in all these meetings, who’s contributing in all these conversations. We come in, we do the steps in that process that I presented earlier today, we prepare our – do our runs, we prepare a report and then we go home and we may not show up again for two years – literally.

MR. BUDDEN: Okay.

I guess, I’m a bit puzzled by that – perhaps it hinges on the word “outcome.”

So you seem to be talking about a process, a process that represented the best thinking and efforts irrespective of what Nalcor took away from it and used. Am I correct on that?

MR. WESTNEY: A process that reflected the best thinking and efforts – yes, I think you are correct. If I – let me – may I paraphrase, just to make sure I’ve heard you correctly?

That you’re saying, this is a process that began with – shall we say – the risk discovery, looking at the risk registers, talking to people, et cetera, and ended with the production of our report with their ranges and our model, which we all did our very best to make sure were what we believe to be correct. And then we’re done.

And what they do with it; whether they use P50s or P10s or P90s – I have no idea what they do with it and no one asked. Because as I’ve said, numerous times already in my testimony, these are business decisions that rely on many other factors than just what project guys think based on their risk analysis.

MR. BUDDEN: Okay. I think you’ve given me my answer.

The last couple of questions, the – so this is essentially – at least this process is a collaboration between Westney and Nalcor. That’s correct, is it not?

MR. WESTNEY: I’m pretty sure it says that, yes –

MR. BUDDEN: Yeah.

MR. WESTNEY: – yes, of course it did.

MR. BUDDEN: And any collaboration, obviously, is dependent on the parties being frank with each other, disclosing – or accurately disclosing information within its possession. That’s true. Yeah, well, that’s a given pretty much, isn’t it?

MR. WESTNEY: Absolutely. Yeah, certainly, we’re doing that.

MR. BUDDEN: Okay.

MR. WESTNEY: Yes, it’s our job to do that, for sure.

MR. BUDDEN: Would you regard it as important, say, we’re – you know, we’re at 2012 here when you’re making some of these determinations, and if there were evidence, say, that Nalcor had already – was getting bids on work they’d contracted out and those bids were higher than had been budgeted for, would that be information that would ordinarily inform a ranging exercise?

MR. WESTNEY: You mean, it’s available at the time we’re doing the ranging?

MR. BUDDEN: Yes. Yeah.

MR. WESTNEY: Oh, well, certainly I would hope we would have that information and make that part of the discussion.

MR. BUDDEN: Okay. Thank you.

I have no further questions.

THE COMMISSIONER: All right.

I’m just trying to get a feel for where we are here. So, Ed Martin, you’re – will there be questions from –?

MR. SMITH: No questions.

THE COMMISSIONER: Okay.

Kathy Dunderdale?

MR. GRANT: No questions, Commissioner.

THE COMMISSIONER: Former Provincial Government Officials?

MR. J. KING: No questions.

THE COMMISSIONER: Robert Thompson?

MR. COFFEY: No questions.

THE COMMISSIONER: I don’t believe the Former Nalcor Board Members are here. Manitoba Hydro and Emera.

So Consumer Advocate?

MR. HOGAN: I have some questions.

THE COMMISSIONER: Okay.

MR. HOGAN: I'm happy to go – it depends on how long Ms. O'Brien is gonna be.

THE COMMISSIONER: No. Let's –

MR. HOGAN: Yeah.

THE COMMISSIONER: Well, we'll take our break. I was just wanted to sort of get a feel for where we are. So we'll take our 10 minutes now.

So we'll take 10 minutes, Mr. Westney, and we'll be returning in 10 minutes time, but we'll keep you on the line so we don't lose you.

MR. WESTNEY: Very good.

CLERK: All rise.

Recess

CLERK: Please be seated.

THE COMMISSIONER: All right, the Consumer Advocate?

MR. HOGAN: Hi, Mr. Westney, my name is John Hogan and I'm counsel for – if you're there?

THE COMMISSIONER: Better just check to make sure he's there.

Are you there, Mr. Westney?

MR. WESTNEY: Yes, I'm here.

THE COMMISSIONER: Okay, perfect.

MR. HOGAN: Mr. Westney, my name is John Hogan; I'm counsel for the Consumer Advocate. The Consumer Advocate represents the ratepayers involved here in this Inquiry. So my first question is going to be about the ratepayers. I think you mentioned and you understand that the project is being funded by the ratepayer. Do you understand that?

MR. WESTNEY: Yes.

MR. HOGAN: Okay and, obviously, ever dollar, overrun, or extra cost is an extra dollar that the ratepayers have to pay. So my question is if the project – when you're looking at a project and it goes off the rails, for lack of a better word or way over budget, and the commodity, in this case the electricity, becomes unaffordable, how does that fit into the risk assessment? Or does it?

MR. WESTNEY: Well, there are many types of risk assessments. Are we speaking of the risk assessments that we did on the project cost and schedule?

MR. HOGAN: Well, I guess I'm asking generally and then we can ask about this specific project, but what happens if there's a risk that this can't be – a project can't be paid for? Do you take that into account?

MR. WESTNEY: Well, I mean, that's – I would be very sensitive to a project that had that situation. And the way I would interpret it into the rather narrow piece of the whole picture where we're working is what I referred to earlier as risk appetite.

You would – I mean I'm sort of a layperson with regards to how electrical power is priced and all that kind of thing. But, certainly, from where I sit, I would assume that for the reasons you just said it – that said that you would assume a low risk appetite, an aversion to risk that would cause one who is responsible for decision-making on a project like this to make sure that all the numbers they're using are very realistic and even perhaps conservative. So that if the project works under those values of key variables, then you can be confident that the ratepayers will not find themselves in that situation.

MR. HOGAN: So I'm just going to give you a few examples of things that could affect the ratepayers or the payments – the payments in general: Things like people leaving the electrical system because it's too expensive, things like future technologies which means people won't use this electricity, things like the development of natural gas, et cetera, et cetera.

Are these risks that you would take into account? And, if so, like, would they be strategic

risks that should be accounted for? Would they fall under that bucket?

MR. WESTNEY: Within the scope of the work we do, I'm thinking probably not. These would be part of the larger scope of how the project fits into the overall strategy for providing energy to the province.

MR. HOGAN: Okay.

MR. WESTNEY: It's not really our expertise to deal with issues at that level.

MR. HOGAN: Okay. Thank you.

Mr. Westney, I want – I'm going to ask this question. Sometimes I get asked when I leave the Inquiry at the end of the day: What'd you talk about today? And I would say to someone today: Well, we talked to Mr. Westney who talked – who discussed the risk. And they'd say: Well, what did he say? And I would take away – one of the things you said was that a P1 schedule, which was in your report, is basically an impossible schedule. It's unachievable. You said a P1 is basically P0.

So someone might ask me then, if I were to say that to them, well, how – why did the government even proceed on a P1 schedule that was impossible? Can you sort of talk about that in layman's terms, as opposed to talking to people who've been hearing this testimony and reading these reports for two or three months?

MR. WESTNEY: Mr. Hogan, I think you just did a very good job of talking about it in layman's terms. I'm not sure what I could add.

MR. HOGAN: Well, if –

MR. WESTNEY: I can't answer –

MR. HOGAN: Okay let's say this.

MR. WESTNEY: – that question, right.

MR. HOGAN: If a risk report says it's impossible to do, why did we do it?

MR. WESTNEY: Well, I think others would answer that question, but from the testimony I have heard, I think there was a point of view

within Nalcor that it was nonetheless achievable, even though no one seems to have questioned the actual probabilistic model itself.

MR. HOGAN: Okay.

You also talked about – I think in terms of the management reserve you don't want to have a large slush fund. Do you remember that?

MR. WESTNEY: Yes, but I don't think I said that in the context of management reserve. I think I –

MR. HOGAN: Okay, what was it in the context?

MR. WESTNEY: I think I was referring to the question about P50 as accepted best practice for tactical risks, which are covered by contingency. And I did say that there are different schools of thought on this, that there – while everyone seems to agree P50 makes sense, equal chance of it being more or less, it's going to be spent in those three categories of design variations, execution and pricing variations. However, there are many owner companies that believe a P75 or a P70 might be something they prefer to use because they really hate the idea of going back for more money. And there are those that prefer to have a lower P-value because they feel that it inspires teams to perform better.

So what I said was each one of these approaches has unintended consequences, and in the case of the one that's funded at a higher level and incorporates that extra money in the contingency that's given to the project, if you assume that P50, on the average, provides enough money for these three things that contingency is for and nothing else, then the concern at the executive level is, like, I'm giving these guys an extra hundred-million dollars which they may not need, and which I could have been spending and investing in other good capital investments.

And more than that, it could create a feeling like, hey, we got a slush fund here so when operations says, you know, I'd really love to have such and such a feature in this facility, they're more likely to say yes than say no and force them to justify it or else just decline the proposed change. So that's really what I meant.

MR. HOGAN: Okay.

And in the context of this particular project, which is – there's unlimited contingent equity because the government has to pay to complete this project – how does that factor into that issue regarding the slush fund? Because we've heard the term and you've listened to the Inquiry that it was basically a blank cheque to finish the project. So where do we go with that?

MR. WESTNEY: I think there's a few different concepts here. The slush fund in the – and I confess, I use that word but in a – as an explanation why executives many times do not want the project contingency to be higher than P50.

I'm trying to (inaudible) your question into more specific terms. I'm sorry I'm struggling with it a little bit.

MR. HOGAN: Okay.

That's all right; I think we can move on. Just on –

MR. WESTNEY: Oh –

MR. HOGAN: That's okay.

You did say – I think you were doing some analysis and you said the due diligence level would be 15 out of 10, and you listed several reasons why it would be higher, one of them being that this is public money here. Would you increase the P-factor solely for that reason?

MR. WESTNEY: That's not my call. What I said before is that these factors that I've mentioned: it's a Crown corporation; it's the first time we're doing this; it's the first – and it's a utility, so people will have to pay for it directly. These are all reasons why one would want to do more due diligence before sanctioning the project and making the investment decision.

But they could also be reasons why you would have a lowered risk appetite, and if you have a lower risk appetite, generally you would expect a decision-maker to want more confidence, which we would express as a higher P-value.

MR. HOGAN: Okay.

MR. WESTNEY: Does that answer your question?

MR. HOGAN: Yeah, due diligence is different than risk appetite.

MR. WESTNEY: That's exactly what I was – the point I was trying to make, thank you.

MR. HOGAN: But you can base your risk appetite on how much due diligence you've done, right?

MR. WESTNEY: I think you've lost me there.

MR. HOGAN: Okay, that's okay.

I just have one more question. I don't know if you're aware there is an issue water management on the Churchill River. Are you aware of this at all?

MR. WESTNEY: No.

MR. HOGAN: Okay.

Maybe I can just ask you – or I'll tell you. There is an issue regarding who controls the reservoir on the – for the hydroelectric dam. If I'm telling you that is an issue, would you be able to characterize that as a strategic risk or a tactical risk, or are you unable to even comment?

MR. WESTNEY: Well, the only thing we could really comment on would be what actually affects the project in terms of its scope of work, its cost, its schedule.

I don't have a clear line of sight as to how that issue would reflect itself in the project cost and schedule. It might. It's just that I can't – I don't –

MR. HOGAN: Yeah.

MR. WESTNEY: – know what that –

MR. HOGAN: It might.

MR. WESTNEY: – issue is.

MR. HOGAN: And it wasn't part of your scope of work to deal with that risk?

MR. WESTNEY: Oh, no, no. It wasn't.

MR. HOGAN: Okay.

That's all the questions I have.

Thank you.

MR. WESTNEY: Mm-hmm.

THE COMMISSIONER: All right, redirect?

MS. O'BRIEN: Thank you.

Mr. Westney, Kate O'Brien again. I just have one area to ask some further questions arising out of Mr. Simmons's examination of you, and I just want to get a little clarity to one of your answers, please.

Mr. Simmons asked you if you had, and I'm paraphrasing, any concern coming out, you know, entering into this Inquiry, any concern for the reputation of your company as a result of the processes that are going on here, and I understood that your answer was no.

What – it's not clear to me. I'd like to just dig a little bit deeper in that answer, because I think it could be – it's a bit ambiguous; it could be interpreted at least two ways that I can think of.

So one way might be: No, we have no concern because what is going on in a public inquiry in Newfoundland and Labrador is not going to really affect, you know, Westney Consulting, which is operating on a global stage, so we have no concerns because of that.

Or it could be: No, you know, we stand behind the work that Westney did, and we're satisfied that even with a really – with deep scrutiny, it's going to stand up, and we have no concerns that our reputation is going to be damaged, and that could be one reason to say no. And there may be others I didn't think of, but those were two, and so I thought I'd ask you to give a little bit more clarity around your answer so the Commissioner would fully understand what you intended to say.

MR. WESTNEY: I appreciate that. I think I said no, and then it wasn't clear we would have a break. So we never came back to it.

I have to admit, I never really thought about that until the question came up. I have spent a great deal of time, since this all began, in support of what I believed we could do as a firm, and I could personally do, to support the goals of this Inquiry.

And so when I combined that with the work that we did to help Nalcor set up a risk management capability to provide QRAs at key Decision Gates, which I think were generally accepted as good quality work, and to serve on IPRs. And, indeed, there's been more in recent years that are not the subject of the same query.

If you put all that together, I feel very satisfied that our company's commitment to high levels of professionalism and integrity – this is a company with my name on the door. It doesn't get more personal than that – that we have lived up to those high standards we set for ourselves in the work that we have done on the project, and the work that we have done to support this Inquiry. So I don't – no, I don't really see a scenario, for myself, that I think would be contrary to our good reputation.

MS. O'BRIEN: Okay. Thank you. Those are all my questions, Mr. Westney.

THE COMMISSIONER: Okay. Mr. Westney, thank you very much for – I know it's a bit of hassle trying to get here yesterday with the weather, so I appreciate the fact that you were available early this morning so that we could get started, and I just want to thank you, and we'll sign off now.

All right. So, tomorrow, we're going to start at 9:30.

One of my thoughts is – and I know Ms. O'Brien has probably spoken to everybody here about how we're going to do this tomorrow. This is a public inquiry tomorrow, so one of the things that I want you to know is that in making – in trying to determine how I'm going to deal with this, at least for tomorrow, and with regards to Phase 1, one of the things that I obviously – I think I'm going to need to do is look at more of

the specifics as opposed to the general nature of the conversation.

So my thinking is, and I just want to make sure everybody's content with this, is that I will have access to – which I don't have yet – access to whatever documents are attempted to be redacted or whatever. Particularly for, I believe it's for Mr. Lemay and Mr. Keating, so that I'll be able to review the types of information that Nalcor is seeking to have found commercially sensitive.

I'm assuming that's fine with everybody here, before I do that?

MR. SIMMONS: Commissioner, maybe if I can speak to that for a moment.

THE COMMISSIONER: Sure.

MR. SIMMONS: We don't have any objection to that. In the case of Mr. Keating, we're still in the process of getting that information, even to the Commission counsel right now, because we've been – you know, we're running as fast as we can to keep up with those things. So I'm not sure that we've got a whole list, even yet, of the documents that would be proposed to be used for Mr. Keating –

THE COMMISSIONER: See, I'd like to deal with this –

MR. SIMMONS: – so we can –

THE COMMISSIONER: – all tomorrow, right?

MR. SIMMONS: Yeah.

THE COMMISSIONER: And this is what I had instructed my associate counsel before, because we're having a special hearing just to deal with this. We have no other time in the schedule really to deal with it.

So is there any way that, whatever else is – you're worried about with regards to Mr. Keating, that somehow I can get that –

MR. SIMMONS: Yeah, I –

THE COMMISSIONER: – before this evening?

MR. SIMMONS: – I can – we'll do – I will do what we can this evening –

THE COMMISSIONER: Okay.

MR. SIMMONS: – maybe late.

THE COMMISSIONER: That's fine.

MR. SIMMONS: And I had thought that we would be able to deal with it in a bit of a more conceptual level for Mr. Keating in particular, where it's more a category of type of information that needs consideration of how it's best protected. And, in part, also, it may be that, as we worked towards that evidence, that we'll be able to work out with Commission counsel what necessity there is to get into areas where that information needs to be dealt with.

But I'll see what we can do this evening to try and flag any documentation that might be of particular concern so we can get that over as quickly as possible.

THE COMMISSIONER: Yeah.

You know, I would like to deal with that because I don't want to have to deal with this in bits and pieces.

MR. SIMMONS: Yes.

THE COMMISSIONER: I'd rather just deal with it.

MR. SIMMONS: Yeah.

THE COMMISSIONER: And I think the sooner you're aware, or your clients are aware, what it is I'm gonna do with all this, I think the better it is.

We still have huge issues that may arise with regards to the next phase, and I'm really concerned about that. So I have – I do think I need to – I think what I do hear is going to give you a bit of a – or Nalcor and the parties – a bit of a hint as to my approach to this. So, anyway, I appreciate that.

Is there anything else you wanted to add about tomorrow?

MR. SIMMONS: No, the issue with Mr. Keating is a fairly discreet one, actually, I think, compared to the larger issue of how we're gonna deal with some things (inaudible).

THE COMMISSIONER: I understood that. Yeah, I understood that. Thank you.

Anybody else wanna speak to this?

So – and you, Ms. O'Brien, you've sort of indicated to the parties how this is gonna work tomorrow?

MS. O'BRIEN: Yes, what I've indicated is that Nalcor will speak first because it's essentially an application or a position being put forward by Nalcor, followed by any parties. There have been a few parties that have actually filed statements or submissions in response, so they would be able to address that.

I did advise that you would give other counsel an opportunity to speak, even if they hadn't filed –

THE COMMISSIONER: Right.

MS. O'BRIEN: – a written submission, and that it would end with Mr. Simmons being able to give a rebuttal on behalf of Nalcor, and that Commission counsel will not be taking any position tomorrow.

THE COMMISSIONER: Right, okay.

So that's fine with everybody? Perfect.

So we'll see you tomorrow morning at 9:30, for those who are coming.

CLERK: All rise.

This Commission of Inquiry is concluded for the day.