



## COMMISSION OF INQUIRY RESPECTING THE MUSKRAT FALLS PROJECT

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Transcript | Phase 1

Volume 41

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*Commissioner: Honourable Justice Richard LeBlanc*

Monday

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**CLERK (Mulrooney):** This Commission of Inquiry is now open.

The Honourable Justice Richard LeBlanc presiding as Commissioner.

Please be seated.

**THE COMMISSIONER:** Good morning.

Ms. O'Brien.

**MS. O'BRIEN:** Good morning, Commissioner.

I'd like to begin by asking to enter the following Exhibits: P-01156 –

**THE COMMISSIONER:** Just give me one second now, please.

Okay, go ahead.

**MS. O'BRIEN:** P-01156, 01157, P-01170 to 01174, P-01176 to 01186, P-01189 to 01191 and P-01193.

**THE COMMISSIONER:** All right, those –

**MS. O'BRIEN:** Sorry.

**THE COMMISSIONER:** Those Exhibits will be entered as marked.

**MS. O'BRIEN:** Thank you.

Commissioner, there's two Exhibits that we've just had entered that have been entered in a redacted form; I am going to be seeking to enter them in an unredacted form. An application has been filed by Mr. Harrington to – arguing that the redactions should stay in place because of commercial sensitivity.

I've spoken with Mr. Harrington's counsel, Debbie Hutchings, who's here today, and what we will do is I'm going to do Mr. Harrington's examination-in-chief based on the redacted documents. At the end of the examination-in-chief, we are gonna ask that Ms. Hutchings' application be heard before you; you can then make a ruling on the unredacted documents. If they go in I'll ask Mr. Harrington some further questions. If they don't go in then Mr. Harrington can begin his cross-examination.

So that's the suggested procedure, if that's agreeable to you.

**THE COMMISSIONER:** All right. And that's agreeable to you as well, Ms. Hutchings?

**MS. HUTCHINGS:** Yes, it is. This – we spoke about this yesterday.

**THE COMMISSIONER:** Thank you very much.

All right, so Mr. Harrington can stand, if you would please –

**MS. O'BRIEN:** And he'd like to be affirmed.

**THE COMMISSIONER:** – and to be affirmed.

**CLERK:** 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. HARRINGTON:** I do.

**CLERK:** Please state your name for the record.

**MR. HARRINGTON:** Paul Harrington.

**CLERK:** Thank you.

**THE COMMISSIONER:** Mmm. All right, Ms. O'Brien, when you're ready.

**MS. O'BRIEN:** Thank you.

Good morning, Mr. Harrington.

I understand –

**MR. HARRINGTON:** Good morning.

**MS. O'BRIEN:** – that you have had the opportunity to watch certain of the Commissions proceedings to date, is that right?

**MR. HARRINGTON:** I have, yes.

**MS. O'BRIEN:** Okay, and just to clarify, because there's gonna be a few witnesses that we're gonna talk about here today. I understand that you did have the opportunity to hear Mr. Jason Kean's testimony?

**MR. HARRINGTON:** I was here for that, yes.

**MS. O'BRIEN:** Okay, and I understand that you at least heard, in some part, the testimonies of Derek Owen, John Mallam, Richard Westney and as well as the MHI panel?

**MR. HARRINGTON:** Yeah, I heard some of the video off the websites. I followed some of it, yes.

**MS. O'BRIEN:** Okay, thank you.

We're gonna begin by looking at some details on your background. And I'm gonna ask Madam Clerk to bring up P-01156; it's at tab 61 of the binders in front of you. And this is a résumé of yours, Mr. Harrington, that was found in the Nalcor documents. This dates from 2011, but I believe it has the important information on it.

I'm going to ask you to please review, for the Commissioner, your education and work history prior to joining the Lower Churchill Project, and please feel free to reference this Exhibit.

**MR. HARRINGTON:** Okay.

So I'm from the UK. I'm registered in the Engineering Council in the UK as a chartered engineer –

**MS. O'BRIEN:** I'm sorry to interrupt you, Mr. Harrington. We're not picking up your – yes, if you could bring that a bit closer to you.

Thank you.

**MR. HARRINGTON:** Okay. Is that better?

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** As a chartered engineer, and I am a fellow of the Institute of Measurement and Control in London, UK. I have over 30 years' experience with megaprojects in senior management positions on the owner's project team in Europe and Canada.

Going down from 1977 to 1985, I worked on the Statfjord A, Statfjord B and Statfjord C projects in Norway as part of Mobil's project taskforce, managing the engineering, construction commissioning and start-up of those projects

from beginning to end – through start-up to completion. Excuse me, I made a mistake. The – that project was similar to the Hibernia project and that Hebron Project. It's a gravity-based structure with a topsides facility. I worked on that projects from beginning to ends. They were a huge success and the foundation for Norway's oil and gas industry. They are the condeep – concrete condeep design with topsides processing facilities. And as part of that Mobil project team I was responsible to manage each of the projects from my discipline, which was the instrument and controls discipline. So I was part of that Mobil project team that went through from beginning to end on those three projects.

From 1985 to 1987, I moved onto the Norsk Hydro project, Oseberg A and B. My role then went to managing a multi-discipline team of engineers and eventually contractors. This is the first offshore oil and gas project for Norsk Hydro. The first phase of the Oseberg development project was completed ahead of schedule and started production in December 1, 1988, four months prior to the committed target date. So my role in that job was to do all of the platform completion and planning group. I reported to the platform completion planning group manager and I delegated for him in his absences.

I also kept with Norsk Hydro; they took me to Canada, to Bécancour, Quebec where we built a magnesium project; that was a Greenfield project – approximately 49,000 tons per year. I followed that one through all design phase, construction start-up and project debottlenecking. Again, I was responsible for a team of engineers who were managing a certain group of contractors. Our role was to ensure all of the contractors were completed on time in the right sequence so that we could commission and start-up the facility.

So then it took us to 1991 and the Hibernia project. So that was in Montreal; I was based in Montreal at the time. Initially, I was reporting in the business team – I'd forgotten to put that in here – and we were responsible for developing the – a lot of the policies, procedures that would be needed to manage the project through all of its various phases, the fabrication phase, hook-up phase, offshore phase and then finally handover to the operations team.

I then worked for the project general construction manager, a gentleman called Henk van Zante. I'd worked for him in Norway previously. And then we were then responsible for developing all of the policies and procedures that would be required to manage all of the fabrication sites; bring them to the hook-up site; do all of the work that needs to be done, then, to take it offshore. So that was my role. I was leading a team of engineers and planners to do that. We did that in Montreal for a period of time. I was also part of the project team that was responsible for the contract – first of all selection and then award for the supermodule fabrication, which was eventually awarded through to Bellelli in Italy and Hyundai in Korea.

I then moved into, what was called, the ready for operations team and I was the deputy RFO manager reporting to a Mobil manager there. We managed all of the – then the completion of the work from the module yards. We integrated that into the hook-up site. We worked with the hook-up team to make sure that all of the systems were handed over in the proper manner and then we handed that over to the operations team. I moved to the operations team when the project moved to the offshore facility in 1996, I believe. I was then asked to take over the – as manager of the planning group for what was called Hibernia Management Development Corporation – HMDC.

I did that. I was responsible for setting up all of the post-project planning, including production planning. That was successful, and then, from 1999, 2000, I then was asked to develop the first couple of business plans for the HMDC.

**MS. O'BRIEN:** Mr. Harrington, when did you move to Newfoundland?

**MR. HARRINGTON:** I moved to Newfoundland in 1994, I believe.

**MS. O'BRIEN:** And so you've lived here consistently since 1994?

**MR. HARRINGTON:** I have, yes.

**MS. O'BRIEN:** Okay, thank you.

**MR. HARRINGTON:** Then, 2000 to 2005, is a variety of projects: the Terra Nova project, MacKay River Oil Sands Project, Sable Island Offshore Project – both onshore and offshore, the White Rose Project. Initially, I was brought on to do a forensic analysis of a large construction claim and then I was asked to take the start-up manager role.

I've led start-up claims – delayed start-up claims for Petro-Canada, which was a significant claim. I've also done lots of construction claims in Canada for various owner teams, so...

So that's my – that was my kind of history, 2005, 2006 more than likely I think, I was asked to join the Lower Churchill Project for Newfoundland and Labrador Hydro.

**MS. O'BRIEN:** Okay, and if you could just for the Commissioner – the previous work that you'd done – in what previous position did you have that was closest in scope and responsibility to that that you eventually took on with the Lower Churchill Project.

**MR. HARRINGTON:** I would say the Hibernia Project, just because of its sheer size, its, you know, its complexity, the fact that it was, you know, being fabricated in various module yards across the world, and we needed to get the very tight procedures – project management procedures – in place to develop a project management system that would ensure consistency of application of all of these procedures in all of the module yards and the Bull Arm site as well. So that was our role to make sure that we were basically the home office tying all that together.

**MS. O'BRIEN:** Okay. So at – on the Hibernia Project, what specifically was your title?

**MR. HARRINGTON:** I was the – initially, the mechanical completion or completions manager – or completions lead I think they used to call it then, and then I was the deputy RFO manager.

**MS. O'BRIEN:** So as deputy RFO manager, who did you report up to – what position?

**MR. HARRINGTON:** It was – he was the RFO manager himself, right? So – gentleman called Troels Erstad.

**MS. O'BRIEN:** Okay.

So we know you joined the Lower Churchill Project, in I believe it was later 2005. I'd like to get some information from you as to how that happened. How were you first approached to come on the project?

**MR. HARRINGTON:** Okay. Well, I was, you know, working on doing the start-up for White Rose, and I was contacted by – I think it was Ed Martin, Mr. Martin, at the time. He asked me to attend a kind of a brainstorming session that was being carried out in some – I think it was the Guv'nor Pub on Elizabeth Avenue.

So I attended that. I didn't really know much very much about what I was getting into, and – but during that discussion, I was asked to kind of come up with some ideas as to how, perhaps, a team could be organized.

So I attended that meeting, it was obviously a full-day meeting, and then – I was asked then to – (inaudible) you know, prepare a kind of a role description for project implementation manager, based upon my previous experience about how to go about setting that up.

**MS. O'BRIEN:** Okay.

And who else was present at that meeting, to your recollection?

**MR. HARRINGTON:** Okay.

Mr. Martin. I think Mr. Bown –

**MS. O'BRIEN:** Charles Bown, Bown.

**MR. HARRINGTON:** Charles Bown.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Mr. Crawley.

**MS. O'BRIEN:** Brian Crawley.

**MR. HARRINGTON:** Mr. Humphries, I believe.

**MS. O'BRIEN:** Okay, Paul Humphries.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Mr. Gil Bennett?

**MR. HARRINGTON:** Yes. Gilbert Bennett, sorry, Mr. Bennett. Thank you.

And there may have been two or three others, but their names escape me at the moment.

**MS. O'BRIEN:** Okay.

So this was in 2005. Do you remember approximately when in 2005 it was?

**MR. HARRINGTON:** I seem to remember it was either fall or winter.

**MS. O'BRIEN:** Okay.

And so had you known Mr. Martin previously?

**MR. HARRINGTON:** Yeah, I had worked for Mr. Martin on the Hibernia Project. I knew him back possibly 1992.

**MS. O'BRIEN:** What was his role on the Hibernia Project when you were working for him?

**MR. HARRINGTON:** He was – at that point in time I think he was – I couldn't say for sure, but it was kind of a business manager type of role for HMDC, Hibernia Management Development Corporation.

**MS. O'BRIEN:** Okay.

So how – approximately how many years had you worked for Mr. Martin?

**MR. HARRINGTON:** I didn't work for him at that time.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I just knew him, right?

**MS. O'BRIEN:** Okay.

So for how many years had you worked together with him previously?

**MR. HARRINGTON:** Well, so, he was in HMDC, and I was in projects, so it's kind of two different worlds there, right?

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I first worked for Mr. Martin, or for a team – or a project he was on, which would be the Terra Nova project. So Mr. Martin was part of the executive committee for the Terra Nova project – the operations team for Petro-Canada.

So I worked directly for him at that point in time. I worked, again, in the project team. But after the Terra Nova project, I was responsible for the delayed start-up insurance claim that – it's in here in this exhibit. And that was primarily led by Mr. Martin.

**MS. O'BRIEN:** Okay.

So I'm trying to get a sense of how many years had you worked with Mr. Martin prior to –

**MR. HARRINGTON:** With him –

**MS. O'BRIEN:** – him at –

**MR. HARRINGTON:** – yeah, from 1991, off and on.

**MS. O'BRIEN:** Okay.

And did you previously know anyone else at that meeting – at the Guv'nors Pub? Was there anyone else there who you had previously worked with or knew?

**MR. HARRINGTON:** Mr. Crawley was – I was familiar with Mr. Crawley, 'cause he worked on Hibernia as well in the operation – in the HMDC organization. In fact, I think he took over from me doing the business planning –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – when I left.

**MS. O'BRIEN:** All right.

So just to clarify, so you were called and asked to attend this meeting. So when – this ultimately resulted in you becoming the project implementation manager, is that right?

**MR. HARRINGTON:** Right, yes.

**MS. O'BRIEN:** Okay.

So it wasn't a competitive process.

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** It wasn't – you hadn't –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – responded to an ad –?

**MR. HARRINGTON:** I was basically selected.

**MS. O'BRIEN:** So, okay – basically selected.

So it wasn't through a headhunting firm or anything like that?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay.

All right, so let's look at some of your early contracts. Can we please bring up P-01157? This is the first contract that we have in our records in relation to you. It's from October 1, 2005.

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** Here, though, in this you're being hired as – through a Fabcon Canada Limited –

**MR. HARRINGTON:** Correct.

**MS. O'BRIEN:** – representing Paul Harrington.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** First, can you please tell the Commissioner, what type of company is Fabcon Canada?

**MR. HARRINGTON:** I think they – it's a past tense – it was. So it's a – you know, I don't think it's in existence anymore.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So Fabcon Canada was – I think was created in 1991. And it was basically there to support the Hibernia project by

providing specialist services to the Hibernia project.

So it was created to do that specific task because there was a, you know, a need for certain tasks that the Mobil PTF couldn't provide themselves. So that was established at 1991.

**MS. O'BRIEN:** And when you say resources – providing resources and tasks, are you talking about human resources?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** So they provide people, consultants, to fulfill roles on the project?

**MR. HARRINGTON:** Correct, yes.

**MS. O'BRIEN:** Okay.

And I take it when those people get paid, then, that Fabcon would take a percentage or a cut of the payment?

**MR. HARRINGTON:** Yes, yeah.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** But in some cases some of those people may have had a direct kind of relationship, you know, their own company rather than, you know, as a consultant.

**MS. O'BRIEN:** Okay. But generally speaking that's how it worked. Okay.

**MR. HARRINGTON:** Generally speaking.

**MS. O'BRIEN:** The other projects that you were on that we looked at there on your résumé, say between 2000 and 2005 when you were working here in Newfoundland on some of those projects, would those – would you have also been hired through Fabcon for those ones?

**MR. HARRINGTON:** So, if I go back from 1987 to 1991, when I was on the Norsk Hydro project management team at Bécancour, I had my own company then as well.

**MS. O'BRIEN:** Okay. Yeah –

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** – no, I was looking more recently –

**MR. HARRINGTON:** Okay, more recently.

**MS. O'BRIEN:** – say –

**MR. HARRINGTON:** So in Hibernia from '91 to 2000, yes, that was through Fabcon Canada. And 2000 through to 2005, that was with Fabcon through Fabcon Canada. And 2005 to 2007, I believe, with Fabcon Canada.

**MS. O'BRIEN:** Okay. And at the time did you have any ownership interest in Fabcon Canada?

**MR. HARRINGTON:** I had a small percentage ownership of Fabcon Canada – of Fabcon Norway, not Canada. That was the parent company.

**MS. O'BRIEN:** Okay. And did you hold any management positions during this period with Fabcon or Fabcon Canada or Fabcon Norway?

**MR. HARRINGTON:** Yes, I checked again last night and it was from 1997 to 2003 as managing director of Fabcon Canada.

**MS. O'BRIEN:** Okay.

So then I'm going to bring up the next contract that we have for you because we see a change in 2007, as you've just indicated. P-01173, please, tab 6 of your book.

**MR. HARRINGTON:** Tab?

**MS. O'BRIEN:** Six.

**MR. HARRINGTON:** Six, okay.

**MS. O'BRIEN:** So here we see another consulting contract here. This one is dated effective April 1, 2007, and between Newfoundland and Labrador Hydro and Erimus Consulting Limited, which is called the consultant.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** And I understand Erimus is a company that is owned by you or you and your spouse, is that right?

**MR. HARRINGTON:** That is correct.

**MS. O'BRIEN:** Okay. And are you the only employee of that company?

**MR. HARRINGTON:** I think – myself and my wife.

**MS. O'BRIEN:** Sure. Okay.

So we see that in April 2007, this is – the contracting entity for you does change to Erimus. What was the reason for the change, Mr. Harrington?

**MR. HARRINGTON:** Yeah, the reason for the change was a couple of things. They – the primary reason was to avoid any potential conflict of interest. Because as that project was starting to, you know, gather steam – move ahead a little bit – I would've been in a position that I might have been required to hire people. And I couldn't possibly hire people if I was part of a company.

**MS. O'BRIEN:** That was earning money from those hires?

**MR. HARRINGTON:** Yes, so I spoke to the – raised it with the legal counsel of Newfoundland and Labrador Hydro, and we agreed that it would be advisable to disconnect any association with Fabcon Canada and create my own company and take it there forward.

**MS. O'BRIEN:** Okay. And at the same time did you divest yourself of your holdings in Fabcon Norway?

**MR. HARRINGTON:** The – I think the holdings had been divested a couple of years before that.

**MS. O'BRIEN:** Okay. And so is it fair to say then in your previous positions that we were looking through, you know, 2000 to 2005 and even earlier when you were being hired through Fabcon on the Hibernia project and such, is it fair to say in those positions you wouldn't have had the same influence over hirings and firings?

**MR. HARRINGTON:** Yeah, I did not have any influence over that.

**MS. O'BRIEN:** Okay. So this was a different position for you, more in terms of –

**MR. HARRINGTON:** Yeah, that's correct. After discussion with the legal counsel.

**MS. O'BRIEN:** Okay. And did any – after you – in 2007 when you switched to Erimus, did any member of your family have any interest in Fabcon?

**MR. HARRINGTON:** No, not at all.

**MS. O'BRIEN:** Okay. Did Fabcon continue to supply people to the Lower Churchill Project?

**MR. HARRINGTON:** I think Fabcon disappeared; they were bought out by someone and I think they're now called Dovre.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So, as a company, I don't think they exist anymore.

**MS. O'BRIEN:** Okay. Any member of your family have any holdings in that?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** And another company that has come up in, certainly, some of the comments, we continuously get feedback from the public and such, but the company, NSB Energy or NSB personnel services, is that a company similar to – doing similar work to that which Fabcon did?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. And did that company or any of its affiliates ever provide personnel to Nalcor or any of Nalcor's subsidiaries?

**MR. HARRINGTON:** Yes, they have.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And they do.



**MS. O'BRIEN:** Okay, and they continue today, do they?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And did you or any member of your immediate family have an ownership interest in NSB or any of its subsidiaries or affiliates?

**MR. HARRINGTON:** None at all.

**MS. O'BRIEN:** Okay. Does any member of your immediate family work for NSB or any of its affiliates or subsidiaries?

**MR. HARRINGTON:** My son is an employee of NSB.

**MS. O'BRIEN:** Okay. And he works as a sort of management role in the office?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. So he's not a consultant that gets hired out through NSB.

**MR. HARRINGTON:** No, no.

**MS. O'BRIEN:** He works in the office there.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** And was that fact disclosed to Nalcor?

**MR. HARRINGTON:** Yeah, that fact was disclosed to Nalcor. I approached Nalcor, in light of the conflict of – potential conflict of interest. Nalcor reviewed it. They concluded – and I think they did it twice – that there was no conflict of interest.

**MS. O'BRIEN:** Do you know why they would have done it twice?

**MR. HARRINGTON:** Because it was asked of – you've probably got more requests than one as well, because they get ATIPP requests and they get questions from the media, and it's been an ongoing thing. So they checked it and they confirmed that I am in complete compliance with the Nalcor code of business conduct and ethics and that there has been – I have no

connection or influence to do with any of the hiring that's carried out on the project.

**MS. O'BRIEN:** Okay. Thank you.

I'm gonna go back and look at now some of your job duties in those early years. So, if we can, please, Madam Clerk, go back to P-01157, this is the Fabcon contract. And go to page 7 of that document.

And this is the first – the statement of work on your first contract, Mr. Harrington. So you can just – you may want to reference that, and if you could just take a look at that there for a moment, it's up on your screen, because I'm gonna go then also to the more recent Erimus, April 2007 contract.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** And if we could go to – that's 01173.

**MR. HARRINGTON:** Tab?

**MS. O'BRIEN:** And I clearly don't have the right page number here because –

**THE COMMISSIONER:** Tab 6.

**MS. O'BRIEN:** Yes, sorry –

**MR. HARRINGTON:** Oh, we're back on that one.

**MS. O'BRIEN:** – Commissioner. It's at tab 6. I just – my note, I can tell my note is wrong. Here's the statement of work, it's at page 10 here. So it's at page 10 of this document at tab 6.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** You can certainly reference these documents, Mr. Harrington, but what I'm really looking for is you to give the Commissioner a description of what your work duties were as a project implementation manager during this period, 2005 through to 2007 and beyond, until your job position changed.

**MR. HARRINGTON:** Okay.

So, if we look at page 7 of Exhibit 01157, I'll – shall I just skim through these and – is that –?

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

**MR. HARRINGTON:** So, "Evaluate the Contracting Options that this Project presents in terms of advantages/disadvantages." So that's to develop a kind of a range of options for the executive to consider. And the executive that I'd been reporting to at that point in time was Mr. Bennett.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** "Conduct an analysis to determine the most appropriate Contracting Options." So you know, there's a variety of contracting options, from an EPC lump-sum-type contract to EPCM-type contracts, looking at the various, you know, elements of a hydro project just to what might be an initial, kind of, viewpoint with regards to how these contracts should be structured.

Item 3 is to: "Develop a Project Execution Plan based on the analysis of the Contracting Options, including an early Contracting Strategy process, which will evolve as the Project matures."

So a project execution plan in any megaproject is a pretty key document. It lays out, you know, at the early stages, the way that you would go about executing a megaproject, be it hydro, be it oil and gas, be it anything. So those things are laid out at pretty high level in the project execution plan, and it's one of the key documents that's part of the project management system.

So any megaproject will have a project management system, which is a collection, a hierarchy, of policies, procedures, work instructions that dictate, really, how things are done, and it's necessary because you need consistency across, you know, large groups of people to make sure that they are all following the same path.

**MS. O'BRIEN:** And is it fair then – in some of the documents we see the project execution plan referred to as the PEP, P-E-P?

**MR. HARRINGTON:** Yes, yes, that's correct.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** "Develop" – kind of draft – "Project Organizations for the most likely options and select key personnel, systems and procedures for" consideration by "the Client."

Start – so that's basically to lay out, well, you know, at this pre-sanction phase, this is how you might wanna be organized. Post-sanction, you may want to be organized differently.

So in the pre-sanction phase, you'd be looking at things such as site investigation plans, so it'll all work, but you would require a contractor be put in place with someone like an SNC-Lavalin or a Hatch or Stantec or whoever. So it – that's the type of role that that's trying to define.

"Start the process to pre qualify potential Project Management Companies for the execution phase of the project" management "development" – so that's really the, you know, the engineering, procurement, construction management or EPC or EP plus CM, all of those variations on the theme that you can do – "as support to an integrated team." So that would be the owner's team with other groups bolted on to support them where they don't necessarily have that expertise.

"Additional work-tasks" – this is number 6 – "related to the Lower Churchill Hydroelectric development as may be advised" or not, so that's a catch-all.

**MS. O'BRIEN:** Okay. So this was the first hydroelectric megaproject that you'd ever worked on, is that right?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. All right.

So this is what you're doing in the early days. Did it change in April 2007 under the scope of work under – when we see the Erimus contract, or is it just sort of more detail on the same themes?

**MR. HARRINGTON:** Well, there's a lot longer list of things –

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** – as you can imagine. I think it does break some of these things out into more, you know, definitive line items, but it's now moving to management of a team.

So previously, if you look at the earlier version, it was – I was a team of one doing this, and then when you get to Exhibit 01173 – page 10 – we now look at a much more comprehensive team that one person could not possibly undertake.

So then we talk about management of a team responsible for the development of the – and the exhaustive list that you see there.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So it's basically a continuation of the evolution of a project management team that you would require to execute this work.

**MS. O'BRIEN:** Okay. Madam Clerk, can you please bring up P-01170? This is going to be tab 2 of the binder before you, Mr. Harrington.

This is an email – we're back in January 2006, and it's – you're writing to Mr. Gil Bennett, who I understand was your – who you were directly reporting to at this time. And at this point you've been offered a full-time position at the Hebron Project in Calgary, but you are raising some concerns that you need to resolve with him.

And you say: "Looking at the Project schedule, I see 3 years before project sanction. My rates are high and I am conscious of the fact this is a Crown Corporation ... so I do not see funding being available to cover my cost on a continuous full time basis, pre sanction or post sanction.

"I am not quite sure of how consultants fit in a project organization, at the moment I have a set of deliverables to provide, associated with the project execution plan and contracting strategy but I am not sure the position or role that I'm expected to fulfill after that, other than provide input and advice on specific topics and issues. I would like to know what the future holds because in all honesty, it could be that I would not enjoy that role or be best suited for it."

And then you raise the issue of tenure.

"Currently the Project is funded until March 31 and ... my contract is with a 24 hr notice period either way. I understand the reasons for that but it does not give me much in the way of comfort or forward planning."

So looking at this email, Mr. Harrington, I believe it's fairly self-explanatory. You're partway in here. You – the future is a bit uncertain for you on the Lower Churchill Project. You have another job possibility on the horizon and so you're reaching out to Gil Bennett with your concerns to get some feedback from him.

What response did you get to this email?

**MR. HARRINGTON:** I can't – I mean, I haven't seen an email response to it, so I'd have to go back on my memory, right? And they – basically he said, look, we know that you've been given this other opportunity, and they talked to me about the vision that Nalcor – well, it wasn't Nalcor at that point in time, but the government and Newfoundland and Labrador Hydro and the talk about, you know, there's – the development of an energy plan that's coming.

And to be honest, I was quite enthused by the fact that here we are, you know, in the Province of Newfoundland and Labrador, starting to think about stepping up and doing some really interesting work. So I think it was the visionary aspect of this that really excited me.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I'd worked on – in Norway previously –

**MS. O'BRIEN:** So I'm just going to stop you there, Mr. Harrington, 'cause – when you're saying they, is that, who –

**MR. HARRINGTON:** Oh, sorry. That's Mr. Bennett and Mr. Martin.

**MS. O'BRIEN:** Okay. I put that question to you when you were interviewed –

**MR. HARRINGTON:** Sure.

**MS. O'BRIEN:** – under affirmation on July 10, 2018.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** Do you recall that?

**MR. HARRINGTON:** Yes. I recall the –

**MS. O'BRIEN:** Okay. I'm just gonna gave you the answer that you –

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** – gave to me on that day and see if you still agree with it today. So I was – we were looking at this document. I said: So you raised those issues with Gil Bennett. And what happened after that?

Mr. Harrington: He talked me into saying this was a good project and we're gonna go ahead with it. I wasn't sure at the time, so both Gil and Ed – or Gilbert and Ed – said to me, you know, this is something that will happen. You know, we will do our very best to get this project going, and we want you on board because you can help us build the team.

So that was your answer to me on that day. Do you still stand by that answer?

**MR. HARRINGTON:** Yeah, I don't think it's inconsistent with what I've just said, 'cause they were, you know, they were saying that we've got a vision here.

**MS. O'BRIEN:** Well, it wasn't vision, I don't think was –

**MR. HARRINGTON:** Well –

**MS. O'BRIEN:** – what was mentioned –

**MR. HARRINGTON:** – probably, yeah –

**MS. O'BRIEN:** – in July.

**MR. HARRINGTON:** – I agree with you. It wasn't –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – stated as a vision.

**MS. O'BRIEN:** Okay, well if you still stand by your July answer –

**MR. HARRINGTON:** Yeah, sure –

**MS. O'BRIEN:** – today –

**MR. HARRINGTON:** – yes, yeah.

**MS. O'BRIEN:** Okay, thank you.

Okay. Now, I understand that your job description eventually changed to project director, and this was probably sometime in late 2011 for – or maybe early 2012, but I believe from the org charts it's late 2011. But I don't think it's, you know, the timing is not particularly important. It was around that period.

Was this – when you became project director – was this a change in duties or just a change in title?

**MR. HARRINGTON:** There was – it was a change in duties, as well –

**MS. O'BRIEN:** Okay. So –

**MR. HARRINGTON:** – and –

**MS. O'BRIEN:** – please describe that for the Commissioner.

**MR. HARRINGTON:** – should I elaborate on that?

**MS. O'BRIEN:** Yes, please do.

**MR. HARRINGTON:** And I think, you know, it's worthwhile, kind of, identifying what Gilbert Bennett did, what Mr. Bennett – his roles and responsibilities were, what my roles and responsibilities were and what Mr. Ron Power's roles and responsibilities were. So if you think of it as three layers, right?

**MS. O'BRIEN:** Yeah.

**MR. HARRINGTON:** So the top layer was Mr. Bennett and Mr. Martin. They were the, basically, the face of the project. So, you know, they interfaced with governments: the Government of Newfoundland and Labrador, the federal government via – through the

Government of Newfoundland and Labrador, the – any regulatory body, any Aboriginal, or Indigenous groups rather, any of their governments. And they made, you know, they were the decision makers, I would say. They made any of the key decisions that we'd go ahead or not with the government because – and the board – because that's what they dealt with.

So, Gilbert dealt with all of the matters related to the leadership team. So he sat on the leadership team. He was chair of the executive committee and I was, you know, invited to the executive committee to provide updates. He interfaced with any of the ongoing, or future, court cases related to the environmental assessment. And he took a leading role in the environmental assessment in the Joint Review Panel; he was the witness for the – for Nalcor in that.

So, yeah, there was a, you know, a band of activities that they performed that I didn't. I fed them with information as they requested it or required it and on a monthly basis we provided, you know, a very comprehensive monthly report to the executive, those two gentlemen, but also the other VPs as well.

So, we then go down to my role and my role was to give guidance and leadership to a team of managers and they would be functional managers, generally. So, it would be the commercial manager, the health and safety manager, the quality manager, the EA manager, I think, was in there, but Gilbert really drove that one because it was so high profile, and also Mr. Ron Power.

So, the way that we were structured as an organization –

**MS. O'BRIEN:** And he was the project manager.

**MR. HARRINGTON:** Project manager, correct.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So, the way that we were structured as an organization was that we were a matrix organization. So, those functional managers had the functional expertise, they would develop the project management system

and relevant procedures that would be applicable across the three basic sub-projects which would be, I'll call them: C1, which is Muskrat Falls, C3 and C4, which is HVDC and transmission, respectively. So, that was, you know, that was how that was structured. So I had those guys reporting to me.

Mr. Ron Power had then the addition of the EPCM contracts, so he was the company representative for Nalcor and with the EPCM contract. He had then the sub-project managers, they may have been called aerial managers or system managers, I can't really remember right now. And, you know, those three managers would have their own teams, specific to the piece of work that they were doing.

So, if you imagine under the Muskrat Falls C1 project, there's a heavy civil bias and dam production. That would be a different set of skillsets that you would require for the transmission line, for example. They have their own unique system matter experts in there or system matter experts, so that's the way that it was structured.

And then you had the functional expertise people, the people like the project controls. They would provide the procedures, and sometimes personnel embedded, to actually ensure that there was a consistency with regards to how cost was handled, how planning was handled, how risk was managed. Similarly, with health and safety, that the health and safety, you know, systems would be consistent across all of those lines of different delineations of the project.

**MS. O'BRIEN:** So if you could just – and that gives us a good overview of how the project was organized, but can you give the Commissioner, please, a little bit more as what your duties were –

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** – as project director.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** So, you know, for what things did you have responsibility? Where – for what things did the buck stop with you and then for

what things would you have required to report up and get the okay of Gil Bennett?

**MR. HARRINGTON:** Right.

So, essentially, I mean, the financial matrix would define the level that I could approve to.

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** So the way that it was structured under the financial control matrix is the – an AFE, be it, you know, for the whole project or for that year when it was – pre-sanction. That AFE for that year would be allocated to the CEO, by the board. So he had full authority to sign for that level of commitment.

Mr. Bennett had a value, I believe, of \$50 million and Mr. Sturge had a similar signing authority of \$50 million and I think if combined they could sign for \$75 million. My authority was \$35 million and I then delegated, I think, down to Ron Power and it then – that was around about 2 million that I delegated to him and then he could delegate it further to the site teams for basically small –

**MS. O'BRIEN:** Smaller amounts.

**MR. HARRINGTON:** – amounts of money. So that's the hierarchy of financial controls, but – so that meant, you know, if I was dealing with an issue that caused, you know, a change or required signing of a requisition above 35 million, I would have to go to Mr. Bennett. And if it was higher than that then it would go to Mr. Martin.

**MS. O'BRIEN:** And you're – when you had signing authority up to the level that you did, the 35 million, that would be – would have to have been already authorized within the most recent AFE, which is – AFE stands for authorized for expenditure.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** So a certain amount of money would be authorized for expenditure based on budgets and whatnot, put forward –

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** And then as long as you were within that budget essentially that had been approved, if the decision cost under \$35 million, you had the authority to go ahead and make the decision yourself. Any more than that you'd have to go up the line, is that fair?

**MR. HARRINGTON:** Yeah, that's correct. And, also, if – you know, if it was – even if I had financial authority, I would discuss these matters with Mr. Bennett because we were – you know, we were pretty close working hand in hand on all matters. So there was always an information flow. And we, you know –

**MS. O'BRIEN:** And what about for decisions that were not – you know, you're talking about financial matters, but of course, there's many decisions that have to be made in the run of a day in a week that don't necessarily have a dollar value attached to them. Who had the – you know, can you just give the Commissioner, please, a little bit on where you saw the limits of your authority for those types of decisions.

**MR. HARRINGTON:** Well, my types of decisions would, you know, generally be, you know, if it was in the project execution plan, if it was in accordance with the basis of design, if it was in accordance with the requisitions that would be approved, then I could act within that. If I stepped outside of any of those requirements, then I would have to gain the approval of Mr. Bennett.

Also, if – you know, logically, you know, we were a highly visible project as well. So if any matters that would impact on, you know, the Aboriginal side of things, or perhaps even issues that might become, you know, concerns to the public, then, you know, we would be – we would discuss that not only with Mr. Bennett, but also with the communications department.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So there was a continuous flow of information backwards and forwards. It wasn't, you know, so compartmentalized to say, you know, within that – you can't step outside that. There was a lot of dialogue going on there.

**MS. O'BRIEN:** Mr. Gil Bennett is expected to say that you and the project team had a great deal of autonomy. Would you agree with that?

**MR. HARRINGTON:** Yes – yeah. From a point of view of – yeah, you know, we – autonomy within the confines of any costs that had been allocated to us.

**MS. O'BRIEN:** And what about for things that do not necessarily have a cost associated with it?

**MR. HARRINGTON:** Could you give me an example, if you have one in mind?

**MS. O'BRIEN:** Decisions that don't have a cost associated with it. So just say – well, we'll look at a few today, but just say a report comes in from a consultant and you're deciding whether or not to put it in the decision support package, for example, I mean that's a decision that doesn't have a cost associated with it.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** You know, like, there's many examples that will come out where, you know, we're talking about decisions that were made and there is no associated price tag. So trying to get a sense for the Commissioner about where you felt was your authority and where you felt you had to go to Gil Bennett. And as we go through specifics I'll let you speak to them then –

**MR. HARRINGTON:** Sure.

**MS. O'BRIEN:** – but I think, you know, just generally speaking, get a sense of where –

**MR. HARRINGTON:** Okay, I understand.

**MS. O'BRIEN:** – you thought that framework was.

**MR. HARRINGTON:** I understand what you're trying to say.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So, for example, the decision support package, the decision support package would be a – you know, a collective thing but, you know, the customer in that case is

the CEO and, you know, he dictates how and what should be included in that decision support package.

If you looked at the decision support package for DG2, for example, it was this high, you know, with binders. And that was just unmanageable, as far as the CEO was concerned, to be able to communicate that to the board, so he asked for a condensed version.

And that carried through basically to the DG3. It was more, you know, specific to the issue that he was dealing with, which was in that case, in DG3 –

**MS. O'BRIEN:** So we are going to come back to the –

**MR. HARRINGTON:** – was the CPW.

**MS. O'BRIEN:** Sorry to interrupt, we're going to come back to the decision support packages. What I'm trying to get right now is at a general sense. Did you have a sort of a litmus test that you applied or, you know, a rule of thumb that you applied as to when you could make the decision yourself and when you should go to Gil Bennet or Ed Martin? That's the question.

**MR. HARRINGTON:** So the – no, I used my judgment in many cases. And, you know, based upon, well, is this going – is this outside of my role description, is this something that, you know, could cause issues, be they, you know, issues of public concern or whatever, then I would generally –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – move those up the line.

**MS. O'BRIEN:** Okay. Thank you.

All right, we're going to just look at the org chart here. Can we bring up P-00999?

And while Madam Clerk is doing that, I'm just going to confirm that you stayed in that project director role for the Lower Churchill Project. I know that under the current CEO, Stan Marshall, there's been more recently a bifurcation of the

project so – which was a separation of, I think, the generation and the transmission.

So your role has changed recently because of that. What's your current role today, your job description, your job title?

**MR. HARRINGTON:** Okay, so I'm project director generation.

**MS. O'BRIEN:** Generation.

Okay, so we're today dealing with the pre-sanction period. So you were project director for the entire project at that point, so that's what we'll be working with.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Page 4, please.

Mr. Harrington, these are the –

**THE COMMISSIONER:** It's at tab 17.

**MR. HARRINGTON:** Okay, thank you.

**MS. O'BRIEN:** Yes, my apologies.

**MR. HARRINGTON:** Thank you.

**MS. O'BRIEN:** Could you make that bigger please, Madam Clerk? Okay so –

**MR. HARRINGTON:** Sorry mic.

**MS. O'BRIEN:** I just want to locate – these are some of the org charts. And I just want to point them out to the Commissioner; they're here in evidence. And they have described a lot of what you've spoken about already. These are the ones that are around about the time of sanction, Mr. Harrington. That's how they've been selected.

So here we have – this is Ed Martin at the top where you see his VPs below. And Gil Bennett is here as the VP of the Lower Churchill Project. And then, right below that is you as the direct report to – as LCP project director. So you were a direct report through Gil Bennet with no other report. Is that right? Like, you didn't have any – you didn't have a – did you have any reporting –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – right to Mr. Martin?

**MR. HARRINGTON:** No, other than there were occasions –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – when Mr. Bennett, if he was occupied in, you know, some other area – or perhaps he was in Calgary, perhaps he was in Ottawa, perhaps he was in Goose Bay – and he would delegate his responsibility to me for certain matters.

So he might say: Okay, Paul, I'm going to be out of the office for the next two to three weeks doing this, you know, court case regarding the EA or I'm going to be doing consultation with various groups in Quebec or wherever, so can you look after things for me, right? So can you sit in on the leadership team meeting and can you carry on with the executive committee in my absence?

So there would be that type of, you know, delegation and discussion. And he might say: Oh, and by the way, you know, this is coming up next week and can you sit in for me on that particular item as well. And in that case, I may have to, you know, report through directly to Mr. Martin.

**MS. O'BRIEN:** Okay but then if – so if Mr. Bennett was present and around, you would report then, habitually, to Mr. Bennett first?

**MR. HARRINGTON:** Generally, yeah.

**MS. O'BRIEN:** Okay.

And then we see then your report here is – this is what we've discussed already I believe, but – so this is Ron Power who is the manager of the project. And I think here we see some of the other – the other managers who – we have a dotted line here on the Maritime Link.

**MR. HARRINGTON:** Yeah.

So the Maritime Link – my responsibilities there were to – well, part of the Joint Development Agreement that the LCP project director had a reporting line – or the – rather, the Maritime Link project manager had a reporting line to



myself. So he would report to me on a weekly basis. He had a dual reporting line to his own VP, of course, but –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – we would discuss things in accordance with the Joint Development Agreement that would require, in some cases, that, you know, it would require LCP approval for certain matters.

**MS. O'BRIEN:** Okay. Can we go to page 9, please, Madam Clerk? I'm not going to – I'm just going to go to a few of the organizational charts. Have to make it a bit smaller, Madam Clerk, there, please.

**MR. HARRINGTON:** I think this is the white space.

**MS. O'BRIEN:** Page 9.

So here – it's a little hard to see, but, of course, here we see you – this is for the – as the project director; we see your administrative assistant; we see Ron Power, and then we see these other business managers that you, I think, have already referred to in some extent –

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** – for, you know, project controls, business services, engineering manager and a few others, I think, probably including –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** There's the health and safety. I don't see the communications here. Was there a communications manager?

**MR. HARRINGTON:** Yeah. But that would be generally reporting through to the communications VP, so it was kind of a different reporting relationship.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** It's quite difficult to get all of these things on the chart.

**MS. O'BRIEN:** Sure. And here we see Mr. Kean, who we've already heard from, the deputy

project manager. He was reporting up to Ron Power.

Can we just go to page 10 there, please, Madam Clerk?

And again, this shows it in some more detail still from the Ron Power level down. So this is the people under his management on the project, and we can see the breakdown there.

**MR. HARRINGTON:** And the dotted lines – you can see, for example, the business services manager – that refers to the matrix-type organization I was talking about before. He doesn't have a direct reporting line through to Mr. Power. He had it to me. But he provides the staff functional expertise across those levels.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** If that's clearer for you, Commissioner.

**MS. O'BRIEN:** So Ron Power is obviously – is project manager, a very important role. Did you hire Ron Power?

**MR. HARRINGTON:** I didn't hire him, but he was hired. I don't exactly know who. But Ron Power was someone that was on our radar screen for a long time. If I may, could I –?

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Sure.

**MR. HARRINGTON:** He has a lot of hydro power – hydro-project experience from Hinds Lake, Paradise River. He built a dam in Africa. He also built a powerhouse in Africa – the Jebba Project, which was about the same volume of concrete that we were dealing with – as a construction manager.

**MS. O'BRIEN:** So he was the project manager for that?

**MR. HARRINGTON:** I believe he was the construction manager for that.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** He also did refurbishments of the – some projects in Lobstick comes to mind, in Labrador. He also did some other projects in this province as well. And he –

**MS. O'BRIEN:** Just to be clear, here, who would you have considered the construction manager on the Lower Churchill Project so we can get the equivalent?

**MR. HARRINGTON:** The construction manager would be – at this point in time, we were expecting the construction management to be supplied by the EPCM contract.

**MS. O'BRIEN:** Okay. And ultimately who became the construction manager?

**MR. HARRINGTON:** His name escapes me right now.

No, I can't remember his name right now.

**MS. O'BRIEN:** So you don't know who the construction manager was on the Lower Churchill Project?

**MR. HARRINGTON:** I do, right? But he left the project and his name escapes me.

Now, we've had a number of construction managers. At this point in time – no, it's just gone out my head.

**MS. O'BRIEN:** Okay, that's fine. You may think of it later in the morning – I just wanted to get – the Commissioner to get an idea of what would be that equivalent for the role that Mr. Power played on the other projects to this one.

**MR. HARRINGTON:** It'll come to me.

**MS. O'BRIEN:** So please continue. So Mr. Power had been on your radar; you knew he had some hydro experience. Had you worked with him previously? Did you know him?

**MR. HARRINGTON:** Yeah, yeah. I knew him. Yeah. Yeah.

He was well-known – he was actually – the benefit that we also saw – I didn't finish all of his, kind of, hydro-project experience. In 1979,

he also did feasibility study for the Lower Churchill Project for SNC.

The benefit he also had is he'd worked in Petro-Canada on some of their oil and gas megaprojects. So you know, he brought, like, a pretty good mix of experience with the hydro experience plus the megaproject experience in one package, if you want to call it that.

**MS. O'BRIEN:** Okay. So you know him from his work with Petro-Canada?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And we do expect Mr. Power will be called to give evidence, likely in Phase 2.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** So he'll be able to review his credentials then.

**MR. HARRINGTON:** He's quite impressive. I mean, he's done a lot of work on this area.

**MS. O'BRIEN:** Okay.

So you knew him previously. Was this – did you advertise for that position or go to a recruitment agency or was this a – you knew he was a –

**MR. HARRINGTON:** I would –

**MS. O'BRIEN:** – good guy, and you –

**MR. HARRINGTON:** I would say that –

**MS. O'BRIEN:** – reached out to him.

**MR. HARRINGTON:** – he was on our radar screen, because there's not that many people around who have that type of experience.

**MS. O'BRIEN:** Okay. So you – it would've been a reach out to him –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – in particular.

**MR. HARRINGTON:** And you know, I seem to remember that, you know, he was a Petro-

Canada staff person. He had, you know, a really good deal there. He – you know, we kind of encouraged him to join this project.

**MS. O'BRIEN:** Okay. All right.

Now, I just wanna talk about who you would get – some names that you would consider to be the – we'll call it the inner team of project management. I do appreciate from speaking with you that, when you look at the project management team, you consider it to be anyone who was doing management on the Lower Churchill Project. But I'd like to kind of distinguish who that inner team would be.

And I understand that the inner team comes down to a few people. You would – obviously, you would be part of the inner team, I take it?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** And Mr. Ron Power would be as well?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Other names that we've –

**MR. HARRINGTON:** Mr. Lance Clarke.

**MS. O'BRIEN:** Yes, okay.

**MR. HARRINGTON:** Mr. Pellerin on the EA side.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Mr. Riffe on the safety side. So a lot of the direct reports that you see there would be, you know, part of that team. But the key people, as you pointed out, I mean, is Lance Clarke – Mr. Clarke – Mr. Kean, Mr. Power. Mr. Barnes was quite – when he was there at – you know, he left later on. But he was quite a key person to us. And then, you know, Scott O'Brien, Darren DeBourke, Kyle Tucker.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So these are the, you know, these are the top of the tree people. You know, the –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I couldn't possibly get all of these people around the table, so –

**MS. O'BRIEN:** Sure. Would these people that you're talking about here – these kind of key people – would they all be consultants to Nalcor, similar to you and Jason, hired through companies?

**MR. HARRINGTON:** Mr. Barnes wasn't. He was a Newfoundland and Labrador Hydro staff person. I'm only looking at the exceptions now, so you're right, on the other side of things, that they would be generally consultants, because they may be required to, like I mentioned, hire people. And so consequently, they couldn't be in their perceived conflict of interest if they were hiring or signing timesheets for people.

**MS. O'BRIEN:** But employees can hire other employees?

**MR. HARRINGTON:** Sure, yeah.

**MS. O'BRIEN:** Yeah.

**MR. HARRINGTON:** But I think it's the consultants that (inaudible).

**MS. O'BRIEN:** Pardon?

**MR. HARRINGTON:** Consultants.

**MS. O'BRIEN:** Consultants can still hire people, can't they? No?

**MR. HARRINGTON:** Yeah, they can, but you know – but if you are hiring someone who's already – who works in the same company as you, that wouldn't be (inaudible) –

**MS. O'BRIEN:** Okay, if you were with Fabcon –

**MR. HARRINGTON:** Sure.

**MS. O'BRIEN:** – or something like that –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – that wouldn't be appropriate, yes.

No, I'm not talking about here, but these are people who would be hired rather than regular employees on payroll, they would be paid through consulting contracts, similar to you are and similar to Jason Kean.

**MR. HARRINGTON:** Correct.

**MS. O'BRIEN:** Okay. All right.

Now, when you were building this inner team, because I know that, you know, you've said that when you came on as project implementation manager you started out as a team of one and we've looked there, that was one of the things that you had to do was get the right people in place.

Can you just tell us, generally speaking, what were you looking for in selecting people for the, you know, the key positions?

**MR. HARRINGTON:** So, I think the first people that we brought onboard were from NLH. So, people with hydro power experience. So, Bob Barnes –

**MS. O'BRIEN:** Mm-hmm.

**MR. HARRINGTON:** – at that time, probably 25 years of experience. Raj Kaushik was another person that we brought on board very early.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And Raj is protection and controls person.

**MS. O'BRIEN:** Okay. I don't want to get into all the details of all the people. I'm just trying to get a sense of what you were looking for.

So I understand what you're saying is first we looked in Newfoundland and Labrador Hydro and we looked for people there who would have skills that we needed. So that would be one, okay. What else were you doing?

**MR. HARRINGTON:** So then we were looking at people who could then blend that hydro experience with megaproject experience. Newfoundland and Labrador Hydro, generally, when they executed projects, they generally brought on an EPC-type contract. So they would

be somewhat hands off. So, you know, we weren't going to be – we couldn't possibly get an EPC contract. So we needed to bring people with a megaproject experience who, you know, had that ability to develop something from a blank piece of paper into a functional organization that could deliver this project.

**MS. O'BRIEN:** Okay. Is it fair to say that Newfoundland and Labrador Hydro, Nalcor really didn't have people and process experience for megaprojects?

**MR. HARRINGTON:** Yes, that's correct.

**MS. O'BRIEN:** Yes, okay.

All right, so you needed people who had some megaproject experience. What other considerations were you giving?

**MR. HARRINGTON:** Yeah, well, I think, you know, Dr. Flyvbjerg mentioned it, you know, earlier. It's no good just having all oil and gas people with megaproject experience and it's no good having only hydro people with no megaproject experience. You've got to put the two together. And he also said you've got to find people who can hit the ground running fairly quickly.

And the other consideration that we had, at that point in time and we still have now, is we have a preference for providing, you know, people of the province with an opportunity for work. And so, you know, the benefits plan hadn't been fleshed out by then but, you know, our CEO was of the mind that we should be looking internally and people and developing their capabilities as well.

So, we looked around the province as to who could help us here; who has the skill sets?

**MS. O'BRIEN:** Okay. And you were looking for people who, in some extent, who you had experience with working with before?

**MR. HARRINGTON:** Absolutely, yeah, 'cause the chemistry of a team like this is very important.

**MS. O'BRIEN:** Okay.

So, just looking at the key team, had you had previously experience – you’ve – we’ve already discussed Ron Power. Lance Clarke, had you previously worked with him before?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Jason Kean?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay. Scott O’Brien?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay. Darren DeBourke?

**MR. HARRINGTON:** No.

**MS. O’BRIEN:** Okay. And Kyle Tucker, I think, was the other name you gave.

**MR. HARRINGTON:** No, ’cause he was NLH.

**MS. O’BRIEN:** Okay. He was NLH. And Bob Barnes, you said was NLH.

**MR. HARRINGTON:** Correct.

**MS. O’BRIEN:** Okay.

And I understand that we’ve looked at your contracts, and that – it is those contracts that are the subject of the application that we’ll get to later on, either today or tomorrow, but I understand that you have – since those contracts were entered – the ones we’ve looked at – these are, sort of, what is sometimes referred to as an evergreen contract. I know they were eventually transferred to Nalcor, but then they’re essentially reviewed annually and renewed annually. Is that right?

**MR. HARRINGTON:** They would be signed off annually by – yeah, Gilbert Bennett.

**MS. O’BRIEN:** Okay, and there would be periodic increases to your day rate in the renewals?

**MR. HARRINGTON:** Not every year, right? Yeah, but, yeah, from time to time.

**MS. O’BRIEN:** Okay.

One question – when I was asking you about – when you were just giving evidence about your relationship to Gil Bennett, or the VP of the Lower Churchill Project, and what you considered to be your areas and what you considered to be areas you had to go to him on, has that changed at all over time, Mr. Harrington, or is that evidence that you gave really consistent throughout your time on the Lower Churchill Project?

**MR. HARRINGTON:** Well, now, you know, now that we’ve bifurcated the two groups, Mr. Bennett has a lot more time to attend to matters of the generation side of things. So we see a lot more of Mr. Bennett, and he’s more active. You know, previously, he was stretched fairly thin across lots of areas, but now that it’s been zeroed in on the generation side of things, we see him a lot more.

**MS. O’BRIEN:** Okay.

So then up until the time of sanction, though, would your evidence be – you know, is that consistent over that period of time from 2005 until, you know, the end of 2012?

**MR. HARRINGTON:** Could you repeat the question, I lost my train there.

**MS. O’BRIEN:** Yeah, no worries.

The question was: The description that you’ve given the Commissioner about what you considered to be in your wheelhouse and what you would consider you’d have to go to Mr. Bennett for, would that have been consistent through the period of your time on the Lower Churchill Project from when you joined in later 2005 up until the time of sanction?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay.

And I do appreciate you’re saying more recently there’s been a change but that is since the bifurcation.

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay.

I'd like to look at a bit of a snapshot in time for some of those early years. And they're at P-01171, please, Madam Clerk, it's at tab 3 of the book before you, Mr. Harrington. This is a slide deck that originated with you, as we can see here, that you were providing it to Derek Owen, who we've already heard testimony from, and Gil Bennett. And you're sending on some slides to – for a meeting that's coming up, will help Derek to find out where we currently sit and lists some priorities.

So, it's just a – it's a good slide deck to probably take us through some of the issues so the Commissioner has a sense of what was going on here in early 2006. I'm not going to go to every slide, I'm just going to highlight some of them.

Page 5, please, Madam Clerk.

And some of these – we can make it a little bit smaller – some of these we have already heard evidence on or the Commissioner has. You can just make that a little bit smaller again. There we go, thanks.

So this is current status contractors: "Following EOI round there are 3 proponents under active consideration in addition to the NLH option; The Premier has stated a strong preference for the NLH option of delivering the Project." And then it goes on who the other leading proponent was: Hydro-Québec, Ontario Hydro, SNC and whatnot.

So we've heard some evidence on this already, so this would have been – you're referring here to the EOI that was – the expressions of interest that was put out by the Government of Newfoundland and Labrador?

**MR. HARRINGTON:** That is correct.

**MS. O'BRIEN:** Okay. And the premier at that time you're referring to here would be Mr. Danny Williams?

**MR. HARRINGTON:** Mr. Williams, yes.

**MS. O'BRIEN:** Okay. And that the strong preference for the NLH option, this is the, what's sometimes known as the go-it-alone option for developing the Lower Churchill Project?

**MR. HARRINGTON:** I believe so, yes.

**MS. O'BRIEN:** Okay. And that's ultimately the option that was selected, right?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

And so that shows us there. And if we go to page 6, here just – we have a little bit on cost and schedule update so this is just prior – I think at this time the Energy Plan is in the works and not yet been published yet. I know a lot of work went into that document but is that consistent with your understanding, Mr. Harrington?

**MR. HARRINGTON:** What was the date of this again?

**MS. O'BRIEN:** This is January 27, 2006.

**MR. HARRINGTON:** I really don't know. I couldn't say for sure.

**MS. O'BRIEN:** Okay, that's fine.

So here you're looking at – there's some project cost estimate and schedule that was – has obviously been provided by SNC, you say "most likely prepared by SNC in contemplation as a lump sum contractor bidder in the future, so could well be padded accordingly.

"The cost/schedule was updated by applying multipliers to line items," so not from scratch, "so any initial padding will be rolled forward and compounded ...." So, at this time, is it fair to say that you were being asked to give some estimates here of cost and – cost estimates, schedule estimates for the development of the Lower Churchill?

**MR. HARRINGTON:** So, I'm not sure. This could have been, you know, their response to the EOI.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** In addition, SNC had done a feasibility study some years before, so I'm looking at this.

**MS. O'BRIEN:** Where it says the cost/schedule was updated, do you recall doing any updates to give them – to give any estimates?

**MR. HARRINGTON:** The project cost estimate and schedule was provided by SNC, so that's what they've provided.

**MS. O'BRIEN:** Mm-hmm

**MR. HARRINGTON:** "The cost/schedule was updated by applying multipliers to line items (i.e. not from scratch so any initial padding will be rolled forward ...." You know, I really can't –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – say for sure.

**MS. O'BRIEN:** All right.

**MR. HARRINGTON:** I won't speculate.

**MS. O'BRIEN:** Okay, page 8 here. Page 8 you're looking ahead at the environment assessment process. So the – an environmental impact study team was established and a schedule was being developed. It does here – it says: EIS approvals will take about three years.

So I understand, Mr. Harrington, from our interviews that this might not be the best estimate here on this slide. We know that in P-00264 – and I don't need to bring it up, but that's one of these papers that was developed by Mr. Kean and you and others –

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** – that we'll talk about in a minute.

On page 4 of that paper it suggests that you initially anticipated 28 months for the environmental assessment work to take place. Am I correct that you – that today you believe the 28-month estimate was – is more accurate of what your views were back then?

**MR. HARRINGTON:** I think so, yes.

**MS. O'BRIEN:** Okay.

And, ultimately, how long did that environment process assessment take?

**MR. HARRINGTON:** About six years.

**MS. O'BRIEN:** Okay.

Page 9 here, we just see that there's still work – there's work going on with – of – with – in negotiations with Indigenous groups. And I think, primarily, at this time, it was the Innu Nation who is primarily being dealt with, but it does talk here about some recent legal rulings that may require consultation with the Metis, or now NunatuKavut –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – and the Inuit, which is now – is the Nunatsiavut – represented by the Nunatsiavut Government.

**MR. HARRINGTON:** Yeah, probably got this information from Gilbert, actually.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Mr. Bennett.

**MS. O'BRIEN:** Yes, thank you.

And page 16, please, Madam Clerk?

Here we see the Project Gateway Process. So this may be the first, or it's certainly one of the first, introductions of the Gateway – the Decision Gate Process that we've found in the Hydro or Nalcor documentation. Is this a process that you were familiar with from your work in the oil and gas sector?

**MR. HARRINGTON:** That's correct, yes.

**MS. O'BRIEN:** Had it been used at Newfoundland and Labrador Hydro previously?

**MR. HARRINGTON:** No, it hadn't.

**MS. O'BRIEN:** Okay. So are you the one who introduced it to Newfoundland and Labrador Hydro?

**MR. HARRINGTON:** Yes, I was.

**MS. O'BRIEN:** Okay.

So is it fair to say that this presentation is one of your – maybe your first, or one of your early introductions of the process to –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – people at Hydro?

**MR. HARRINGTON:** I was starting to get people to understand that there's a – you know, there's a step-by-step process that you should follow in accordance with best practices, and started to get people, you know, on board with that concept. Get alignment – that was the purpose.

**MS. O'BRIEN:** Okay.

And, Commissioner, you've already seen this document, but I'll just reference it here for your convenience. P-00079 is the document that was later developed and sets out the Gateway process in detail. We've already looked at that before.

But I do want to just talk to you, just quickly, Mr. Harrington, about Decision Gate 1.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** So we have found, in the records, a draft charter for an independent project review at Decision Gate. It's only a draft; we haven't found any finalized version of that document. It – we haven't found any other paperwork, really, marking Decision Gate 1.

In the timeline that Mr. Kean presented – and I know you watched his evidence.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** That's been entered as P-00864. In that document, Decision Gate 1 was listed as being in February of 2007. Mr. Kean was questioned on that and he didn't have any document or paper that he could point to evidencing that.

Do you have any further information on Decision Gate 1, when it was, or whether there's a document or event in particular that marked it?

**MR. HARRINGTON:** I've looked, I've searched, I haven't found anything. All I would say at this point in time of being very early in the project, 2006, we didn't have document control systems that were so robust as they are today. So, you know, I just couldn't find it, as simple as that.

**MS. O'BRIEN:** Okay.

Is it fair to assume that if you were not able – if you're the project director and you were not able to turn up a document after looking is it fair to assume that it – that probably doesn't exist?

**MR. HARRINGTON:** It may exist, but it may not be. It may be filed somewhere that's not retractable, or you can't find it because it's, you know, filed wrong.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** It could be but I haven't been successful in finding that, and I've put a lot of effort into it.

**MS. O'BRIEN:** Okay, thank you.

All right, I just want to talk a little bit about some slide decks and papers. As you know, Mr. Kean testified to a number of slide shows that were prepared for delivery to Grant Thornton in May of 2018, so this year. You were one of the consultants who presented those to Grant Thornton. Is that right?

**MR. HARRINGTON:** That's correct, yes.

**MS. O'BRIEN:** Okay.

And I know Mr. Kean said that there was a plan to – those slide decks were updated somewhat because there was a plan to deliver that, the updated slide deck to Mr. Learmonth and I here at the Commission in June of –

**MR. HARRINGTON:** That's –

**MS. O'BRIEN:** – 2018.

**MR. HARRINGTON:** That's correct, too.

**MS. O'BRIEN:** Okay. Did you have any involvement in preparing those slide decks?



**MR. HARRINGTON:** Actually, I was on vacation in the UK prior – the week that they were developed. So when I got there – and I’m not backing away from anything that’s in that, I just didn’t really participate in that, you know, the final versions of that.

**MS. O’BRIEN:** Okay, yeah.

So fair to say that I believe you previously told me that you feel they were primarily developed by Ron Power, Lance Clarke, Scott O’Brien and Pat Hussey?

**MR. HARRINGTON:** Yes, I believe so.

**MS. O’BRIEN:** Okay. And I know you presented them, you’ve reviewed them. Are they accurate to the best of your knowledge, information and belief?

**MR. HARRINGTON:** I would say, yes.

**MS. O’BRIEN:** Okay.

And I’m just going to quickly bring up the disclaimer there on one of them, P-01006, please, Madam Clerk. It’s at tab 52 of your book, Mr. Harrington. And if you could go, please, to –

**MR. HARRINGTON:** Tab? Sorry?

**MS. O’BRIEN:** Tab 52, it’s just page 2 and it’s going to come up on your screen.

**MR. HARRINGTON:** Okay.

**MS. O’BRIEN:** This is just a disclaimer. And I already reviewed this again with Mr. Kean, but I just – I want to just clarify that this is consistent with your understanding here that the expressions and opinions or statements of what occurred that are documented here are the product of the consultant’s recollection. So that would be that group who gave the presentation.

**MR. HARRINGTON:** It’s our collective memory.

**MS. O’BRIEN:** Your collective memory of that group. Okay.

And you do say: “In the event of any discrepancies between this presentation and other documentation, please contact the presenters for clarification.” And I understand – so what’s presented here is not necessarily Nalcor’s perspective, but it is your perspective and that of the other consultants who prepared – is that correct?

**MR. HARRINGTON:** That’s correct –

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** – and, you know, that’s it.

**MS. O’BRIEN:** Okay.

And I’d just like to take the mystery out of it for people, because we have said in the hearing room that you had updated these slides – slide presentations for presentation to Mr. Learmonth and I; that presentation didn’t go ahead.

**MR. HARRINGTON:** Mmm.

**MS. O’BRIEN:** Can you, please, just advise us why it didn’t go ahead?

**MR. HARRINGTON:** Well, as a group we discussed how that would be developed and we spoke to Inquiry counsel and we said: Okay, we’re prepared to do this presentation. And then the feedback was that we’d have to do it under oath, and as a group we felt a little bit awkward to do that under oath because, you know, someone might say something, and, you know, in the Grant Thornton presentation, you know, there was other statements made. So, you know, we weren’t, you know, we weren’t sure that we could do it under oath as a group, to be honest.

**MS. O’BRIEN:** Okay, so that was fine. So just the point is that when we do our pre-interviews we do require affirmations –

**MR. HARRINGTON:** Yeah –

**MS. O’BRIEN:** – or oaths and – yeah.

**MR. HARRINGTON:** – and just, you know –

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** – we just didn't see how it would work in a – you know, individuals – how can that work as a group?

**MS. O'BRIEN:** Okay. And you were obviously interviewed under affirmation with us –

**MR. HARRINGTON:** Yes, yes.

**MS. O'BRIEN:** – and as well as some of those other members. Okay.

Now, Mr. Kean also testified to a number of papers in the timeline, which I just referenced a couple of minutes ago. He said he was the primary author of those, but he advises that he did that drafting at your request. Is that correct?

**MR. HARRINGTON:** That is correct, yes.

**MS. O'BRIEN:** All Right. And we've – some of these are sometimes referred to as the five volumes because they came in five volumes – the paper and the timeline.

Can you, please, let the Commissioner know: Why did you ask Mr. Kean to start preparing those documents?

**MR. HARRINGTON:** Sure, Commissioner.

So in November of 2017, you know, the Inquiry counsel was announced; I started looking at, you know, the mountain of information that would be flowing here and I think I soon came to the conclusion that, you know, there'd be millions and millions and millions of pieces of data and documentation that would be, you know, coming. So I thought there'd be a good way to try and, you know, condense that into the relevant information for, number one, the timeline. I thought the timeline, for my own purposes, was just to remind me of when these events occurred. That led into the pre-sanction document, the sanction document, the post-sanction document and the, kind of, the catch-all governance and third party reviews – I think that's the last one.

So the reason why we did it – or the reason why I asked for it to be done, is because we just needed to do a, kind of, a close-out report three-quarters of the way through the project. Because there was – well, from my – and I'll be honest

on this one, the – I was thinking of retiring in – earlier this year when I was 65. So I was thinking –

**MR. FITZGERALD:** Commissioner, I was just wonder if Mr. Harrington's mic can be moved in. It's getting difficult to hear in the back of the room.

**MR. HARRINGTON:** Okay.

**MR. FITZGERALD:** Sorry, (inaudible).

**MR. HARRINGTON:** Is that – no, that's fine.

So I was, you know, thinking about retiring and I wanted to get something on the record, internally, for briefing of – well, the team; to make sure that if we were losing people – and we have lost people since then – that we could capture that collective memory before it disappeared. Because to try and patch it together again afterwards is a very, very difficult job to do.

So we looked around as to who could do it within the – you know, my immediate reports. And we were, you know, heavily tied up with the ongoing responsibilities of the project, and consequently, you know, we couldn't spare anyone from their day-to-day job to do that. And so I contacted Jason Kean, and Jason – Mr. Kean is probably one of the best people with the collective memory that I could get. And I had to persuade him to do this work. He'd left the project for reasons he's explained before. And, you know, I appealed to him to help us out, to be honest. So he did; he started drafting something in November – very rough. I think he may have got the timeline done by then, but in January he kind of wrapped it up. Over Christmas I don't think he did any work on it.

And in January, McInnis Cooper, Tom Kendell was talking about the need for a timeline, and I mentioned the fact that, you know, the project was putting one together for its own internal purposes, to be frank, and then we said but we're also kind of trying to collect as much information as we can on the other areas as well.

And then I was asked to develop the five volumes and present them to Tom Kendell of McInnes Cooper under cover of privilege and

confidential, because obviously McInnes Cooper were, you know, dealing with the wave of data that's being requested, and I thought it might be helpful for them and, you know, eventually helpful for the Commission –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – to have some kind of record of what we could remember when we could remember it.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So that's why we did it.

**MS. O'BRIEN:** Okay, so I understand.

So it was – when Mr. Kendall became aware, then, that would've been January when a lot of the work was done.

**MR. HARRINGTON:** Yep.

**MS. O'BRIEN:** And then they –

**MR. HARRINGTON:** Delivery date of January 28 –

**MS. O'BRIEN:** January 28, okay.

**MR. HARRINGTON:** – I believe.

**MS. O'BRIEN:** The end of January.

Okay, so if we just bring up P-00264, this is just one of the papers, it's tab 53 of your book, but I don't think you'll need to go to the actual –

**MR. HARRINGTON:** I won't need –

**MS. O'BRIEN:** – document itself, 'cause I just wanna bring up the note on the front page. It does say here, this is the pre-sanction paper, "Briefing Note as requested by Nalcor Legal Counsel McInnes-Cooper."

So just to be clear, that you had actually started Jason doing that work back in November, and he had it substantially completed, his work, in January, and then, after, Mr. Kendall was – you know, obviously people were preparing for this, so he asked that it be provided to him, and that's why we have the note on it.

**MR. HARRINGTON:** He sent me an email to that effect.

**MS. O'BRIEN:** Okay. All right. So I just wanted to clarify the note there.

And did you review and give input into the papers?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** And the timeline?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** And to the best of your knowledge, information and belief, is the information presented in those papers and the timeline accurate?

**MR. HARRINGTON:** To the best of our memory as well.

**MS. O'BRIEN:** Okay.

And – but to the best of you knowledge, information –

**MR. HARRINGTON:** To the best of my knowledge, yes.

**MS. O'BRIEN:** Yes, okay.

**MR. HARRINGTON:** There may be – 'cause I didn't read every word, I mean – but there may be areas that – you know, the providence of that information, you know, if it wasn't supported by a document or an email or something like that, we kind of took it on value that someone remembered that and provided it.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** But we didn't say, well, I can't remember that so take it out.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** All right, but you didn't say no one can remember that, but let's –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – just make it up –

**MR. HARRINGTON:** I'm not –

**MS. O'BRIEN:** – and put it in.

**MR. HARRINGTON:** – backing away from any of this at all, no.

**MS. O'BRIEN:** Okay.

All right, and I just want to cover one point rather quickly, because you've heard Mr. Kean's evidence, and the Gate 2A is, of course, referenced in that timeline, and we know that there was a decision support package done at Gate 2A, that Independent Project Analysis, or IPA, did some work for the project at Gate 2A, and that was a Gull Island-first scenario, is that right, at that time?

**MR. HARRINGTON:** That is correct, yes.

**MS. O'BRIEN:** Okay.

And we're looking at, I believe, like 2008 – June 2008 or thereabouts.

Did you hear Mr. Kean's evidence on that point?

**MR. HARRINGTON:** I did, yes.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** And essentially, what I understand from him is that the 2B part of that work, which was the, sort of, the financing and some other aspects was not completed before the decision was made in 2010 to go with the Muskrat Falls-first scenario. And that's – that explains what Gate 2A was.

Did you agree with Mr. Kean's testimony on that point?

**MR. HARRINGTON:** Yes, I did.

**MS. O'BRIEN:** Okay.

So no – any corrections or clarifications that you would make?

**MR. HARRINGTON:** I don't have any to make.

**MS. O'BRIEN:** Okay. Thank you.

Commissioner, that's a good time for the morning break for me, thank you.

**THE COMMISSIONER:** All right.

So we'll take our break now for 10 minutes and return.

**CLERK:** All rise.

### Recess

**CLERK:** All rise.

Please be seated.

**THE COMMISSIONER:** All right. Ms. O'Brien?

**MS. O'BRIEN:** Thank you.

Madam Clerk, can we bring up P-00901? I apologize. I don't have a tab number here; I may have it on the sheet.

**THE COMMISSIONER:** 00901 is tab 5.

**MS. O'BRIEN:** Thank you.

This is an exhibit we've seen previously here. We reviewed it with Mr. Kean, and it's dated June 10, 2008, and it's a Lower Churchill Project Cost, Schedule & Risk Update to Gatekeeper.

Are you familiar, generally, with this presentation, Mr. Harrington?

**MR. HARRINGTON:** Yes, I am.

**MS. O'BRIEN:** Okay, so I understand this is a presentation that you and Jason, maybe others, made to Ed Martin, is that correct?

**MR. HARRINGTON:** That is correct, yes.

**MS. O'BRIEN:** Okay. Can we go to page 20, please?

Now, of course, in June of 2008, we are still in the Gull Island scenario.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** And we have a recommended capital cost here, and the breakdown is on the sheet, and Mr. Kean went over the breakdown in some detail. I don't need you to do that, but I just want to confirm was this your recommendation as well to Mr. Martin at this time?

**MR. HARRINGTON:** Yes, that would have been a joint thing.

**MS. O'BRIEN:** Okay.

All right, and so the idea here, when you're looking at the capital cost recommendation, that you're actually looking at adding some additional – as I understand it there's a P50 for contingency, for – oops – tactical risk, as well as some further amounts to bring both the strategic risk and the tactical risk to a P75 level, and that is on a mitigated basis, is that right?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. So that was your recommendation then.

Mr. Kean testified that he was providing capital cost information on the various configurations of the Lower Churchill Project that were being assessed, and he was providing those consistently at a P75 level up until August of 2010. And he says at that time he was asked by Investment Evaluation to begin to provide cash flows on a P50 level. And so this was – he signalled this as a change –

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** – in the approach to how Nalcor was dealing with the confidence level of the estimates at that time. Is that consistent with your memory, Mr. Harrington?

**MR. HARRINGTON:** Yeah, I think I agree with that, yeah.

**MS. O'BRIEN:** Okay.

And at the timeline – P-00862, Madam Clerk, page 4, I believe, maybe page 2.

**THE COMMISSIONER:** Tab 50.

**MS. O'BRIEN:** Thank you, Commissioner.

**MR. HARRINGTON:** Okay, it's going to come up on the screen is it?

**MS. O'BRIEN:** It's going to come up on the screen, it is.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** Yeah. Sorry, page 4, please.

So here, this is, again, a note that we reviewed with Mr. Kean, so it's – this is at that time of the presentation we just looked at – June 2008. And he said the – he makes details of the recommendation, here, with the management reserve being P75 with strategic risk reserve. He noted, here: "Tone setting - aggressiveness."

Do you recall having similar thoughts around this time that the – there was an aggressiveness being set, and how did you understand that term?

**MR. HARRINGTON:** Right. So from what I can recollect of the economic analysis that was going on at that time – because that was coming from Investment Evaluation. I seem to remember that Investment Evaluation was looking at, that point in time, how to get the power through Quebec, and they were looking at what would we have to charge at the point of sale and work backwards from that based upon their information.

So my understanding was that the P75 was kind of a stress test of what that value might be. I'm not a hundred per cent sure on all of this, but this is my recollection of – that's the type of – Investment Evaluation we're doing at the time.

Later on –

**MS. O'BRIEN:** Sorry. In 2008 –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – it was your recommendation that the capital cost – please bring back up P-00901, page 20.

So it was your recommendation that the capital cost for the then Gull Island-first project –

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** – include amounts to bring it up to a P75 confidence level, including and considering both strategic and tactical risk, is that right?

**MR. HARRINGTON:** Yes, that's right.

**MS. O'BRIEN:** So that was your recommendation to the Gatekeeper?

**MR. HARRINGTON:** Yup.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** And so then we understand, from Mr. Kean's evidence and now yours, that approximately two years later in August of 2010, there was a request from Investment Evaluation to start providing numbers of a P50 confidence level?

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** Okay, at that time. And I had just brought you to a time where – going back now to 2008 when you gave this recommendation – that in the timeline – Mr. Kean has indicated in his evidence that this slide kicked off a discussion with the Gatekeeper about risk –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – and contingencies and how these things would be developed. And he noted in the timeline the "Tone setting - aggressiveness."

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** So that's what I was asking you about there.

**MR. HARRINGTON:** Okay.

So, I think this responds to the, you know, the Gatekeeper deciding that the strategic risk should be kept separate –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – in accordance with, you know, AACEI and other things.

**MS. O'BRIEN:** Okay, so did you consider that to be aggressive?

**MR. HARRINGTON:** Not personally, no.

**MS. O'BRIEN:** Okay.

What about just setting a P50 contingency? Did you consider that to be aggressive?

**MR. HARRINGTON:** No, well, yes, to a degree, because at that point in time, you know, it was a Class 4 estimate and at Class 4 you've got quite a wide range of estimate accuracies. So, P50, at that point in time, yeah, it might have been aggressive.

**MS. O'BRIEN:** Okay.

And you're saying might have been here now, but I'm just going to bring you back to when we discussed this in our interview in July of this year on that – page 50 of that transcript. And we are talking about this, you know, June 2008 period.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** And, you know, this is you speaking. So, I think it's a means of setting things but, you know, P50 is, you know, a challenge. It can go higher and low but, generally, that's what you're driven to. That was the aggressiveness set by our executive to say, look, you've got to cut costs, you gotta do this better. So, I said, so at P50 would – you would consider that would be aggressive, and aggressive meaning keep it as low as you can. And you said yeah, yeah.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** So you considered that to be aggressive.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

So we know that the decision then changed some time around August 2010 to just to provide all cash flows on the P50 level. At that time, were you providing those cash flows including strategic risk or just tactical risk?

**MR. HARRINGTON:** Tactical risk.

**MS. O'BRIEN:** Okay.

And the decision to do that, to start looking at cash flows just on tactical and at a P50 level, Mr. Kean has testified that that request came from Investment Evaluation.

Do you have any knowledge of why the decision was made to change the confidence level and who made the decision to do that?

**MR. HARRINGTON:** So what time was that again?

**MS. O'BRIEN:** August 2010, according to Mr. Kean.

**MR. HARRINGTON:** 2010, yeah. No, I was made aware of it but I don't – I can't give you any further information on that. I wasn't involved in that.

**MS. O'BRIEN:** You weren't involved in the decision.

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay. All right.

So, is it fair to say that decision would have to be taken by someone who was senior to you?

**MR. HARRINGTON:** Well, let's put it like this, Investment Evaluation we're dealing with multiple, kind of, runs. So they required a certain run at a certain PV – P-value, so they would ask, not me or Jason, they would ask, I think, Mr. Pardy for that information. So he would provide that information to them.

**MS. O'BRIEN:** Okay.

No, the point being, I think, is that if that there's being a change in risk appetites –

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** – so we're going to be looking at not P75 numbers, we're going to be looking at P50 numbers and just for tactical risk. Is that something that you would have had authority to make that kind of a decision?

**MR. HARRINGTON:** No, that's above my pay grade.

**MS. O'BRIEN:** Okay. So by above your pay grade, you mean that that decision would have to be made by someone senior to you?

**MR. HARRINGTON:** Correct.

**MS. O'BRIEN:** Okay.

All right. Can we – we want to talk a bit now about Westney's thoughts on the appropriate confidence level.

Can we please go to P-0955? It's at tab 54 of your book, and this is a letter we've already looked at a number of times with Mr. Kean and Mr. Westney. Can we go to page 3, please, Madam Clerk?

So here Mr. Westney wrote to Mr. Learmonth and I at the end of September and he said that: "As you know from my interview, I did acknowledge that it might well be appropriate to fund a public 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 risk were similar."

I know you've – Mr. Westney has, obviously, since given testimony here at the Commission and I know you have listened or heard, at least, some of his testimony. Did you hear his testimony regarding the discussions that he says Westney people had with you regarding the confidence level or the P-factor?

**MR. HARRINGTON:** He – yeah, I did hear that.

**MS. O'BRIEN:** Okay. So just to summarize it, Mr. Harrington, he's testified that people at Westney advised you – the project director for Muskrat Falls – to use a probability factor of P75 or higher for the management reserve. He testified that Westney's advice to you was that, for the tactical contingency, that P50 was appropriate. He also testified that you were advised to be very conservative and careful in your approach, given that this was a, you know, a Crown corporation, a utility project and what not.

Do you recall getting this type of view from Westney, that a P-factor of at least P75 or higher would be appropriate for the management reserve?

**MR. HARRINGTON:** On the management reserve? I had a lot of discussions with Mr. – the Westney individual, I can't remember his name right now, and I can't recollect –

**MS. O'BRIEN:** Is that Mr. Dodson you think?

**MR. HARRINGTON:** Dodson, yes, correct, thank you.

I can't recollect him ever giving me that type of explicit instruction or recommendation.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Certainly, he wouldn't talk about P90 because Westney stick to P25 and P75. They maintain that anything outside of that is just noise, I think, they called it.

So I struggled with what he said there. I really did. Because, you know, if they really firmly believed that, why didn't they put that in their report? And it's not there. You know, all we got was the range for 300 to 600, and we reported that P-factor right up the line.

**MS. O'BRIEN:** Do you doubt that Mr. – that Westney said that a P50 for tactical was appropriate?

**MR. HARRINGTON:** Well, I think, if I remember correctly their report with regards to

P50, they said that – in their report, it was very clear, it said number one that we had a – what they believed to be a – this is their report on their paper, no involvement from us – was a P – that it was a Class 2 estimate. And they said – and I'll try and get the quote correct here – that the base estimate plus a P50 value on the tactical risk curve would result in the cost that this project could be executed to, and according to plan, excluding strategic risks, or I think they called it out – some other phrase, but that's what they meant.

So that was a pretty explicit statement.

**MS. O'BRIEN:** Okay. So just coming back to – and I'll take you to that line in just a minute – but just coming back to Mr. Westney's testimony was that, you know, he had discussions with Mr. Dodson and he said that Mr. Dodson has advised him that this was communicated to you several times, that it would be at least a P75 or higher would be appropriate for management reserve. And are you saying you do not recall those discussions?

**MR. HARRINGTON:** I don't recall those discussions –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – as that explicit.

**MS. O'BRIEN:** Oh, you don't recall it as being that explicit.

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Do you recall then, generally, that him talking about, like, you'd want to be conservative and careful here, given the type of project this is?

**MR. HARRINGTON:** Yeah, I'm sure that type of conversation would go ahead like that. Because we were talking about risks.

**MS. O'BRIEN:** So you're sure that that type of conversation would have happened?

**MR. HARRINGTON:** Yeah, in general terms. But –

**MS. O'BRIEN:** Okay.



**MR. HARRINGTON:** – this thing about specifics, P70 and possibly P90, that’s outside of my recollection.

**MS. O’BRIEN:** Okay. So you don’t remember any specific P-values being discussed for management reserve, but you do discuss, generally, them recommending a high confidence level.

**MR. HARRINGTON:** Well, yeah, you know, they’re always saying the impetus is – you know, you don’t know – the black swans can appear from everywhere. So consequently, you know, what – all we did, as a project team, was get that analysis done that we relied upon, and then we provided the, you know, the tactical risk and the tactical contingency up the line. So that was given – the 6.2.

We also clearly provided in our document, which is the DG3 cost and schedule report, which is a 357-page document we –

**MS. O’BRIEN:** It’s been entered as P-00130.

**MR. HARRINGTON:** Yeah, we included that very range, you know. We didn’t stipulate you should be at the high end or the low end. That’s the Gatekeeper’s decision.

**MS. O’BRIEN:** Okay.

So as I understand it, you’re not – you don’t recall those discussions specifically around P-factors for Mr. Dodson –

**MR. HARRINGTON:** On –

**MS. O’BRIEN:** – I take it you –

**MR. HARRINGTON:** On strategic risks.

**MS. O’BRIEN:** On strategic risks.

**MR. HARRINGTON:** Yeah.

**MS. O’BRIEN:** But I take it you just don’t have a memory. You’re not saying, categorically, they didn’t happen. You don’t remember it.

**MR. HARRINGTON:** I can’t recollect that –

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** – statement.

**MS. O’BRIEN:** But you do remember generally –

**MR. HARRINGTON:** Right.

**MS. O’BRIEN:** – that there was discussions about having a higher confidence level, and that ultimately you’re saying what you provided to the Gatekeeper in P-00130 was showing them the range of – a range of strategic risks that really highlighted – the graph showed the full –

**MR. HARRINGTON:** Sure. Yeah.

**MS. O’BRIEN:** – but the – what’s highlighted on the graph is a range from P25 confidence to P75 confidence.

**MR. HARRINGTON:** It shows the tails as well, but –

**MS. O’BRIEN:** It shows the tails.

**MR. HARRINGTON:** Yeah, but they – you know, I think that they have a terminology for it, you know, that P25 range to P75.

**MS. O’BRIEN:** Yes, that’s highlighted on – in the documents.

**MR. HARRINGTON:** That’s correct, yeah –

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** – and so that information is provided to the Gatekeeper.

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** So strategic risks and the range of strategic risks of, you know, whatever it was – and they showed a mean value of 497 –

**MS. O’BRIEN:** Yeah, we –

**MR. HARRINGTON:** – million, right?

**MS. O’BRIEN:** – yeah, exactly.

**MR. HARRINGTON:** So that was provided – that was presented to us to – you know, up the line.

**MS. O'BRIEN:** And did you believe that was accurate information that you were providing?

**MR. HARRINGTON:** Absolutely. It came from Westney, you know –

**MS. O'BRIEN:** Okay, but when you provided it to the Gatekeeper, you believed –

**MR. HARRINGTON:** Oh –

**MS. O'BRIEN:** – it was accurate?

**MR. HARRINGTON:** Absolutely, the –

**MS. O'BRIEN:** And you believed it was accurate at the time of sanction?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Absolutely.

**MS. O'BRIEN:** All right.

And did you communicate to the Gatekeeper that Westney had – you know, you'd had discussions with Westney about being conservative about strategic risks – being careful and conservative and having a high level of confidence?

**MR. HARRINGTON:** Yeah, I think it was implicit.

**MS. O'BRIEN:** Implicit –

**MR. HARRINGTON:** I –

**MS. O'BRIEN:** – where?

**MR. HARRINGTON:** – didn't specifically state that to the Gatekeeper, no.

**MS. O'BRIEN:** So you didn't – did you – would you have ever told that to Gil Bennett?

**MR. HARRINGTON:** I don't think so, no.

**MS. O'BRIEN:** Okay. So you're saying that Westney, who was the risk advisor hired for the project –

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** – that your – the advice from Westney had been to be conservative in strategic risk; use a high confidence level.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** And you're saying you did not communicate that to Gil Bennett or Ed Martin?

**MR. HARRINGTON:** I don't think I did that, specifically, no.

**MS. O'BRIEN:** Okay.

That raises an obvious question, Mr. Harrington. Why wouldn't you have handed them on that information from your risk consultant?

**MR. HARRINGTON:** Because we got the report from the risk consultant and that was his report, so we provided the report that he provided. You know, anything, kind of – a side conversation, I don't really think – if it wasn't in the report, it shouldn't be there, right? So, you know –

**MS. O'BRIEN:** Pardon?

**MR. HARRINGTON:** If it wasn't in the report, why wasn't it there? You know, why wouldn't they put that type of statement in the report?

**MS. O'BRIEN:** I think that Mr. Westney did testify to that, and he gave his reason for it; you heard that evidence from him?

**MR. HARRINGTON:** I didn't hear that.

**MS. O'BRIEN:** Okay, so he says that they were not specifically asked to give a recommendation. So that's why it's not in the report. But that – speaking, sort of, project team to project team – that when he was speaking to you, as a project person or when Mr. Dodson was speaking to you, that that recommendation was made –

**MR. HARRINGTON:** Well –

**MS. O'BRIEN:** – verbally, and he said that's why it wasn't in the report.

**MR. HARRINGTON:** I checked the work task order with Westney for that specific report – the QRA for tactical and strategic risk –

**MS. O'BRIEN:** Mm-hmm.

**MR. HARRINGTON:** – and it stipulated that they should provide recommendations, and they didn't. So I presume they didn't want to recommend anything.

**MS. O'BRIEN:** So we'll look at that, but – the task order. But if you gave them – if their contract said they were supposed to provide you with a recommendation –

**MR. HARRINGTON:** And the recommendation was missing – that means they didn't have a recommendation to make.

**MS. O'BRIEN:** Well, it doesn't mean that.

Did you go back and say: Look, we asked for recommendation – you've give us you're report; there's no recommendation here?

**MR. HARRINGTON:** Well, if they didn't provide it then, I mean, that's what we got from them.

**MS. O'BRIEN:** It could've been they just forgot to put it in.

**MR. HARRINGTON:** Well, I don't think, you know, a company such as Westney would just forget stuff.

**MS. O'BRIEN:** Well, do you – don't you think it's reasonable that if you, as a project director, are expecting a recommendation from your risk advisor, and you've paid them – you've paid them very good money for –

**MR. HARRINGTON:** Oh, yes –

**MS. O'BRIEN:** – this work –

**MR. HARRINGTON:** – very good money. Yeah.

**MS. O'BRIEN:** Yeah. And so if you've paid them for that and they give you a deliverable that doesn't have one of the pieces of information that you were looking for, wouldn't it be reasonable for you to go back to them and say: We'd like to have that recommendation, please?

**MR. HARRINGTON:** Well, the way I looked at it at –

**MS. O'BRIEN:** Mm-hmm.

**MR. HARRINGTON:** – the time is that they provided a report, they provided the tactical risk of P50, which was their recommendation. They then just provided us with a range of P25 to P75 for the strategic risk; \$300 million to \$600 million, with a mean of \$497 million.

**MS. O'BRIEN:** Mm-hmm.

**MR. HARRINGTON:** I thought that that was their recommendation – was the \$497 million, not the top-end. Why would they put the mean in and not the top-end?

**MS. O'BRIEN:** But you've acknowledged that Mr. Dodson had discussions with you about black swans and using a high confidence level and being conservative. You acknowledge that?

**MR. HARRINGTON:** Sure.

**MS. O'BRIEN:** Okay. So you knew that those were Mr. Dodson's thoughts: high level of confidence for strategic –

**MR. HARRINGTON:** So he should've put it in the report.

**MS. O'BRIEN:** Well, I take it that's your view. What if someone said to you: Well, you should've communicated that information to your executive.

**MR. HARRINGTON:** That's a valid statement.

**MS. O'BRIEN:** Okay, and your reason for not having – despite the fact you knew that your consultant had given you that recommendation, you didn't hand it on – and just, please, clarify for the Commissioner: What's your reason for not handing it on to the executive?

**MR. HARRINGTON:** Well, you know, the executive – we talked about general things about, you know, strategic risk, and I'll go back to the DG2 and the submission –

**MS. O'BRIEN:** I'm just gonna take you right back to that question, though, 'cause it's a really important question.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** What's your reason – please tell the Commissioner your reason for having gotten that recommendation from your risk advisor, the reason you did not hand on that information to Nalcor's executives.

**MR. HARRINGTON:** Because it was –

**MS. HUTCHINGS:** Excuse me, Commissioner.

**MR. HARRINGTON:** – an informal discussion, rather than a formal report. And that's my response to that.

**MS. O'BRIEN:** Your response is because you got it informally you didn't believe it should be handed on?

**MR. HARRINGTON:** It was in passing, you know –

**THE COMMISSIONER:** Excuse me just for a minute.

**MS. O'BRIEN:** Oh.

**THE COMMISSIONER:** I see Ms. –

**MS. O'BRIEN:** Oh, sorry.

**THE COMMISSIONER:** – Hutchings (inaudible) –

**MS. HUTCHINGS:** I just wanna remind that when the questions are posed to the witness and the witness is trying to respond, that he not be interrupted when he's giving his response, and let –

**THE COMMISSIONER:** I didn't hear an interruption.

**MS. HUTCHINGS:** With all due respect, there was an interruption by Commission counsel when Mr. Harrington was trying to provide the question. She stopped him and then she went and re-asked the question. So it throws the witness off when they're trying to be able to provide the information.

**MS. O'BRIEN:** Sorry –

**THE COMMISSIONER:** Ms. Hutchings, I'm going to suggest that you sit down for a moment now –

**MS. HUTCHINGS:** Yes.

**THE COMMISSIONER:** – because this is – what just happened is, is that Ms. O'Brien asked a question of the witness, the witness started to answer the question – or started to give an answer, but it wasn't an answer to the question that she asked; that she said was an important question. So I think it's fair for her to do that.

And yes, generally speaking, I expect counsel to allow witnesses to answer the questions fully, but if they're not answering the question that's asked – sometimes it may mean that the witness doesn't understand the question. So there's no problem in going back to the witness and saying, you know, could you answer this question.

So Ms. O'Brien, continue on.

**MS. O'BRIEN:** All right.

So we have your answer on that, Mr. Harrington. You said because you'd only receive it informally you didn't believe that you should hand it on.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Okay.

Can we please bring up P-00808? This is the QRA package that was done at DG2 – the Project Risk Analysis package done at DG2. And I'm just going to show you here, Mr. Harrington, you – is that your signature on this document on –

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** – the screen before you?

**MR. HARRINGTON:** Yes, that is. Yes.

**MS. O'BRIEN:** Okay.

**THE COMMISSIONER:** 00808 is tab – just further –

**MS. O'BRIEN:** Eleven. Sorry, Commissioner, tab 11.

So this is – I take it, when you sign off on a document you ensure you've read it first?

**MR. HARRINGTON:** Generally, yes. Yes.

**MS. O'BRIEN:** Generally. Are there times you signed documents –

**MR. HARRINGTON:** Sometimes I have –

**MS. O'BRIEN:** – off on documents?

**MR. HARRINGTON:** Sometimes I have to rely upon Mr. Kean, who put this together, to – you know, I talk to him through it and we'd skip – you know, I'd go through it and signed it off, right?

**MS. O'BRIEN:** Sorry, the question is –

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** When – these are – are revision-control documents, right?

**MR. HARRINGTON:** That's correct, yes.

**MS. O'BRIEN:** And so right on the front page of these documents for Nalcor, there is typically signing boxes and there's people with different levels of authority who are identified as people who have to sign off on the document.

**MR. HARRINGTON:** Yeah. Yeah.

**MS. O'BRIEN:** Okay.

So when we see your signature on a document, are you saying you sometimes would sign off on these documents without having read them?

**MR. HARRINGTON:** I'd read them. I'd ask questions of Mr. Kean as well.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** So you would –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** You would have read this?

**MR. HARRINGTON:** Oh yes.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yeah, I'd go through it.

**MS. O'BRIEN:** Okay.

And you'd ask questions, and I assume that you wouldn't sign off on something that you didn't believe was accurate.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay.

All right, can we please go to page 26?

So if you've been following the testimony, Mr. Harrington, you'll know that this not our first time on this page of this document. And this is showing at Gate 2 as of June of 2011, so this was signed off well after Gate 2 was passed, that the – it said here the economic modelling parameters are listed as: Estimate contingency 15 per cent; strategic risk exposure, 6 per cent; full power date in June of 2017.

The note is there: "It must be emphasized that these parameters were for Decision Gate 2 decision making purposes only, and prior to Project Sanction must be thoroughly reviewed and reassessed for suitability considering the design maturity of the Project as well as Nalcor's risk appetite."

Note: "During the negotiations of the Term Sheet with Emera, Senior Management elected to drop the Strategic Risk Exposure allowance of 6% from the overall capital cost recommendations for both the Muskrat Falls and

Labrador –Island Transmission Link Projects in order to address Emera’s concern regarding its ability to sell the Strategic Risk concept to it’s the Nova Scotia regulator” the UARB.

So, now, this note is self-explanatory in what it’s saying there. What knowledge do you have about this note and the concept that’s at least here that the 6 per cent risk exposure allowance was removed in order to address concerns of Emera’s?

**MR. HARRINGTON:** I wasn’t involved in this particular aspect of the work. And I read this here and I assumed that Mr. Kean assured me that that was his understanding and I believed him.

**MS. O’BRIEN:** Okay.

So you’d read it, you checked with Mr. Kean, he told you – he assured you that it was correct and –

**MR. HARRINGTON:** Yeah.

**MS. O’BRIEN:** – then you signed off?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay.

And I take it you weren’t involved at all in the Emera negotiations, is that right?

**MR. HARRINGTON:** The Emera negotiations, the only part that I was involved in was the discussion of the joint development agreement.

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** So that was with a section. I wasn’t, you know, in the economic financing or any other aspects of it.

**MS. O’BRIEN:** Okay.

And was that negotiations after the term sheet was settled?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay.

So up until the negotiations of the term sheet, which is what this is referring to, you had no involvement with Emera. Is that right?

**MR. HARRINGTON:** No, no.

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** Not to this level, no.

**MS. O’BRIEN:** All right.

And can we go to P-00264, please, tab 53? This is one of the papers that we’ve referred to. If we could go, please, to page – I’ll just note which paper it is on the front here. This is the pre-sanction paper.

Can you go to page 19, please, Madam Clerk?

**MR. HARRINGTON:** Excuse me a second. Can I get a glass of water?

Okay.

**MS. O’BRIEN:** So this is in the papers that you – that were prepared in November and you would have signed off on in January of 2018. This was what was written then: “During the negotiations that led to the Term Sheet with Emera, Nalcor Executive made a conscious decision to drop the ...” – you know, the same thing is written here. I guess I don’t need to read it out –

**MR. HARRINGTON:** Yeah.

**MS. O’BRIEN:** – but it’s there and continues on over to the next page. So is it fair to say that, you know, you believed, at least as of January 2018, that this was an accurate statement?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** And here the – this is noted here on page 20 of the exhibit –

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** – that this step – and it's referring to the note from – that was sent to the – this is CE-52 which was a confidential – had a confidential and a public version before the PUB where it was – what was said there was essentially that because of mitigation measures, "Nalcor executive determined that it was not appropriate to create a positive or negative strategic reserve amount at DG2. These factors were also considered in establishing" the tactical contingency.

That is identified here in the papers as being a significant shift in risk appetite. And we spoke to Mr. Kean about that.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** And he said that it was an increase in risk appetite at this time. He considered it.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Would you agree with that?

**MR. HARRINGTON:** Yes, I would agree with that. This comment was also part of the – or a similar comment was also part of the submission, Nalcor's submission to the PUB in addition to the CE-52.

And so what it talks about here is, I believe, is that the Gatekeeper is looking at strategic risk exposure, he's also looking at strategic opportunities. And I think this specific thing – I remember reading this one – was about two things: There was the benefit of the federal loan guarantee as a strategic opportunity and also the fact that the type of technology used for the HVDC was changed from VSC, which was an emerging technology, to a more traditional LCC type of technology.

So this indicated to us that the Gatekeeper is looking at strategic risks and he's also looking at strategic opportunities and he's seeing that one can offset the other.

**MS. O'BRIEN:** Have you ever worked on a project where there was a strategic reserve that was a negative amount?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** No, it sounded funny to me, too. But here the "Nalcor executive determined it was not appropriate to create a positive or negative strategic reserve amount," but you've never heard of a negative strategic reserve amount.

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** No.

**MR. HARRINGTON:** I don't know whether that was just a, you know, misuse of a word there.

**MS. O'BRIEN:** Okay.

Now, can we please go to P-00097, Gate 2 Project Risk Analysis? This is now the B2 version, so this is even further into 2011, so September 2011. And, again, you've signed this one as well.

**MR. HARRINGTON:** (Inaudible.)

**MS. O'BRIEN:** This was reissued and it does say at the top, Comments: "Revision B2 reflects revised Nalcor executive position on Strategic Risk Exposure at Decision Gate 2."

So are you understanding that that was the reasons – is that an accurate statement of the reasons for the reissuance of this report?

**MR. HARRINGTON:** Yeah, I signed it so I believe so, yes.

**MS. O'BRIEN:** Okay. And here when we talk about the Nalcor executive, who would you understand that to be?

**MR. HARRINGTON:** That would be Mr. Bennett and Mr. Martin.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And I think, you know, they were the – they prepared the document that went through to the PUB.

**MS. O'BRIEN:** Okay. I'm just gonna go to that. So yeah, if we can go to page 26 again. And that was one of the questions I had for you actually.

So here we see the same again but now, of course, the strategic risk exposure is listed at nil and the comments about Emera are gone.

Mr. Kean testified that he was asked to change this document to have it – and reissue it to have it align with the CE-52, which is the – which had been filed with the PUB.

And so you're saying – I was going to ask you if you knew who prepared CE-52. And I understand you just answered it. So that would be Gil Bennett and Mr. Martin, Ed Martin?

**MR. HARRINGTON:** I'm not sure about Mr. Martin, but Mr. Bennett and – perhaps in consultation, but I won't speculate.

**MS. O'BRIEN:** Okay. So you didn't prepare it?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay. And were you aware then, at the time, that you were being asked to sign off on this revised document for the reasons – are you in agreement with Mr. Kean that he was just asked to do it to make sure the documents aligned – this document aligned with CE-52?

**MR. HARRINGTON:** Not only CE-52 but the Nalcor submission to the PUB.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Which is a public document. I mean, it's quite comprehensive.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So, I mean, that statement was there. I mean it's the same statement.

**MS. O'BRIEN:** Okay, all right. Okay.

Can we go to P-01176, please? This will be at tab 12 of your book.

So this is just before that reissuance of the Gate 2 QRA because of the executives change in position. This is dated August 9, 2011. And this – just to kind of give a little bit of context here, it's an email from you and various people on it,

but attached to it is a whole – there's, you know, there is talking about strategic risk exposure assessment and there's a whole various list of different strategic risks that were being evaluated and tracked. And here is, you know, comments that are being made on each of the strategic risks.

So, despite the fact that this is well after the end of 2010 here, it appears that you're – so still, you know, well after sanction, seems that there's still some changes being done to these documents –

**MR. HARRINGTON:** Excuse me.

**MS. O'BRIEN:** – on tracking strategic risk.

**MR. HARRINGTON:** Did you say well after sanction?

**MS. O'BRIEN:** Sorry, well after Gate 2. My apologies.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** Well after Gate 2. So I just want to put that in that context.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** So, it is – so here we're – that's what's going on here and there's some revisions back and forth. This is a strategic – that document we just looked at is actually entitled: Strategic Risk Exposure Assessment PH.

**MR. HARRINGTON:** Hmm.

**MS. O'BRIEN:** Is that you, Mr. Harrington?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. And you're talking here about the DG2 risk report. So you're talking about that document that we just looked at, was reissued in September of this year, right?

**MR. HARRINGTON:** So this was August and the DG2 risk report –

**MS. O'BRIEN:** Was revised and reissued in September.



**MR. HARRINGTON:** Okay. So when was the original ref? Can you ...?

**MS. O'BRIEN:** In June of 2011.

**MR. HARRINGTON:** Okay. So I was looking at the June one here then, right?

**MS. O'BRIEN:** Yes, okay.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So this was my view.

**MS. O'BRIEN:** Okay, yes.

**MR. HARRINGTON:** And I thought that there was still some residual risk from a strategic perspective here.

**MS. O'BRIEN:** Okay, yeah. So you say: "Pls find my comments, I do not wish to sweep all of the strategic risks away, some do still exist and it is only reasonable to acknowledge these, but some of the big cost hits are indeed mitigated so they can be considered either significantly reduced or erased. I have tried to convey that sentiment in the text. Pls review." And, of course, you were sending this to Mr. Bennett and Mr. Kean.

So, it's fair to say that you, you know, despite the fact that Nalcor had put – already put out the position at the PUB that they didn't consider it necessary to have any strategic reserve at Gate 2.

**MR. HARRINGTON:** Was that done before then?

**MS. O'BRIEN:** Well, the –

**MR. HARRINGTON:** CE-52?

**MS. O'BRIEN:** Well, we'll get the date for that, so we'll –

**MR. HARRINGTON:** Okay. I'm not quibbling, I'm just making sure that we have the timeline right.

**MS. O'BRIEN:** Okay.

So, we'll see when that was created, but this was the position that was certainly coming up and it was certainly what – it's quoted in the – you're saying, at the time, at this point, it must have existed in some format if Mr. Kean has testified that he was redoing the DG2 QRA to align with CE-52.

**MR. HARRINGTON:** I couldn't comment on that. I don't – I don't know.

**MS. O'BRIEN:** Okay, but you did say you agreed, you understood that, you agreed with Mr. Kean's testimony that he'd been asked to change this document to align with CE-52?

**MR. HARRINGTON:** Yeah, but I think you were talking about the timing there. I wasn't sure about the timing.

**MS. O'BRIEN:** Okay, all right.

So, would you agree with me though that CE-52 must have been created sometime before September of 2011?

**MR. HARRINGTON:** I don't know, I can't remember.

**MS. O'BRIEN:** How would one align with a – make changes to align with a document that didn't exist?

**MR. HARRINGTON:** Good point. Again, I'm struggling with the dates here.

**MS. O'BRIEN:** Okay.

So, would you agree with me now then, that I pointed that out, that CE-52 must have at least been created sometime prior to September of 2011?

**MR. HARRINGTON:** Based upon your argument you just put forward, yes, I would agree with that.

**MS. O'BRIEN:** Okay, but it's not so much an argument. I was just trying to point out some facts.

**MR. HARRINGTON:** Okay, well –

**MS. O'BRIEN:** And you agree with those facts?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

All right. So what I'm understanding here though, you're saying that, look, despite the fact that we've got some mitigation here – so you'd be talking about, for example, the change in the VSC technology.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And the fact that we're getting, you know, the financial loan guarantee is going to have some benefit.

**MR. HARRINGTON:** Where do I do that?

**MS. O'BRIEN:** I'm just referring – you say there's big cost hits are indeed mitigated. I guess my point is, Mr. Harrington, despite those mitigations –

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** – you believed, at this time, that there was still strategic risks facing the Lower Churchill Project.

**MR. HARRINGTON:** That was what I said in the email. So –

**MS. O'BRIEN:** Yes, and –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** And do you believe it to be true?

**MR. HARRINGTON:** At the time, yes.

**MS. O'BRIEN:** Okay. And at – when this project was sanctioned at Decision Gate 2 in –

**MR. HARRINGTON:** (Inaudible.)

**MS. O'BRIEN:** When this project was past Decision Gate 2 in late 2010 –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – did you believe that there were strategic risks facing the project at that time?

**MR. HARRINGTON:** Yes, I've listed them here.

**MS. O'BRIEN:** Okay, and did you believe they should be funded?

**MR. HARRINGTON:** No, you don't –

**MS. O'BRIEN:** There should be some consideration given for funding those strategic risks.

**MR. HARRINGTON:** Well, that's the decision of the Gatekeeper.

**MS. O'BRIEN:** Okay. But I'm asking your belief, as a director for a project –

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** – that is facing strategic risks. Was it your belief, at that time, that those strategic risks should be funded?

**MR. HARRINGTON:** Not funded. Just identified.

**MS. O'BRIEN:** Okay, identified. And consideration given to how they would be funded if they arose?

**MR. HARRINGTON:** If they weren't offset by strategic opportunities.

**MS. O'BRIEN:** I understand you saying in this email though, some – over 6 months later, that you don't believe that they'd all been mitigated.

**MR. HARRINGTON:** That's correct, yes.

**MS. O'BRIEN:** Okay. So at the time of Decision Gate 2, you believed the Lower Churchill Project still faced strategic risks?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And you believe that consideration should be given to how those strategic risks would be funded if they arose.

**MR. HARRINGTON:** That's the Gatekeeper's decision, yes.

**MS. O'BRIEN:** No, I didn't ask you if that was the Gatekeeper's decision. I asked you if you believed that consideration should be given to how those strategic risks would be funded if they arose at Gate 2.

**MR. HARRINGTON:** Then it's – well, I'm repeating again that it's not my decision to decide that. It's not my area. All I can do is identify what I believe to be the residual strategic risks.

**MS. O'BRIEN:** Right. And you believe they should be acknowledged?

**MR. HARRINGTON:** Well, they were acknowledged by the people that got the report, and the people who received this email to say, you know, I believe, and I've – you know, I've got one opinion and other people have other – may have other opinions. They may have –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – may know more than I do on certain aspects that they say that, you know, the federal loan guarantee is – you know, is now going to be more than 700 million.

**MS. O'BRIEN:** Okay. I understand that you're saying, look, whether or not there was a strategic reserve created at Gate 2 wasn't my responsibility, right? That's what you're saying to the Commissioner.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** Right. It wasn't my – it wasn't Paul Harrington's responsibility to ensure that there was an appropriate strategic reserve in place.

**MR. HARRINGTON:** All I would do is identify, right, the information that's being provided and the – at that time, there was a QRA still out there, right, which indicated, I think it was the mitigated risk of \$413 million.

**MS. O'BRIEN:** Okay. So –

**MR. HARRINGTON:** So that was still out there. I mean that QRA is out there, that's the thing they should identify. I'm identifying here that I'm trying to update some of these risks that were identified in summer of 2010 and the year-end 2010. That was my view of the year-end of 2010 that some of these things existed.

**MS. O'BRIEN:** Okay.

So it wasn't your responsibility to set a strategic reserve.

**MR. HARRINGTON:** Correct.

**MS. O'BRIEN:** Right?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** And it wasn't Mr. Kean's responsibility to set a strategic reserve.

**MR. HARRINGTON:** Correct.

**MS. O'BRIEN:** Okay.

But Mr. Gil Bennett, he would be one of the people who would be responsible for that decision, would he not?

**MR. HARRINGTON:** That's – he would be consulted in that decision I believe.

**MS. O'BRIEN:** Okay.

And here on August 2011 – so, you know, over a half a year past Decision Gate 2, right?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** You're communicating to Mr. Bennett: Look, I don't want to – I don't wish to sweep all of these strategic risks away, some do exist and it is only reasonable to acknowledge these. That's your recommendation to him, right?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Okay?

So is it fair to say that at Decision Gate 2 you believed that consideration should be given to

funding strategic risks that still existed for the Lower Churchill Project?

**MR. HARRINGTON:** So Decision Gate 2 was 2010, right?

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** Okay. So at DG2 we identified the range of strategic risks.

**MS. O'BRIEN:** Okay, Mr. Harrington, I'm going to ask the question again, and I think it's a – really is a very simple yes-or-no question.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** So please listen carefully to me, okay?

**MR. HARRINGTON:** I will do.

**MS. O'BRIEN:** At Decision Gate 2 did you believe that the Lower Churchill Project still faced strategic risks, and consideration should be given to funding those risks should they occur?

**MR. HARRINGTON:** Did I believe that the LCP had strategic risks at DG2? The answer is, yes. That's the first part of the question.

**MS. O'BRIEN:** That's the first part of the question.

**MR. HARRINGTON:** The second part of the question –

**MS. O'BRIEN:** Did you believe –

**MR. HARRINGTON:** Did I believe that funding should be required.

**MS. O'BRIEN:** – that consideration should be given to funding; setting aside a reserve or funds to fund those risks should they occur.

**MR. HARRINGTON:** And the answer to that is the consideration should be the Gatekeepers.

**MS. O'BRIEN:** I understand who. You've already said to the Commissioner who was responsible for the decision, you've been very clear it wasn't you, but the question to you is did you believe that that should be done?

**MR. HARRINGTON:** Consideration must be done, yes.

**MS. O'BRIEN:** And consideration for funding, it must have been – should have been done.

**MR. HARRINGTON:** No, you don't necessarily consider funding if you can offset it with strategic opportunities.

**MS. O'BRIEN:** Aren't you saying in this email that you can't offset them completely.

**MR. HARRINGTON:** No – yes, so it might be a lesser amount. I – look, I don't know all of the strategic opportunities out there, all I can identify at DG2 is these are the – these are the – this is the results of the QRA for strategic risks, right?

**MS. O'BRIEN:** Mm-hmm.

**MR. HARRINGTON:** You asked me did I believe that the LCP had the strategic risks at DG2. I answered, yes.

**MS. O'BRIEN:** And you didn't believe they were fully mitigated by other opportunities.

**MR. HARRINGTON:** I didn't know all the other opportunities so how could I make that – I don't know. It's not my call. I don't know all of the strategic opportunities that exist in the Gatekeeper's mind. I can't possibly go there.

**MS. O'BRIEN:** Gate 2 you thought they existed. To your knowledge, they hadn't been mitigated.

**MR. HARRINGTON:** In 2011 some of them were still there, right?

**MS. O'BRIEN:** Okay, right.

**MR. HARRINGTON:** There may be some of them moved into tactical risk.

**MS. O'BRIEN:** Okay.

At 2011 –

**MR. HARRINGTON:** And we did that. We went from 5 billion at DG2 to 6.2 billion.

Sorry to interrupt.

**MS. O'BRIEN:** Okay, I'm going to take you to your transcript, Mr. Harrington, page 91-92.

Page –

**MR. HARRINGTON:** I don't have that. Do I have that?

**MS. O'BRIEN:** Okay, I'll read it out to you.

**MR. HARRINGTON:** Is there a context I should be aware of or ...?

**MS. O'BRIEN:** No, we were talking about this very email.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** So that's the context.

You said – I said to you: We're back on the record. So what I was saying was I understood at DG2 that the strategic risk was evaluated at zero. And I think you were disagreeing with me. You said: I didn't. I said: Oh, I mean – then you said: I mean I didn't set them at zero. And I said: No, no, but the Nalcor executive. And you said: Okay. So what does that say – and then we go on again.

And then I asked you if you agreed with that decision and you said: I don't – they don't ask me. And I'm skipping ahead now to page 92 and we look at that email, the very email that's up on your screen there. And you said: You know, to a lesser degree in some areas we carry on mitigating them. Whether you can take them to zero, a bit of a stretch but it – perhaps it can be cancelled out by something else that I don't know about.

**MR. HARRINGTON:** And that's exactly what I've just said.

**MS. O'BRIEN:** Okay.

So at Gate 2, you believe strategic risk existed, yes?

**MR. HARRINGTON:** I've already answered that.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** My answer's the same.

**MS. O'BRIEN:** I'm leading you up to a question I'm having trouble getting you to answer. So you believe they existed, then you – to your knowledge, there was nothing out there that fully mitigated them, to your knowledge.

**MR. HARRINGTON:** Yeah, in my knowledge of the actual things that we're talking about here, right? So –

**MS. O'BRIEN:** You didn't know about anything that fully mitigated them?

**MR. HARRINGTON:** No (inaudible).

**MS. O'BRIEN:** No, and you knew about VH – VSH – VSC technology changes?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** And you knew about that.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** You knew about the federal loan guarantee?

**MR. HARRINGTON:** I knew it but I didn't know the impact of it.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I mean I don't do those things.

**MS. O'BRIEN:** Okay, but you knew about the impact of the VSC. And your statement here to Gil Bennett was that you don't want to – you do not wish to sweep them all away, they still exist and it's reasonable to acknowledge them.

**MR. HARRINGTON:** Yeah. That's what the words say, yeah.

**MS. O'BRIEN:** Okay and this is long after Gate 2 has happened.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

And what I understand that your – the question you don't want to answer is whether you, in your belief, it was reasonable at Gate 2 to have given – for the executive, Nalcor Executive and the board and the shareholder and everybody else who was responsible for that, to have given some consideration to funding those strategic risks at Gate 2.

**MR. HARRINGTON:** Well, I – Ms. O'Brien, I did think I did answer that question.

**MS. O'BRIEN:** Well, did you answer, yes?

**MR. HARRINGTON:** No, it's not a yes-or-no question. How can I, right, say that they should've done this and they should've done that? That's their decision. That's not my decision, Ms. O'Brien.

**MS. O'BRIEN:** I – we've been through that. The question is: Did you believe it should have been done?

**MR. HARRINGTON:** That's a personal thing you're asking me there.

**MS. O'BRIEN:** Well, I've asked it a few times.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** It is a yes-or-no question and you're refusing to answer it. So I'm going to ask it – give you one last opportunity and that can be your answer to the Commissioner. He's listened to this entire back and forth between the two of us. So do you want to answer the question or not?

**MR. HARRINGTON:** Please ask – please put the question to me again so I fully get it.

**MS. O'BRIEN:** At Gate 2, did you believe that the people who were responsible for considering strategic reserves should have given consideration to how strategic risks that were still facing the Lower Churchill Project should be funded? Should they have given that consideration, funding strategic risk at Gate 2, yes or no?

**MR. HARRINGTON:** Yes, they should have gave consideration, considering the strategic opportunities.

**MS. O'BRIEN:** Thank you.

Okay. Let's go now to – now, at Decision Gate 2, you were working with a P1 schedule, is that correct – based on the evidence we've heard from Westney and the QRA that was done?

**MR. HARRINGTON:** At what?

**MS. O'BRIEN:** DG2.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** You were working with a P1 schedule?

**MR. HARRINGTON:** No, we hadn't done the QRA at that point in time. So –

**MS. O'BRIEN:** At Gate 2?

**MR. HARRINGTON:** – we – at Gate 2 we were working with a schedule that was developed – Gate 2, right? So now it's 2010 – no, I don't believe we had any kind of schedule that was suitable for that type of assessment –

**MS. O'BRIEN:** Can we bring up –

**MR. HARRINGTON:** – 'cause that's 5 per cent of engineering at DG2.

**MS. O'BRIEN:** Okay, so you're saying that the strategic risk assessment that Westney did didn't include any time risk?

**MR. HARRINGTON:** I think it did.

**MS. O'BRIEN:** Okay.

Can we bring up P-01152, please?

**MR. HARRINGTON:** 01152. Which tab –

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** – is that?

**THE COMMISSIONER:** It's not on the – it's not in your book.

**MR. HARRINGTON:** Okay.

**THE COMMISSIONER:** So have to look at it on the screen.

**MR. HARRINGTON:** All right.

**MS. O'BRIEN:** Okay, so this is an email here –

**MR. HARRINGTON:** It's 2011.

**MS. O'BRIEN:** Yes, 2011, and it's – but attached is a native – for – to Gilbert – you're copied, from Jason Kean: "Gilbert,

"Attached is the native PowerPoint file as received from Westney which addresses your requests."

And this is the Westney final report as of –

**MR. HARRINGTON:** (Inaudible) –

**MS. O'BRIEN:** – July 2010.

**MR. HARRINGTON:** All right.

**MS. O'BRIEN:** Do you see that there?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Can we please go to page 16?

Okay, so here it is. So this is at Gate 2, and I asked you whether at Gate 2 you were working with a P1 schedule.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

So do you see what's there on the – on this slide, on the top-left-hand corner?

**MR. HARRINGTON:** Yes, it is.

**MS. O'BRIEN:** Can you please –

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** – read that out?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Please read it out.

**MR. HARRINGTON:** P1 – 16th of May, '17.

**MS. O'BRIEN:** Okay.

So at Gate 2, you were working with a P1 schedule. Is that right?

**MR. HARRINGTON:** We were working with a schedule that had a P1 probability.

**MS. O'BRIEN:** Okay. Yes.

And there would have been risks associated – time risks associated with using such an aggressive schedule, right?

**MR. HARRINGTON:** I think you'll – if you pan down, you'll see them. Keep going. Keep going. There you go.

**MS. O'BRIEN:** I don't know what it is you're – we're looking for.

**MR. HARRINGTON:** Well, normally they'd explain things here.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And then they'd put a value to them.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So we're talking now, at DG2, when we had 5 per cent of the engineering done. Right?

**MS. O'BRIEN:** Yeah. So my question is, would you have made it clear to Gil Bennett that the assessment that had been done at the DG2 QRA was revealing that you were working with a P1 schedule?

**MR. HARRINGTON:** This would be part of the DG2 cost and schedule risk analysis. So it would be part of that.

**MS. O'BRIEN:** Did you communicate to Gil Bennett?

**MR. HARRINGTON:** Yes, by – via this document.

**MS. O'BRIEN:** Okay. So just via this document. You didn't –

**MR. HARRINGTON:** Sure, yeah.

**MS. O'BRIEN:** Okay. All right. And do you know whether the board of directors was aware that at Gate 2 the schedule that was being worked with was a P1 chance of –

**MR. HARRINGTON:** I wouldn't know.

**MS. O'BRIEN:** Okay. So I take it – you're saying you knew it from this QRA work done by Westney?

**MR. HARRINGTON:** Well, I think everyone knew it who got this report.

**MS. O'BRIEN:** Okay. And who did you give this report to?

**MR. HARRINGTON:** I didn't give the report. I mean, it goes into Aconex, and people can call it off.

**MS. O'BRIEN:** Okay. So Gil Bennett can go in and look for it.

**MR. HARRINGTON:** Do you have this – the DG2 – I don't know who was on the distribution.

**MS. O'BRIEN:** Okay. So we can find that.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** All right. So you're saying though that you would have – we can look at who got this, but you didn't directly communicate that to anyone?

**MR. HARRINGTON:** Yeah, no we would have gone through this with Gilbert and possibly Ed.

**MS. O'BRIEN:** Okay. And when you were going, did you ever go to the board of directors meetings to give them updates on the project?

**MR. HARRINGTON:** Very rarely.

**MS. O'BRIEN:** Okay. Do you ever recall letting the board of directors know that that was the probability of the schedule?

**MR. HARRINGTON:** No, that wasn't my place, and I didn't.

**MS. O'BRIEN:** Okay. And did you ever speak to anyone in government about it, any shareholder representative?

**MR. HARRINGTON:** No. I don't speak to government.

**MS. O'BRIEN:** Okay. What about someone like Charles Bown?

**MR. HARRINGTON:** Not at that point in time, no. I don't think I knew – I don't think I interfaced with Charles very much at that time.

**MS. O'BRIEN:** Okay. So you know that you – so you're saying you didn't communicate to anyone at government that DG2 –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – was a P1 schedule?

**MR. HARRINGTON:** No. It wouldn't be what I would do.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** As I mentioned before, that type of interface was between Gilbert Bennett with the ADM – or the deputy minister meetings – and Ed Martin with Cabinet and premier and, you know, all of the ministers.

**MS. O'BRIEN:** Okay. Would you have communicated it to Derrick Sturge?

**MR. HARRINGTON:** I – no, not necessarily.

**MS. O'BRIEN:** Okay.

Now, we've talked a little bit about decision support packages. Just generally speaking, can you tell the Commissioner what's the purpose of a decision support package?



**MR. HARRINGTON:** It's just a way of capturing information relevant at the time that the decision was made.

**MS. O'BRIEN:** And is that something that you would have introduced to Nalcor as part of the Decision Gate process?

**MR. HARRINGTON:** Not only the Decision Gate process, but also the key decisions. We put decision support packages together – they can be very simple, just a simple deck sometimes.

**MS. O'BRIEN:** Okay. Is that something you would have introduced to Nalcor?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And so you had used decision support packages before, had you, in your previous work in the oil and gas industry?

**MR. HARRINGTON:** I had, yes.

**MS. O'BRIEN:** Okay.

And what was your responsibility – I think you addressed it a little bit earlier, but I'm trying to get a sense of – we know that at Gate 2 there was two packages created: one for the board and one for the Gatekeeper. And the one for the Gatekeeper was much longer, and the one for the board was referred to as a summary package.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** And we know that at Gate 3 there was just one package that went to the Gatekeeper and the board, presumably.

**MR. HARRINGTON:** Yeah, that was the CPW-type comparison between the two options.

**MS. O'BRIEN:** Okay.

And so this was to give information to the Gatekeeper and the board, who were ultimately gonna have to make a decision on whether the project would pass the Gate –

**MR. HARRINGTON:** (Inaudible.)

**MS. O'BRIEN:** – to give them the support that they would need to make that decision. Is that fair to say?

**MR. HARRINGTON:** That's fair to say, yes.

**MS. O'BRIEN:** Okay.

So who was responsible – ultimately responsible – to ensure that those packages, you know, were complete and they had the information that was required to support the decisions?

**MR. HARRINGTON:** I don't think there was any one person. It was a collaborative effort by Investment Evaluation, Paul Humphries, load forecasting people, providing input from the project team. We provided the list of – of status of deliverables in kind of a traffic-light-type approach – you know, green means it's good; yellow means it's almost good, and red means it's outstanding – not outstanding; good; outstanding; not done.

**MS. O'BRIEN:** Okay.

So we've seen – in so many of Nalcor's documents are revision-controlled documents, and it's really detailed, like, who gets to sign them off. The decision support packages don't have a similar sign off.

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** So are you saying there was nobody who had the responsibility of ensuring, you know, the buck didn't stop with anybody to ensure those packages were complete?

**MR. HARRINGTON:** Well, you know, ultimately the customer was the Gatekeeper. So Mr. Martin would be satisfied with the document that he was presented with.

**MS. O'BRIEN:** Okay, so Ed Martin would have to be satisfied with the document. And I take it he would have to be satisfied that it was complete before it went to the board of directors.

**MR. HARRINGTON:** Correct.

**MS. O'BRIEN:** Okay.

And do you know why at Decision Gate 2 there was two different packages: one for the board and one for the Gatekeeper?

**MR. HARRINGTON:** I – and I’ve mentioned this before so I’ll mention it again: Just the sheer volume. At DG2, we were looking at binders double, you know, almost that size, three of them, and it was just impossible for the board to actually go through all of that.

So in the DG3 version, rather than include all of these things, there was a – kind of a traffic-light approach to say this deliverable is done, tick the box.

**MS. O’BRIEN:** Okay. So at Decision Gate 2, I think your answer is because it was just such a volume of information, that’s why you did a –

**MR. HARRINGTON:** Once the Gatekeeper saw that he said this is just too much to present to the board.

**MS. O’BRIEN:** So let’s –

**MR. HARRINGTON:** And I –

**MS. O’BRIEN:** – do a summary package report?

**MR. HARRINGTON:** – fully agreed with him, it was just a lot of stuff, right?

**MS. O’BRIEN:** Okay, but at Decision Gate 3 –

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** – they got the same package. So why was that?

**MR. HARRINGTON:** Because we moved to the simplified version.

**MS. O’BRIEN:** Okay.

So it was appropriate. Okay.

**MR. HARRINGTON:** Yeah.

**MS. O’BRIEN:** All right, can we go to P-00093? This is the Decision Gate package for the board at Gate 2.

**THE COMMISSIONER:** Tab 10.

**MS. O’BRIEN:** Thank you, Commissioner.

**MR. HARRINGTON:** Tab 10.

Thank you, Commissioner.

**MS. O’BRIEN:** So I’ll just – this is dated here – see this, it –

**MR. HARRINGTON:** Okay.

**MS. O’BRIEN:** – says: Summary Recommendation to Nalcor’s Board of Directors is on the front of this one. Can we go to page 22, please?

So here’s a note, we’ve looked at it before. It does say: “A contingent equity commitment of \$300-600M from the Province is also considered prudent and necessary. This would be in addition to the \$2.5 billion in base equity from NL as noted in Table 1.”

Mr. Harrington, why was a commitment from the province of 300 to 600 million on top of the – what was the \$5-billion estimate considered necessary at Gate 2?

**MR. HARRINGTON:** That was the strategic risk quantification.

**MS. O’BRIEN:** Okay.

So that was – you’re talking – this was the strategic reserve –

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** – requirement?

**MR. HARRINGTON:** Management reserve, yeah.

**MS. O’BRIEN:** Okay.

So that was considered necessary at Gate 2?

**MR. HARRINGTON:** That’s right.

**MS. O’BRIEN:** Okay.

How does that – can that be reconciled with the statement in CE-52 that says that they're – it was determined that neither a positive or negative reserve was necessary?

**MR. HARRINGTON:** I don't know why.

**MS. O'BRIEN:** You can't reconcile?

**MR. HARRINGTON:** I can't. No.

**MS. O'BRIEN:** Okay.

And to your knowledge, is this statement here that went to the board an accurate statement?

**MR. HARRINGTON:** Well, that was the – that was what the strategic risk identified. Going back to the CE-52, the introduction of strategic opportunity came in. So I think they were just giving a heads-up that notwithstanding the things that they may have dealt with under the strategic opportunities, there may still be some residual black swan-type event that might happen.

And I'm –

**MS. O'BRIEN:** The statement –

**MR. HARRINGTON:** I'm speculating so I shouldn't –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – do that really.

**MS. O'BRIEN:** So to –

**MR. HARRINGTON:** I don't know.

**MS. O'BRIEN:** Okay.

So to your knowledge, was this statement here in the decision support package that was given to the board, was that an accurate statement?

**MR. HARRINGTON:** Well, I – it's there and it reflects the strategic risks.

**MS. O'BRIEN:** And was it accurate, to your knowledge, at Gate 2?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Yes, thank you, all right.

Now, Mr. Kean actually testified that he considered that this might be in addition to the 6 per cent that had been identified in the QRA. He said that he had provided Mark Bradbury with a number of 600 million as the number he considered necessary in addition to the 6 per cent for strategic risk in order to give the overall estimate a P75 confidence level – that was his testimony. Were you aware of that information prior to Mr. Kean's testimony?

**MR. HARRINGTON:** No, no.

**MS. O'BRIEN:** Okay.

Do you have any knowledge as to whether the assessment of the 6 per cent or the additional – or potentially additional 300 to 600 million strategic reserve number here was communicated to government?

**MR. HARRINGTON:** I don't know.

**MS. O'BRIEN:** Okay, but you do know it was – this, at least, this information that we're looking at on the screen here, was communicated to the board of directors?

**MR. HARRINGTON:** It's there, yes, so ...

**MS. O'BRIEN:** Okay.

Okay, I want to look at some of the changes to the estimate between Gate 2 and Gate 3. So we know that the CPW calculation at Gate 2 showed a preference for the Interconnected Island of \$2.2 billion, okay?

**MR. HARRINGTON:** 2.2 at when?

**MS. O'BRIEN:** Gate 2.

**MR. HARRINGTON:** Oh, Gate 2.

**MS. O'BRIEN:** But by Gate 3, the preference for the Interconnected Option had increased to 2.4 billion.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Okay?

But, yet, the CPW value for both options had actually increased during that period. So the costs of both had increased, but the cost of the Isolated Island had increased more. Is that consistent? The gap between the two options increased?

**MR. HARRINGTON:** I believe so.

**MS. O'BRIEN:** Okay, well, I want to make sure we're clear on that, though, right? So, at Gate 2, the gap between the two options was 2.2 billion.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Okay? Between Gate 2 and Gate 3 the CPW for the Isolated Island went up.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** And the CPW for the Interconnected Island went up.

**MR. HARRINGTON:** But I'm – so –

**MS. O'BRIEN:** Between Gate 2 and Gate 3 did the –

**MR. HARRINGTON:** So the CP–

**MS. O'BRIEN:** – CPW value for the Interconnected Island go up? Did it increase?

**MR. HARRINGTON:** I'm just trying to follow you here a little bit.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So let me see if I get this right. So the CPW difference, right, that's what we're talking about here. The CPW difference between the Isolated Island and the Interconnected Island at DG2 was \$2.2 billion.

**MS. O'BRIEN:** Yes, do you agree with that?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So the CPW difference between those two cases at DG3 was then \$2.4 billion.

**MS. O'BRIEN:** That's right.

**MR. HARRINGTON:** So that –

**MS. O'BRIEN:** Do you agree with that?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So and –

**MS. O'BRIEN:** Yeah, no, we're following along.

**MR. HARRINGTON:** Good.

**MS. O'BRIEN:** So – but the cost of the – the CPW value for the Interconnected Island went up between Gate 2 and Gate 3. Do you agree with me?

**MR. HARRINGTON:** Right, because it went from 5 billion to 6.2 billion.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Amongst other things.

**MS. O'BRIEN:** Yeah.

And the CPW for the Isolated Island also went up between Gate 2 and Gate 3. Do you agree with me?

**MR. HARRINGTON:** I don't have the numbers to me, but I won't dispute it, right?

**MS. O'BRIEN:** Okay, you're an engineer, right?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** I'm an engineer, so let's look at this. If the gap between the two of them got bigger at Gate 3 and the cost of the Interconnected Island went up, the CPW value –

**MR. HARRINGTON:** But it could be oil. It could've been oil that went up.

**MS. O'BRIEN:** No, but the CPW value captures oil, the cost of oil, does it not?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** But – so you're looking at two cases, right? So you're looking at the Isolated Island and Interconnected Island. So I'm just trying to follow you. I'm not trying to quibble here; I'm making sure I've got it right. So the –

**MS. O'BRIEN:** I'm not trying to trick you. I'm just trying to go over some very, very basic math.

**MR. HARRINGTON:** Well, carry on then. Carry on.

**MS. O'BRIEN:** Okay. So you've agreed with me the gap has increased between the two Gates.

**MR. HARRINGTON:** Yeah, there's no doubt.

**MS. O'BRIEN:** Between the two. Okay?

**MR. HARRINGTON:** 0.2 million.

**MS. O'BRIEN:** And you agreed with me that the CPW value for the Interconnected Island went up between the two Gates.

**MR. HARRINGTON:** Right, because it increased.

**MS. O'BRIEN:** Yes, that's what it went up – what I meant when I said –

**MR. HARRINGTON:** But I –

**MS. O'BRIEN:** – it went up.

**MR. HARRINGTON:** But then you asked about the CPW for the Isolated, and I'm not sure what that did. It could've stayed still, couldn't it?

**MS. O'BRIEN:** If it stayed still – okay, all right. Okay, you don't know what happened to the CPW? How much did the CPW went up – how much did the CPW go up for the

Interconnected Island? It went by more than \$200 million, right?

**MR. HARRINGTON:** I don't –

**MS. O'BRIEN:** Commissioner, maybe this might be a good time to take an early lunch so I can work with the witness on this. This really should not be very complicated. And I think it's probably a good time to take a break.

**THE COMMISSIONER:** In my very simplistic mind, not being an engineer, whereas the two of you are, it seems to me – just listening to this conversation – that if the difference in the CPWs for the Isolated Option and the Interconnected Option was 2.2 billion at DG2, and then it went to 2.4 billion at DG3. And if we acknowledge that the Interconnected Option actually increased, then I would have to say the only reason you could get an increase would be that the Isolated Option had to increase.

I mean it – to me, that's pretty – you know, and I'm not a mathematician, I'm not an engineer, but by God, you know, it kind of seems right to me.

**MR. HARRINGTON:** Okay, well, let's carry on then. I –

**THE COMMISSIONER:** So just to make sure you understand 'cause I don't really want to put words in your mouth or anything like that, but I think – 'cause I do think this is a simple point, unless I'm missing something somewhere.

But if you're – if you have an increase in the differential by \$200 million, and we know that the Isolated – or the Interconnected Option increased, then the Isolated Option had to increase more.

**MR. HARRINGTON:** But what I – I think what I'm trying to get to is we know that – the only bit that I know about is that the capital cost of the Isolated Island went up. That's the thing that I'm trying to discriminate against or identify.

**MS. O'BRIEN:** I didn't ask you about capital cost. We talked about CPW values. That was the question.

**MR. HARRINGTON:** But see I'm not – I didn't do the CPW analysis.

**THE COMMISSIONER:** All right. Well, look, let's take our break and maybe you can work with the witness to try to – 'cause I don't think this is a major issue, just to try to figure out and get the two of you on the same track. And we'll come back at 2 o'clock and we'll continue on at that time.

**MS. O'BRIEN:** Thank you, Commissioner.

**CLERK:** All rise.

**Recess**

**CLERK:** All rise

Please be seated.

**THE COMMISSIONER:** All right, go ahead, Ms. O'Brien.

**MS. O'BRIEN:** Thank you, Commissioner.

All right, Mr. Harrington, I'm gonna go back now to a question that I had asked you prior to the lunch break.

At DG2, the CPW analysis showed a preference for the Interconnected Island Option of 2.2 billion, do you agree with that?

**MR. HARRINGTON:** I do.

**MS. O'BRIEN:** Okay, but by DG3, the preference for the Interconnected Island Option had increased to 2.4 billion, do you agree?

**MR. HARRINGTON:** I agree.

**MS. O'BRIEN:** Okay. The CPW value for both options had increased between DG2 and DG3, do you agree?

**MR. HARRINGTON:** Yes, the individual ones, yes.

**MS. O'BRIEN:** But the Isolated Island Option CPW had increased more, is that right?

**MR. HARRINGTON:** Yes, by 200 million.

**MS. O'BRIEN:** Great. All right, so thank you. So that is just all –

**MR. HARRINGTON:** (Inaudible.)

**MS. O'BRIEN:** – of what I was trying to get an answer for before lunch but now we've got there.

**MR. HARRINGTON:** I got there.

**MS. O'BRIEN:** So, now I wanna examine some of those changes. And can we bring up P-00926, please? Tab 32 for you, Mr. Harrington.

**MR. HARRINGTON:** Tab again? Are you gonna show it upon here or –?

**MS. O'BRIEN:** It's gonna be shown on the screen.

**MR. HARRINGTON:** Okay, so –

**MS. O'BRIEN:** P-00926, tab 32.

All right, so this is a presentation, I believe, it's called: DG3 Alignment Session, August 3, 2012. I understand this is a presentation that was given to Cabinet, I believe. Is it familiar to you?

**MR. HARRINGTON:** Yes, I saw it in evidence, so, yeah.

**MS. O'BRIEN:** Okay. Would you have had any involvement in its preparation back in the summer of 2012?

**MR. HARRINGTON:** Potentially, just providing input.

**MS. O'BRIEN:** Okay. So you would've provided input from the project management team to go into it?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

All right, can we go to page 4? Okay, and there's some handwriting on this, but I'm not gonna ask you about that. So it seems to be here that what we're doing – they're looking at the changes, and would you agree with me the slides presentation is kind of going through some of

the changes in the estimates between DG2 and DG3?

**MR. HARRINGTON:** Yes, I agree.

**MS. O'BRIEN:** Okay. So we see that here on this page here, they're anchoring back to Gate 2, and then on the next page it's a similar type slide. And then when we go to this page, slide – sorry, I think maybe – yeah. This one here sorry, slide 6: Why the change in cost estimates?

So this presentation seems to be giving an explanation to government as to why the changes occurred. Would you agree with me?

**MR. HARRINGTON:** Yes, yes, I would.

**MS. O'BRIEN:** Okay. So we're just gonna explore some of these.

Now, on this slide here, the third bullet, it says: "Project engineering has increased from 4% to" over "50%."

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** I just wanna clarify one issue with that, Mr. Harrington.

What I understand from Mr. Kean's evidence, that while the engineering was greater than 50 per cent complete as of December 2012, in April 2012, when the base estimates were finalized, it was less than that. I think Mr. Kean said it was – or Mr. Simmons maybe brought Mr. Kean to some documents that suggested that by the time the – when the estimates were done, the engineering was around – in the range of 30 to 40 per cent complete.

Is that consistent with your understanding?

**MR. HARRINGTON:** Yes, I checked the monthly reports, and I think it was closer to 40 per cent –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – around April, May.

**MS. O'BRIEN:** Okay.

So this slide here is perhaps it was talking as of – oh, this slide here is actually in August, so anyway, but you're saying when the estimates were done it was close to 40 per cent. Okay.

**MR. HARRINGTON:** Oh, so this was August, right.

**MS. O'BRIEN:** Yes, this is August.

**MR. HARRINGTON:** Okay. So it may be referring to the August, and certainly in August it was around 50 per cent.

**MS. O'BRIEN:** Okay.

All right. So, we – I understand here – so then we have some of the other – one of the changes seems to be significant increases in transmission costs. Do you recall that being the case?

**MR. HARRINGTON:** I'm just reading it. Yes.

**MS. O'BRIEN:** I mean, do you recall that transmission costs went up –

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** – between Gate 2 –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – and Gate 3? Okay.

**MR. HARRINGTON:** Yeah, okay, I was just reading the actual bullet points.

**MS. O'BRIEN:** And I understand from Mr. Kean's testimony that – and in the papers – the PMT papers that we've looked at, that not – there was changes to the design because of reliability requirements coming out of the work of MHI, but not all of those reliability changes were captured in the DG3 estimates.

Is that consistent with your understanding?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. So there was some – this 600 million here captures some of the changes but not all of the reliability changes.

**MR. HARRINGTON:** Because MHI, you know, took one bite at it, and then they came back at DG3 and had some other issues as well, I believe.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** I understood from – well, if we just go to – maybe we can just get clarification on this – at P-00264, please, Madam Clerk. This is one of the project management team papers we've looked at.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** Page 36.

So while the “first phase of optimizations was underway in the winter – summer 2012, there was little opportunity to fully assess the impact on the broader capital cost of the Project given limitations of time available to support the July 2012 cut-off of cash flows to support economic evaluations.”

**MR. HARRINGTON:** I'm trying to – I'm trying –

**MS. O'BRIEN:** Sorry, right here where the mouse is.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** Okay, just read that – do you wanna just read that sentence there?

**MR. HARRINGTON:** “The reliability review would be the first of two efforts ....” Okay. “While this first phase of optimizations was underway in winter – summer 2012, there was little opportunity to fully assess the impact on the broader capital costs of the Project given limitations of time available to support the July ....” Okay, yeah, yeah.

**MS. O'BRIEN:** Do you agree with that?

**MR. HARRINGTON:** Yeah, yeah. That's accurate.

**MS. O'BRIEN:** Okay. So Mr. Kean gave us some testimony on that.

Can we go back then to P-00926, which was the slide show we were just looking at. Okay.

So that was one of them – one of the other things – there was also increases caused because there was a reorientation, I believe. So can you just explain that to the Commissioner – what that change was?

**MR. HARRINGTON:** Yeah. The – as part of the effort by SNC, we also did a full-scale model of the powerhouse and intake and that indicated that there might be one of the units – I think it was unit four – that may have some turbulent flow. So we had to re-orientate the whole powerhouse to avoid that. And I think that – I'm pretty sure that was part of the model testing that was carried out.

**MS. O'BRIEN:** Okay. So that's right here, so –

**MR. HARRINGTON:** Yeah, computer and physical modelling. Yes, yes.

**MS. O'BRIEN:** Right? And so the powerhouse had to be re-orientated. And so that was done between DG2 and DG3, and that added to the cost increases on the Interconnected Island. Is that right?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. Another change here: “Significant increases in EPCM and owner costs.”

So just explain, please, for the Commissioner: Why did the EPCM and owner costs go up by 250 million for the Interconnected Island?

**MR. HARRINGTON:** Okay. Well, the EPCM contract was awarded after DG2 and the costs that came in for that were higher than originally estimated. And for the – I'm looking for owner's costs down here.

**MS. O'BRIEN:** It just says right up here – and owner costs, right there –

**MR. HARRINGTON:** Oh yeah, yeah, but I'm looking for the bullet point that might elaborate on it and there isn't one.



The “Benefit strategy negotiated after DG2” also meant that, you know, instead of the EPCM contractor doing his engineering work in Montreal, we had to relocate the people to St. John’s and provide them with a living allowance and also travel. So that increased it as well.

**MS. O’BRIEN:** Okay. So this was the requirement for the benefit strategy – the requirement to –

**MR. HARRINGTON:** Yeah.

**MS. O’BRIEN:** – keep benefits here in the province. Okay.

**MR. HARRINGTON:** That’s correct, yes.

**MS. O’BRIEN:** And also, you say here there was strong competition for experienced personal, so that added to the increase in the cost.

**MR. HARRINGTON:** Yeah, it was a hot market. That’s the other aspect at that point in time.

**MS. O’BRIEN:** And because there had been delay there in the environmental assessment that was increasing the carrying cost for Nalcor was another. So that will be –

**MR. HARRINGTON:** That’s right, we needed more time. Time is money.

**MS. O’BRIEN:** So wouldn’t that speak to owner’s costs. You were looking for a –

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** – bullet that addressed –

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** – owner’s costs, wouldn’t that do that?

**MR. HARRINGTON:** To a degree, yeah. But also the strong competition, you know, but that goes not only for, you know, for the engineering people but it also goes for project management people.

**MS. O’BRIEN:** Right, so people within Nalcor, the people Nalcor was recruiting to do their management work, you’re saying they had to pay more for them.

**MR. HARRINGTON:** That’s correct.

**MS. O’BRIEN:** Okay. So that would be people in your project management team that you’re referring to.

**MR. HARRINGTON:** That’s correct.

**MS. O’BRIEN:** Okay. Go down here – so then there’s some slides that address the, specifically, the CPW and here it talks about some of those that the federal loan guarantee was included.

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** And there was an adjustment from 2010 dollars to 2012 dollars.

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Now, the PIRA forecast decreased below what the estimate had been at DG2, is that right?

**MR. HARRINGTON:** That’s what it says, yes.

**MS. O’BRIEN:** But do you recall that to be the case.

**MR. HARRINGTON:** I wasn’t involved in the PIRA –

**MS. O’BRIEN:** Okay, so you don’t have any knowledge of that?

**MR. HARRINGTON:** No.

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** I don’t even know what it was at DG2, to be honest.

**MS. O’BRIEN:** Okay, and so some of these questions may be better answered by somebody else then.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay, so – but the capex it says: the “Isolated Capex increased more than expected.” Do you see that?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Okay, so you earlier were talking about – you know that both – the capital expenditures, so this is the cost estimate, right, the construction cost estimates?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay, so the Interconnected and the Isolated both increased.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Okay, and this slide says the isolated increased more than expected. Do you know why it increased more than expected?

**MR. HARRINGTON:** I think because – I shouldn't say that. I know that the original studies for the Isolated Island were done some time ago. I don't think they were updated until this point in time, in-between DG2 and DG3 that is. So we went back to the original suppliers of those studies, and these studies are at a class four – four-and-a-half type level of accuracy. We went back to SNC, we went back to Hatch, went back to, I think, Stantec and asked them to bring those studies in line with what was happening in 2012.

In addition, they had final costs for some wind that had been recently installed, so those costs were then included in there. So that wasn't the study. They used real, actual final costs –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – for the wind.

**MS. O'BRIEN:** So you're saying the costs went up because you went to SNC, Hatch –

**MR. HARRINGTON:** The source –

**MS. O'BRIEN:** – those people who you –

**MR. HARRINGTON:** – yeah.

**MS. O'BRIEN:** – you went to the – asked them to give you estimates and the estimates they provided went up.

**MR. HARRINGTON:** Yes, correct.

**MS. O'BRIEN:** Then there's another one here about in the – here it says there's more wind that's been essentially integrated between DG2 and DG3. Now, you might not be the one to answer this, but I think Mr. Humphries testified – Paul Humphries testified that this would've tended to reduce the CPW for the Isolated Island. Would – do you agree with him or are you able to comment?

**MR. HARRINGTON:** I don't – no, I wouldn't disagree with Mr. Humphries.

**MS. O'BRIEN:** Okay.

Okay, so it seems to be fuel went – the cost of fuel went down and that would tend to, one would think, favour the Isolated Island, right? Reduce the CPW of the Isolated Island – a reduction in fuel costs?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay, and adding wind, Mr. Humphries has said that would've tended to reduce the Isolated Island. So looking at what caused the Isolated Island to increase –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – was it fair to say that that would be primarily driven by increases in the capital expenditures, the capex costs? And then, I think – I believe there was an increase in the load forecast, so –

**MR. HARRINGTON:** So a combination of those –

**MS. O'BRIEN:** Two would be the –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – primary?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. All right.

Now, Grant testified – Grant Thornton, I think – Mr. Shaffer testified – Scott Shaffer – that he said he had looked – that Grant Thornton had analyzed about 80 per cent of the Isolated Island costs.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** And he had calculated on average a 16 per cent contingency that was being used in the Isolated Island and we know that at DG3 it was a 7 per cent for the Interconnected. Where – who would've set the contingency level for the Isolated Island capex?

**MR. HARRINGTON:** That would be done by the folks who were putting the – or updating those studies.

**MS. O'BRIEN:** Okay. So SNC, Hatch, those people?

**MR. HARRINGTON:** Those types of people.

**MS. O'BRIEN:** Okay.

Now, we have not found any risk assessment analysis done for the Isolated Island. So no analysis of P-factors –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – or tactical risk –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – strategic risk or even time risk. Are you aware of anything that was done that we just haven't found yet?

**MR. HARRINGTON:** No, I – there wasn't anything done.

**MS. O'BRIEN:** Okay so you had basically –

**MR. HARRINGTON:** As far as I know.

**MS. O'BRIEN:** Okay, so as I'm understanding it, you asked SNC, Hatch, those people, to provide estimated – estimates for the Isolated Island and they put in the contingences they felt were appropriate.

**MR. HARRINGTON:** The tactical risk-type contingency.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Did you tell them just to include tactical?

**MR. HARRINGTON:** Well, strategic risk is something that you get – you know, when you look at a portfolio of things that you would get somebody to do that, like a Westney. I don't think you would ask SNC to give me a strategic risk for one piece of the pie when it's a whole suite of things that they were doing in the Isolated Island.

**MS. O'BRIEN:** Did you have those kind of detailed discussions with SNC or Hatch or whoever about –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – what to put –

**MR. HARRINGTON:** I didn't –

**MS. O'BRIEN:** – in their contingency?

**MR. HARRINGTON:** I didn't have any of the detailed discussions with Hatch. It was done via the engineering group in NLH.

**MS. O'BRIEN:** Okay. Do you know whether they had those type of detailed discussions?

**MR. HARRINGTON:** I don't know.

**MS. O'BRIEN:** Okay.

Do you know why you think – I mean trying to get a sense of would anyone have been responsible to ensure that there was consistency between how the capital cost estimates were being done between the two islands? For instance, like, we heard Mr. Paul Lemay say that when he was – you know – had all the people working on his Interconnected estimate, you know, he would give them kind of the ground rules for the estimate: You know, use this type, you know, I want you to use this pricing for these elements and – you know, just to make

sure everyone was, you know, working with the same base assumptions.

He was only working though – he said he had no involvement with anyone who was doing estimates for the Isolated Island. Would there have been anyone who was responsible for ensuring consistency?

**MR. HARRINGTON:** No, it was left completely to the engineering companies that were hired to update their previous studies.

**MS. O'BRIEN:** Okay, so they would not have known what assumptions that SNC was using for its base estimated – estimates on the Interconnected.

**MR. HARRINGTON:** I don't think so.

**MS. O'BRIEN:** Okay, Mr. Lemay said he had no communication with him.

**MR. HARRINGTON:** Well, in that case they wouldn't have.

**MS. O'BRIEN:** Okay.

So these were essentially kind of going on – two parallel processes going on without communication between them.

**MR. HARRINGTON:** Yeah, you know, but – you know, one, we're talking about a – the Muskrat Falls Project with, you know, quite a high degree of engineering complete, which would, you know, allow you to do that type of detailed estimate. You know, these types of studies are sometimes called desktop studies and, you know, they're rule of thumb and, you know, their experience of the contractor that you're hiring.

So, you know, it's all in line with the AACEI progression from, you know, Class 4 to a Class 3 to a Class 2. The – you've seen the funnel that, you know –

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** So ...

**MS. O'BRIEN:** Okay, all right.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Thank you.

Okay, I'd like to go to P-01008, please. This is tab 32.

Okay, this is a presentation. Yeah, this is from Jason Kean to you. So this is Mr. Kean – we've looked at this before but this – in the hearing room. This is a presentation he's sending you I take it, in July 2012, presentation for Ottawa. So would this be for people who are involved in the federal loan guarantee –

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** – presentation to Canada?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

And this seems to be the final version. Can we please go to page 37? So we're going to go to this quote of John K. Hollmann –

**MR. HARRINGTON:** Mmm.

**MS. O'BRIEN:** – who we've – we've looked at this before. You – were you aware that this quote, Mr. Harrington, was taken from a draft report from Mr. Hollmann?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay.

And not at the time – you are now, I take it.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay, but when did you first learn that this was taken from a draft report?

**MR. HARRINGTON:** Pretty much when it was brought up here. I mean, I had the report, I didn't even notice it was a draft. But I think it was brought to my attention during the – at the – your testimony with Mr. Kean. I may have seen it but I just didn't really make any particular note of it.

**MS. O'BRIEN:** When did you first see Mr. Hollmann's report?

**MR. HARRINGTON:** I think it was – I think a couple of months ago?

**MS. O'BRIEN:** Okay, so you didn't see it at the time. But you were – so who –

**MR. HARRINGTON:** No, not that I can recollect.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I was aware of it. I mean –

**MS. O'BRIEN:** What were you aware of?

**MR. HARRINGTON:** I was aware that Mr. Hollmann was, you know, in the offices and he was doing a check of the estimate process.

**MS. O'BRIEN:** Okay, but you never saw his report?

**MR. HARRINGTON:** Not at the time. No.

**MS. O'BRIEN:** Okay. But, yet, you know, you knew this quote was being taken from it.

**MR. HARRINGTON:** I did.

**MS. O'BRIEN:** Okay and you – were you aware this quote was being used by Nalcor in a number of different presentations to people outside Nalcor?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

And – but you're saying you didn't know it was from a draft report and you never – you never even bothered to read the report.

**MR. HARRINGTON:** I wasn't given the report.

**MS. O'BRIEN:** Okay.

Did you ever think to ask for the report?

**MR. HARRINGTON:** No – well, I didn't, no. No.

**MS. O'BRIEN:** Okay.

So it's fair to say if you didn't see the report, I guess you don't know whether – you have no direct knowledge whether Gil Bennett ever saw it?

**MR. HARRINGTON:** I wouldn't be able to answer for Mr. Bennett.

**MS. O'BRIEN:** Okay, and similar for Ed Martin?

**MR. HARRINGTON:** I wouldn't be able to answer for Mr. Martin.

**MS. O'BRIEN:** Okay.

So you – I guess when you're looking at the slides, if you hadn't seen the report you were not aware that the words, while not perfect, had been removed from the front of this quote. Is that –

**MR. HARRINGTON:** Yeah, that's correct.

**MS. O'BRIEN:** – correct?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Okay.

So who was it that would have decided to take this quote, remove the words, that while not perfect, and take this quote out of a draft report, and put it into a presentation that was going to Canada and to others, government, et cetera?

**MR. HARRINGTON:** I don't know.

**MS. O'BRIEN:** Okay. You got this slide deck from Jason Kean.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. Do you believe it was Jason Kean who decided to do that?

**MR. HARRINGTON:** I don't know.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I couldn't say.

**MS. O'BRIEN:** Okay.

Were you aware that Mr. Hollmann was asked to do a qualitative review? In other words, he was just asked to look at the processes around the estimate, and he was not doing a quantitative review or, you know, really looking into the numbers of the base estimate. Were you aware of that at the time?

**MR. HARRINGTON:** I cannot recall particularly, the broad of it all. I just understood that he was here to do a check of how the estimate process was working.

**MS. O'BRIEN:** So estimate processes, so do – are you –

**MR. HARRINGTON:** Yeah, so that would suggest, yeah, qualitative rather than quantitative.

**MS. O'BRIEN:** Okay, so you're saying you knew that at the time he was just looking at processes?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** When you read this quote – you know, I'm going to suggest to you that a reasonable person reading this quote would not understand from this quote that Mr. Hollmann was just looking at processes or doing a qualitative review. That someone looking at this quote and reading that Mr. Hollmann thought this was – the estimate was one of the best based estimates that he had seen in some time, that someone reading this would be led to believe that Mr. Hollmann had looked at the numbers of that estimate. Do you agree with me?

**MR. HARRINGTON:** Not necessarily. I don't draw that same conclusion that you have.

**MS. O'BRIEN:** Okay.

What in this quote would lead someone to the understanding that he was just looking at the processes involved in the estimate?

**MR. HARRINGTON:** Well, there's nothing there that says that.

**MS. O'BRIEN:** And when most people hear the word estimate, would you not – when we're talking about a cost estimate – I mean you – anyone reading this, you know that they would understand this to be the cost estimate, right?

**MR. HARRINGTON:** Not anyone, no. I wouldn't necessarily agree with that.

**MS. O'BRIEN:** Okay. When we're talking about the estimate here, what – if it wasn't the cost estimate that people would think, what other estimate would they be?

**MR. HARRINGTON:** I don't know. I can't answer for people I've never met.

**MS. O'BRIEN:** Okay. Do you think people – a general person reading this, when it's talking about the megaproject base estimate, they would understand that to be a cost estimate?

**MR. HARRINGTON:** They might do, yeah.

**MS. O'BRIEN:** Okay. Would you agree with me that most people when – if they think it's referring to a cost estimate, they would think that has to do with numbers?

**MR. HARRINGTON:** Maybe, yeah ...

**MS. O'BRIEN:** But you're not willing to say that that's a likely conclusion for people?

**MR. HARRINGTON:** It's a – you can't draw a direct line to say anyone would draw that conclusion. You could do. I'm not saying you wouldn't, but I'm not saying you necessarily automatically would.

**MS. O'BRIEN:** Would you agree with me that many reasonable people would look at that quote and believe that Mr. Hollmann, P.E., C.C.E., C.E.P., owner of Validation Estimating L.L.C., would have looked at the numbers of the cost estimate and concluded that they were one of the best he's ever seen for sure?

**MR. HARRINGTON:** I wouldn't – I really couldn't draw that conclusion.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And that, you know, that's my answer to these line of questions because it's – you're asking me to go to a place that I really don't feel comfortable with.

**MS. O'BRIEN:** Okay. That's fine. All right.

Can we go to page – let's go to the report itself. P-00610 please. It's at tab 19.

So I know you said that you didn't see the report –

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** – at the time. And I'm just going to confirm whether you were – had been told – even if you didn't see it, if you were aware of some of these conclusions or findings that Mr. Hollmann had made in the draft report.

Page 11, please.

So this is under a section that he calls Assessment Findings.

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** So one of his findings was, "Weak Logic in Treatment of Risk Costs. What message is sent when no reserves are included for 100% probable risks (e.g. shortages of labor)? If they are 'balanced by opportunities,' then include that in the method; what are those opportunities?" He also goes on to say "Ambiguous or Confusing Terminology"; there's "Obfuscation" going on.

He goes down to say, no "Other artifacts of risk policy/philosophy vs. practices disconnect: No clear discussion of how contingency and reserves will be funded and managed in Change Management or Project Control plans."

So notwithstanding – and he also says that there's a – I should note the last one: a "Misinterpretation of IPA cost growth metrics."

Notwithstanding that you're saying you did not read this report – no one provided it to you – you didn't read it at the time – did anyone communicate to you – did Jason Kean or anybody else communicate to you – that Mr. Hollmann had made these findings?

**MR. HARRINGTON:** No, not to my recollection.

**MS. O'BRIEN:** Okay.

Is that not information that you would expect the deputy project manager would ensure got reported up the line?

**MR. HARRINGTON:** I'll read this thoroughly now.

I don't think that at this point in time all of the risk analysis had been carried out, so more than likely Mr. Kean felt as though these issues are under control. I had great trust in Mr. Kean; he's a very honest, straightforward individual. And he probably looked at these things and said: well, oh okay, yeah, these are good – this is good feedback. I'll incorporate some of these things into our go-forward plan.

**MS. O'BRIEN:** Okay, so you didn't discuss this with Mr. Kean at the time?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay, so what you just – the evidence you just gave there is just pure speculation?

**MR. HARRINGTON:** Yes –

**MS. O'BRIEN:** Okay –

**MR. HARRINGTON:** – (inaudible) it is.

**MS. O'BRIEN:** – so, I'm not – I don't really need you to speculate –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – what I need you to do is answer this question, okay?

**MR. HARRINGTON:** No, he didn't. All right.

**MS. O'BRIEN:** Okay, so the question is, though, you're the project director of the Lower Churchill Project.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Okay.

So, at least on the project management team, you're the top dog. Right?

**MR. HARRINGTON:** Well, I don't like that term.

**MS. O'BRIEN:** Okay.

Well, you're – when we look at the org charts, your name is on the top.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

So – and you have responsibility for the work that's going on – for everyone who's beneath you at the – on the org chart. Right?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

And now, John Hollmann is quite a well-known name in the field. Is he not?

**MR. HARRINGTON:** He is.

**MS. O'BRIEN:** He is, and you knew of him prior to his engagement here for the –

**MR. HARRINGTON:** No, I didn't.

**MS. O'BRIEN:** Okay.

When he was engaged, were you aware that he had – was well-known, well-written – had received the Award of Merit from the AACE?

**MR. HARRINGTON:** Afterwards I found out, yes.

**MS. O'BRIEN:** Okay.

Had you ever heard of the AACE at this time?

**MR. HARRINGTON:** I'm not sure at that time – maybe, yeah.

**MS. O'BRIEN:** So you'd been working in major construction projects –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – for all those years and you'd never heard of the AACE?

**MR. HARRINGTON:** With regard to Mr. Hollmann –?

**MS. O'BRIEN:** No, I just asked you had you –

**MR. HARRINGTON:** Oh.

**MS. O'BRIEN:** – known – did you know the AACE?

**MR. HARRINGTON:** Yeah, the AACEI was out there for a long time.

**MS. O'BRIEN:** Okay, so you're aware of that organization?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And it is sort of a go-to organization when it comes to cost estimating, is it not?

**MR. HARRINGTON:** One of them, yes.

**MS. O'BRIEN:** Okay.

All right. So at this point, you find out – you did know that Mr. Hollmann was in the offices at Torbay Road?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Okay, so you knew he'd been engaged. At the time he was engaged, did you know his reputation and –?

**MR. HARRINGTON:** No, no I didn't.

**MS. O'BRIEN:** Okay.

When did you learn about his reputation?

**MR. HARRINGTON:** I think probably in one of these presentations that were made afterwards. The presentation you showed earlier that, you know, his – you know, they explained who John Hollmann was.

**MS. O'BRIEN:** Okay, so you saw those presentations back in 2012 –



**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** – and they pointed out that he had the Award of Merit.

**MR. HARRINGTON:** Yup. Uh –

**MS. O'BRIEN:** So prior to sanction –

**MR. HARRINGTON:** – no, not necessarily the Award of Merit. Just to say that he was a recognized, you know, individual when it came to AACEI, and those types of details I don't think it was –

**MS. O'BRIEN:** It was in one of the presentations but we'll –

**MR. HARRINGTON:** Oh, was it? Okay I'll –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – I take it back then.

**MS. O'BRIEN:** Okay.

So you have this man who is well-known in his area, well-respected, he's been retained to come in and take a look at – and do a validation of some of the work that you – that was going on in the Lower Churchill Project?

**MR. HARRINGTON:** I was told he was brought in to look at the estimate only.

**MS. O'BRIEN:** Yes, okay, so do a validation of that estimate?

**MR. HARRINGTON:** From a qualitative perspective.

**MS. O'BRIEN:** From a qualitative perspective, okay.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** But you knew that?

**MR. HARRINGTON:** I did.

**MS. O'BRIEN:** Okay.

And now, when someone like that gives a report with findings that are as strong as the ones that

are listed here: weak logic, obfuscation, that there is no discussion, there's disconnect between the philosophies and the practices, et cetera – so you're saying, to you, it is – you're not – you find it reasonable that Mr. Kean would have received this feedback from Mr. Hollmann, and not provided it to you as project director.

You find that reasonable?

**MR. HARRINGTON:** Mmm. So –

**MS. O'BRIEN:** It's just yes or no question, Mr. Harrington.

**MR. HARRINGTON:** Well sometimes yes and no are – you know, need a little bit of thought and context if you don't mind. I'd like to answer it the way I'd like to answer it. You know, I feel as though, from listening to Mr. Kean's testimony –

**MS. O'BRIEN:** But that's – I'm just –

**MR. HARRINGTON:** – he –

**MS. O'BRIEN:** – going to go back to the question –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – and I'm – the Commissioner can make a ruling if he –

**MR. HARRINGTON:** Right –

**MS. O'BRIEN:** – does not feel –

**MR. HARRINGTON:** – okay.

**MS. O'BRIEN:** – if this is an appropriate question to ask. But my question I am putting to you, I'm putting to you as – it is a yes or no question: Do you find that to be reasonable or not?

**MR. HARRINGTON:** I would've preferred to know.

**MS. O'BRIEN:** Pardon?

**MR. HARRINGTON:** I would've preferred to know it, yes.

**MS. O'BRIEN:** You would've preferred to know, right.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** You would've preferred your deputy project manager to give you this information?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And he didn't?

**MR. HARRINGTON:** No, because we had Westney who were hired as our risk experts. So –

**MS. O'BRIEN:** Well, you don't know, if you didn't talk to him at the time.

**MR. HARRINGTON:** No, but what I'm saying now is when I'm looking back – because, you know, in hindsight you do look with hindsight, even though hindsight bias can creep in.

But, you know, looking at it now with the question you asked me today, you asked me at the time I didn't know, so you're asking me now: Do you think it would be reasonable, knowing what I know today, that that should've been provided to me? And the answer is yes.

**MS. O'BRIEN:** Okay. And had you been provided it, is it fair to say that this is something you would've made sure that Mr. Gil Bennett was aware of?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

Do you have any knowledge as to why the Hollmann report was never finalized?

**MR. HARRINGTON:** I don't.

**MS. O'BRIEN:** Let's go to P-00130, please.

**THE COMMISSIONER:** Tab 49.

**MS. O'BRIEN:** Yes, sorry. Thank you.

This is the Decision Gate 3 QRA.

**MR. HARRINGTON:** Forty-nine?

**THE COMMISSIONER:** Forty-nine.

**MS. O'BRIEN:** I don't know if the full document is going to be in your binders or not. It is one of these documents that's up, I think it's in the common exhibits.

**MR. HARRINGTON:** It's only one page.

**MS. O'BRIEN:** Yes. No, I think it's in the common exhibits. But I'll bring it up on the screen and, Mr. Harrington, if you do want the full paper copy you just let me know because it is in one of the binders there in the cabinet next to you.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** Can we go to page 8, please? No, sorry, I need to go to page 287. Thank you.

Okay, so I take it you are familiar with this page that is up on the screen here?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. So this is the results – this is a slide from Westney's QRA work at DG3.

**MR. HARRINGTON:** Correct, yes.

**MS. O'BRIEN:** Okay. And so we already have had testimony for Mr. Kean that at DG2 there'd been a fairly extensive list of strategic risks identified –

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** – for the Lower Churchill Project. But Mr. Kean has testified that by DG3, you – that it was considered by those on the project team that many of these risks had been addressed or mitigated and thus they were considered retired.

And at DG3, Mr. Kean has testified you were basically down to these three strategic risks that you believed could still have impact on the cost and schedule. And those being: time risk, performance risk, productivity and then skilled

labour risk, which here is broken out into two different pieces.

Do you agree with Mr. Kean's testimony in this regard?

**MR. HARRINGTON:** I do. And the strategic risks that were identified and discussed with Westney, at the time, they were – this was kind of communicated to us as being: there are other risks but these risks dominate everything.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So that's how it was conveyed to us.

**MS. O'BRIEN:** Okay.

So Mr. Westney, from the Westney Consulting Group, has obviously testified here and we reviewed this with him in – or certainly I did when I was questioning him.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** And his evidence was that this list of three strategic risks did not capture all the strategic risks that the Lower Churchill Project faced at DG3.

**MR. HARRINGTON:** Hmm.

**MS. O'BRIEN:** He pointed to, specifically, there was non-tactical risks for non-financial stakeholders. He talked about political risk. He talked about market conditions risks. Did you hear his evidence on that point?

**MR. HARRINGTON:** I heard some of – I didn't hear all of that but some of it.

**MS. O'BRIEN:** Okay. So let's just take to that point.

Would you agree with Mr. Westney that this list of strategic risks here does not capture all of the strategic risks that the Lower Churchill Project faced at DG3?

**MR. HARRINGTON:** Well, no. This is what Westney had conveyed to us as being: these are the ones that dominate, there may be other ones, but they're black-swan events and how can you

put a potential impact on something you don't know about yet?

So I would tend to disagree with Mr. Westney on that.

**MS. O'BRIEN:** So, if the question is: Did you believe that there were other strategic risks that the project faced at DG3? Your answer is no. You don't believe there were any others. Just this list.

**MR. HARRINGTON:** That these would dominate it and so the impact of these would be more serious than some of the other ones – the lesser ones.

**MS. O'BRIEN:** Okay. So it sounds to me now you're saying that you acknowledge that there were other strategic risks that the project faced at DG3.

**MR. HARRINGTON:** Yeah. But they wouldn't have a real impact.

**MS. O'BRIEN:** Okay. Let's – we'll get to the impact in a second – but in terms of them, you acknowledge that they were there.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And how do you really know at – with strategic risks – how do you know, at that point in time, whether they're going to have an impact or not?

**MR. HARRINGTON:** Well, you don't know what they are so how do you know what impact there might be.

**MS. O'BRIEN:** We're going to look at some that you did identify.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** But even – so we will do that. But you're right, you don't know –

**MR. HARRINGTON:** You don't know what you don't know, right.

**MS. O'BRIEN:** Right.

But Mr. Westney has testified in his documents, you know, the Westney paper that he put in talked about, you know, taking the wide-angle view, trying to identify your strategic risks, to capture those black swans, to think very broadly when you are talking about risk.

Do you agree with that approach to risk management?

**MR. HARRINGTON:** Black-swan events are almost impossible to guess, right. So the wide approach, if the wide approach was indeed embraced by Westney, why didn't Westney, you know, advise us that we should include more of them?

**MS. O'BRIEN:** Well, Mr. Westney's testimony was that you were advised.

**MR. HARRINGTON:** No, I don't agree with that.

**MS. O'BRIEN:** Okay. Well, that's what Mr. Westney says that these things were (inaudible) to him.

**MR. HARRINGTON:** Well, that's what Mr. Westney said, but, you know, I was there when we talked about these things, and we were told: these are the dominant risks, these are the things you should be looking at, because you've got a Class 2 estimate and all of this, that stuff and the other. And this was what we were told and these are our experts that we've hired, so why, if that was the case, why didn't they tell us more?

**MS. O'BRIEN:** Okay.

So let's just talk about –

**MR. HARRINGTON:** So I'm a bit surprised that he said that.

**MS. O'BRIEN:** Okay.

Let's just talk about you. You've say you have a lot of experience in megaprojects.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And have you had megaprojects that went over what the estimated cost was?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And was that because strategic risks materialized?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And in those cases, did you often, at the time when the project was sanctioned, not have anticipated those risks?

**MR. HARRINGTON:** I probably wasn't at particular level in the organization to do that then.

**MS. O'BRIEN:** So you had no experience in doing this yourself on a project previously?

**MR. HARRINGTON:** Not doing this particular strategic risk exposure, no.

**MS. O'BRIEN:** Okay. So that's – so prior to coming to work for the Lower Churchill Project, you had never worked on a megaproject at a level that would have required you to do an assessment of strategic risk.

**MR. HARRINGTON:** That's correct, yes.

**MS. O'BRIEN:** Okay.

Let's look at some of the strategic risks that were assessed. Can we please go to page 145 of this document?

So, just here this is the: Updated Key Risk Status Report from May 24 workshop. So I understand this is the risk that were looked at in May of 2012 in workshops that took place in Nalcor's offices here in St. John's.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. And did you attend at least some of those workshops?

**MR. HARRINGTON:** I may have attended the kickoff, but I don't – I didn't attend there afterwards. I may have signed in one day, but I didn't stay for long.

**MS. O'BRIEN:** Okay. So – yes, because you are shown as signed in for one of the sessions.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** So you signed in, but you didn't stay for the full session?

**MR. HARRINGTON:** No. I just basically said, look, this is an important, you know, kind of an introduction type of thing and left it to the teams to work it out.

**MS. O'BRIEN:** Okay. I mean, let's talk about that. So someone referred to them as – what do you call those, wet sign-in sheets or ...?

**MR. HARRINGTON:** Pardon?

**MS. O'BRIEN:** What do you refer to those sign-in sheets – in your world, when you have a meeting and you get people to sign to confirm they were there?

**MR. HARRINGTON:** Just – it was an attendance sheet.

**MS. O'BRIEN:** Okay. And you collect those attendance sheets?

**MR. HARRINGTON:** They would be collected.

**MS. O'BRIEN:** And they were important enough to include in the QRA document here that we're looking at –

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** – P-00130.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. So – and you're saying – someone might think that if someone signs in to show that they were there for the session, they were indicating that they were there for the session. But you're saying you just checked in at the beginning, signed the sheet and left?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. Do you think that that might be misleading to somebody reading this document and seeing your signature saying – that suggests you were an attendee for that session?

**MR. HARRINGTON:** There was no intent to mislead. The attendance sheet came around; I may have got a call that I needed to step out.

**MS. O'BRIEN:** Well, now you've got a call that you needed to step out –

**MR. HARRINGTON:** (Inaudible.)

**MS. O'BRIEN:** Do you recall that or are you speculating?

**MR. HARRINGTON:** Well, yeah.

**MS. O'BRIEN:** You're speculating?

**MR. HARRINGTON:** Yes. I mean, there could have been a reason why I had to leave.

**MS. O'BRIEN:** Okay.

Okay. So – but – okay. All right. So let's look at the risks.

**MR. HARRINGTON:** So I wasn't trying to mislead anyone by signing that sheet.

**MS. O'BRIEN:** Okay. Well, do you understand that there could be an effect of – the effect. Whether you meant to –

**MR. HARRINGTON:** Potentially, yes.

**MS. O'BRIEN:** – be misleading or not.

**MR. HARRINGTON:** Potentially, yes.

**MS. O'BRIEN:** Yes, potentially. Okay.

All right. Let's look here at the first risk, and this is one – this is "Organizational experience and resources for a project ... this size". And I understand that this is a strategic risk that had been identified but was considered to have such a limited exposure at this point, coming into DG3, that you assessed the strategic risk as zero – decided not to include it on the list?

**MR. HARRINGTON:** Current status (inaudible) –

**MS. O'BRIEN:** Yeah.

**MR. HARRINGTON:** Could you, kind of, scroll down a little bit?

**MS. O'BRIEN:** I think right here – I think if you look right where I'm circling the mouse, that might help you but – free to –

**MR. HARRINGTON:** Here we go.

Limited exposure. Yeah.

**MS. O'BRIEN:** And you are listed here as one of the risk leads for this risk. So what does that mean to you, to be one of the risk leads?

**MR. HARRINGTON:** So I would be responsible to make sure that the action plans were implemented.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And you can see the action plans there – the Risk Response Plan.

**MS. O'BRIEN:** Okay. So were you part of the decision to essentially count this risk as zero going into DG3? The –

**MR. HARRINGTON:** Well, as I said before, we were advised that the three dominant risks that you mentioned earlier would dwarf all of the remaining ones. So that was what Westney talked to us about, and that's what they did the risk analysis on.

**MS. O'BRIEN:** Okay. So I'm just going to ask that question again. Was it – were you one of the people who made the decision to count this strategic risk as zero?

**MR. HARRINGTON:** Yes, I agreed then with Westney that that – I agreed with them that if that's a dominant risk, these things don't need to be taken into account. And as it says there, the risk is considered of limited exposure. So it had been effectively mitigated and might have gone into the tactical risk. I don't know.

**MS. O'BRIEN:** Okay. And I assume – just because you're saying that you relied on Westney – and of course we have, you know, different evidence as to what was said. But let's just take the events as you recall them. In other

words, Westney told you just focus on these three big risks.

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** I assume that just because a consultant told you that a risk, you know, to count – you know, gave you advice – doesn't necessarily mean you would follow it?

**MR. HARRINGTON:** Not necessarily, but we have quite a lot of confidence in the experience of Westney and their people, and it sounded plausible to us.

**MS. O'BRIEN:** Okay. It sounded plausible to you. But, now, I understand you didn't have much experience in risks on megaprojects yourself, but you had worked on megaprojects for many years?

**MR. HARRINGTON:** Yeah. A lot of these strategic risk techniques they use now are – you know, years back we didn't have them.

**MS. O'BRIEN:** Okay. But years back you had common sense, right?

**MR. HARRINGTON:** Everyone's got common sense.

**MS. O'BRIEN:** Okay. So would you not apply your common sense to looking at some of these risks and make your own professional judgment call as to whether or not they should be included?

**MR. HARRINGTON:** Yes. And in this particular one, we felt as though we had the organizational experience and (inaudible) project of this size was well dealt with.

**MS. O'BRIEN:** Okay. So your common sense told you that it was fine to accept this as a zero risk?

**MR. HARRINGTON:** Well, a zero risk when you – in – when you look at the three dominant risks dominating everything, that that would take care of all of the other things.

**MS. O'BRIEN:** A zero risk when you look at what level of strategic reserve or management reserve would be required for this project?

**MR. HARRINGTON:** Well, it – you know, it’s these – the way that management reserves work and strategic risks work, if one of them doesn’t manifest itself, then something else will pop up and it’ll manifest itself. You can’t predict, in many cases, everything that’s going to happen.

**MS. O’BRIEN:** Well, we know you weren’t able to predict. We know that.

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** But the question here is, when you were making this decision back in 2012 –

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** – May and June of 2012, when you were looking at this, did your common sense tell you that it was fine to count the dollar value for this risk as zero?

**MR. HARRINGTON:** Correct. Yes.

**MS. O’BRIEN:** Okay.

Now, when we look at the Risk Response Plan here – management strategy and action strategy – one of the things I note here – you say you were responsible for ensuring the action plan took place, right –

**MR. HARRINGTON:** Yeah.

**MS. O’BRIEN:** – that’s what you just told us?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay.

And so one of your action plan was to engage – “Engagement of competent, experienced contractors (known entities with the ‘A’ team).”

**MR. HARRINGTON:** That’s right.

**MS. O’BRIEN:** So would SNC-Lavalin have been included in that?

**MR. HARRINGTON:** Yes.

**MS. O’BRIEN:** Okay.

And so, I just want to – you know, this is in May of 2012, and I understand that, from the Nalcor perspective – during 2012, the Nalcor perspective was that SNC had not brought the A team to the Lower Churchill Project. Is that right?

**MR. HARRINGTON:** Yes, that’s correct.

**MS. O’BRIEN:** Okay, I wanna take a look at that.

Now, a few moments ago, we looked at – P-00926 was that Cabinet presentation, that slide deck we just looked at, and one of the drivers in the increase in costs for the Interconnected Island between DG2 and DG3, you’ll recall, was the increase in the EPCM and owner costs?

**MR. HARRINGTON:** That’s correct.

**MS. O’BRIEN:** Okay.

And you – one of the notes was made there that this was a – part of this effect was because of the requirement to have the engineering done in this province, and that – you know, that added to the costs, essentially?

**MR. HARRINGTON:** That’s correct.

**MS. O’BRIEN:** Okay.

So I understand that, while this was considered and accounted for in the DG3 estimate to some degree – because we just looked at the slide and, you know, this was – they added, I think it was, \$250 million under this category.

But I understand that this risk actually had an impact after sanction that was greater than what you had anticipated even.

**MR. HARRINGTON:** Can you repeat that one? I –

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** Yeah.

**MS. O’BRIEN:** So the risk of having to have the engineering done in the province, which

means that SNC-Lavalin had to get their people here, in this province, to do the engineering part of the EPCM contract, right?

**MR. HARRINGTON:** Right, so that was accounting for the change between DG2 and DG3.

**MS. O'BRIEN:** That's right.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** But even after DG3, I understand that this risk manifested itself in a greater way than you had even anticipated, right?

**MR. HARRINGTON:** And how would you say that – how did you get that one?

**MS. O'BRIEN:** Oh, actually, from my interview with you.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** So if you just give me a moment ...

I'm going to go to page 96 of your interview. So I'm actually at the bottom of page 95 or – so, you know – this is you speaking, Mr. Harrington: So, you know, the original premise was SNC have all of their engineers sitting in Montreal and they work on projects and that projects may be in Manitoba or wherever, right? So that's where their core hydro is done.

They don't have a hydro company here in town, right. They have a local company, which does a lot of civil work and things like that, but it doesn't do hydro work, so any of the – sorry, engineering expertise would have to come from Montreal.

So, now, we couldn't send the work to Montreal; the people have to come here. And if you bring people here, you have to pay increased living allowances and other benefits. You have to encourage them to come here because they really didn't want to come here because they were quite happy in Montreal doing their work. So that created a problem for us, right? Whether it's a strategic or tactical, it's just – it was an increased cost between DG2 and DG3.

**MR. HARRINGTON:** Yes, yes, that's right.

**MS. O'BRIEN:** And I said: Okay. And I said to you: And it was included and incorporated into the DG3 base cost estimate – question. You said: Yes, but it increased, you know. Then we had a problem right, to keep people. So it had a cascading effect as well, right?

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** And I said: A cascading effect that wasn't captured in the DG3 estimate? And you said: To a degree, okay? And I said: Okay, so explain that to me. And you said: Well, once you got the people here, right, and they've been brought through a couple of winters and summers, they might not want to stay here.

And I said: Okay. And you said: Yeah. And I said: So is that anticipated? And you said: No, it wasn't anticipated. You know, we expect an engineering company to deliver an A team and to keep it, right?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** So I said: So in trying to retain people in the provinces, was it a risk that the project team foresaw? And you said: Well, we did to a degree and off we went from there.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** So does that explain to you where I got that information from?

**MR. HARRINGTON:** Yes, it does. Thank you.

**MS. O'BRIEN:** And do you agree with it still today?

**MR. HARRINGTON:** That there was a cascading effect? Yes.

**MS. O'BRIEN:** And that it was a risk that came to fruition that wasn't anticipated –

**MR. HARRINGTON:** It wasn't anticipated.

**MS. O'BRIEN:** – in the DG3 estimate.

**MR. HARRINGTON:** Yes, that's correct.



**MS. O'BRIEN:** Okay.

All right, now, Jason Kean also – he has testified here that there was nothing captured in the strategic risk analysis for poor performance by SNC or any risk associated in the switch from the EPCM contracting strategy to an integrated management team contract strategy.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. So you agree with that, all right.

And Mr. Kean testified that even in May 2012 he did not see this as a broader strategic risk because, as I understood his evidence, he considered it had largely materialized and been accounted for by this time. And do you agree with that?

**MR. HARRINGTON:** Yes, I would.

**MS. O'BRIEN:** Okay so you didn't see it as a broader strategic risk in May of 2012 either?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay.

So can we go to P-00887, please, tab 51?

So this is one of the PowerPoint presentations that you prepared and delivered to – or sorry, to Grant Thornton. And this is the one, I think, you had prepared to provide to the Commissioner – the Commission.

**MR. HARRINGTON:** I didn't prepare this particular slide deck.

**MS. O'BRIEN:** No. I'm sorry, yes, you clarified that already. But I understand that you were there during the presentation of it?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** And it was true to the best of your knowledge, information and belief.

**MR. HARRINGTON:** Correct.

**MS. O'BRIEN:** Okay.

So I just kind of want to review this because it kind of does show where the relationship was with SNC-Lavalin as of May 2012 and even going right up into sanction. Because I take it you never did go back and revisit your strategic risk to add anything there for this relationship –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – with SNC?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay.

So let's start maybe with page 5, Madam Clerk.

Okay. So this actually takes us a little bit through a bit of the history here. So I just – I understand back in 2007, 2008 that initially the project management team was recommending an integrated management team back in those years. Is that right?

**MR. HARRINGTON:** That is correct, yes.

**MS. O'BRIEN:** Okay.

And I think we do have, as an exhibit, the – an early draft of a document that showed that. So that's 2007, 2008. Can we go to page 8, please?

And so, again, I'm just trying to get some – no one has provided this information, I don't think yet, in a big picture way yet to the Commissioner, Mr. Harrington. So I understand that you went out with an expression of interest in 2009 to some of the major engineering firms?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** And you got those responses back in April. And I think essentially you got the signal from those contractors that they were more receptive to an EPCM strategy than they were to an integrated management team?

**MR. HARRINGTON:** That is correct.

**MS. O'BRIEN:** Okay.

So page 11, please? Okay.

So then you decided to go – in 2009 you made the decision – because of that market feedback you went with an EPCM contracting strategy?

**MR. HARRINGTON:** That's correct, yes.

**MS. O'BRIEN:** Okay, all right.

And just maybe this would be a good time – I know you want to just talk – wanted to give the Commissioner some evidence of the difference – what an EPCM contract is versus an EPC contract. Now, I know here you were looking at EPCM versus integrated management team, but maybe if you could just give the Commissioner that evidence on a – you know, it does talk here on this slide about an EPC.

What's the difference between EPC and EPCM?

**MR. HARRINGTON:** Okay.

EPC – if we start off with that one – can sometimes be engineering, procurement, construction contractor, which is formed as a lump sum. So fixed price, you know, all that –

**MS. O'BRIEN:** Turnkey –

**MR. HARRINGTON:** Turnkey.

**MS. O'BRIEN:** – lump sum, fixed price, EPC, so it means the same thing.

**MR. HARRINGTON:** So that means that the EPC contractor takes on an enormous amount of risk and he prices his contract accordingly.

In an EPCM type of role, the risk for the contractor is significantly less, Commissioner. The engineering, procurement, construction management is performed by that contractor without the large amount of risk associated with it.

If we looked at the integrated team with an engineering contractor or contractors, that's the owners stepping in with a significant, you know, team themselves and bringing in specific services. You might get engineering services for, you know, the powerhouse, you might get different engineering services from a different supplier from – you know, for the dams or for the transmission, so it's just a very flexible way

of doing things. The – you know, the risk then to the engineering contractor in that phase is minimal, basically, errors and omissions. We would cover that.

So that's the – those are the three kind of options you have. We chose the EPCM contractor because it's – as Ms. O'Brien mentioned, the contracting community were – you know, that was kind of flavour of that particular year and they felt as though that was a better way of delivering the project. So there we are.

**MS. O'BRIEN:** Okay.

So just to kind of put this all in context, I take it the idea of doing a turnkey package or an EPC package – that option was essentially taken back off the table many years prior when the decision was to go within, you know, Newfoundland and Labrador Hydro led, go-it-alone option, right?

**MR. HARRINGTON:** Yeah. No one would take on that risk.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** But, if I may add, the, you know, when we – under the EPCM contractor, he would then decide, with us, whether there was kind of a discreet piece of work that could be provided to an EPC contractor.

**MS. O'BRIEN:** Right. Okay.

**MR. HARRINGTON:** And an example of that would be the HVDC packages.

**MS. O'BRIEN:** Which eventually put out as EPC.

**MR. HARRINGTON:** EPC.

**MS. O'BRIEN:** Yep. Okay.

So, but like the idea of doing the whole Muskrat Falls Project as a turnkey package, that came off the table when the decision was made to go it alone.

**MR. HARRINGTON:** Yeah, no one would touch (inaudible).

**MS. O'BRIEN:** Okay. All right.

So then you looked at essentially doing the EPCM strategy. And I understand there's some pros and cons, obviously, between an EPCM strategy and an integrated management team strategy. And is it fair to say that, under an integrated management team, there's a little more risk to the owner under that strategy, particularly with respect to construction management and cost schedule risk. Is that fair to say?

**MR. HARRINGTON:** A little bit, yes.

**MS. O'BRIEN:** A little more risk, okay. But there's also some more control there that you get as a bit of a trade off.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. All right.

So, now, if we can just go then to slide 12, please, page 12.

Okay, so then picking up the story here, there was a request for proposal issued in July of 2010 and ultimately SNC-Lavalin was awarded the EPCM contract?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. Go to page 15.

So here you have a slide that's entitled: There were serious SNC-Lavalin Inc. performance in 2011/2012, and it's two slides on this topic; just show you the next slide there.

So I'm just gonna ask you, can you just – this is 2011-2012, can you just explain for the Commissioner what these serious performance issues were?

**MR. HARRINGTON:** Should we step through them?

**MS. O'BRIEN:** Sure.

**MR. HARRINGTON:** Yeah.

Resources: we were struggling to get resources from SNC. Some significant personnel gaps. We

had a succession of project managers and functional managers.

The Decision Gate 3 deliverables were under threat because we weren't coordinated between engineering and the estimators, and the estimators and the procurement.

Implementation: we saw that there was a problem to get committed SNC processes, tools and systems, resulting in poor controls. We had to step in on some occasions, people and processes and systems. And the power division at that point in time were struggling to – and the people that they had were struggling with the SNC corporate systems.

Interface Issues: the lack of working interfaces between engineering and procurement. We were starting to miss deadlines for long-lead items. So we hired someone to bridge the gap for them.

We saw an ideology gap between the bid phase and how we were actually going to run it from, you know, 3 million person hours to almost double that. The construction management of early site works was problematic.

If we could go down.

**MS. O'BRIEN:** Oops, sorry. There we go.

**MR. HARRINGTON:** And, at the time, and I think I need to say this clearly, that the SNC that we see today is much different from the SNC that we were experiencing at the time. They were going through some very difficult situations; accusations of corruption at senior SNC leadership levels. We, you know – the CEO disappeared, he was finally – he was, you know, arrested on corruption charges. All of the people that we negotiated the EPCM contract had gone. And there was a lot of public pressure for us to, you know, to – why are SNC on the project? That was difficult to keep people motivated.

The contract strategy wasn't aligned with ourselves. This – the HQ is Hydro-Québec model. We weren't really all that aligned.

Engineering: we found that we didn't have all of these technical specs that we needed and we

supplemented them. And there was a gap in HVDC design engineers.

So this was the situation in 2011-2012.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So to mitigate that, to correct that situation –

**MS. O'BRIEN:** Okay, well, just give us a moment there now. So that's – you've covered those slides there.

**MR. HARRINGTON:** Could I finish –

**MS. O'BRIEN:** Well, yes, but I think you're going to go through the mitigation on your slide, aren't you?

**MR. HARRINGTON:** I'd just like to finish the phrase that I was on.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** If you don't mind.

To mitigate this we implemented the integration, so we kind of went back to our integration model. So we acted promptly on all of these things and we turned it around.

**MS. O'BRIEN:** Okay. So, I was about to take you to this slide but I'll do it now.

So I understand if we go to page 32, please.

Okay, so this is the mitigation that you were just – I was just going to bring you there, Mr. Harrington –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – to assist you. The – you're saying team initiatives were set up and mitigation efforts were put in place. And so you're showing here the mitigation efforts that you're doing in 2011 and 2012.

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** Right? That's what you were just referring to?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay, page 38, please.

So I – this is a bit of a timeline that you've shown which shows – one side you have "SNC Corporate turmoil" and you have a bunch of events here, but we – this is a bit of a timeline as to what was going on, right?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** And so we can see what was going on here right up – I think, around here would be the – sorry, right around here would be the sanction time.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

So there's still, even after sanction there was still the issues arising with SNC-Lavalin.

**MR. HARRINGTON:** Yeah, but we were well on the path of resolving those things. So from my perspective we'd addressed the issue, the challenge was to actually start to get SNC to work with us to actually turn this around, so –

**MS. O'BRIEN:** Oh, so you'd started to move to an –

**MR. HARRINGTON:** And that was ongoing –

**MS. O'BRIEN:** – integrated management team.

**MR. HARRINGTON:** And that was – immediately started to have positive effect.

**MS. O'BRIEN:** Okay, but I understand that the final move to the – the public announcement, at least, of the integrated management team wasn't until early 2013.

**MR. HARRINGTON:** That could be, because we were waiting 'til we'd got effectively everything done.

**MS. O'BRIEN:** Right? And then you still had to have some negotiations after that with SNC-Lavalin to change up the contract?

**MR. HARRINGTON:** Yeah and the contract changes were minimal.

**MS. O'BRIEN:** Well, they included a big change in who was taking on liability for contract management and procurement, right?

**MR. HARRINGTON:** Yeah, so the liability issue was, you know, was 15 per cent of the work that SNC would be performing.

**MS. O'BRIEN:** Okay, but there was changes to the liability clauses, right?

**MR. HARRINGTON:** Well, there was modifications to the liability clauses, but the percentage didn't change.

**MS. O'BRIEN:** Right, but SNC-Lavalin was after – it was dated back to April 2012 that they weren't going to take on any liability for contract management for the project.

**MR. HARRINGTON:** That contract management, they would only take on responsibility for the work that they were responsible for (inaudible) –

**MS. O'BRIEN:** Up to April 2012.

**MR. HARRINGTON:** Yeah, that's right.

**MS. O'BRIEN:** Right? And so that was a contract change that was negotiated –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – some time long after sanction though.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** That was still an outstanding issue at sanction.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

So I'm going to put it to you that we see here all the turmoil that you have going on with SNC-Lavalin through 2012.

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** And at this time you are assessing strategic risk for – you know, one of your action plans to mitigate the strategic risk is, you know, bringing the SNC A team.

You have major problems going on – certainly, you know, well past May of 2012 – well past June of 2012, and yet you counted the strategic risk here as zero dollars.

And I'm asking you: Do you see that as a reasonable decision to have made?

**MR. HARRINGTON:** Yes, I do because we were, you know – the issue that we were facing, if we hadn't taken the actions that we were taking, would've resulted in a significant risk to us. But we did take those actions; we did turn the SNC folks around. We brought on Hatch; we brought on other companies to augment the gaps that we had identified. And we felt, as a team, that we'd now got to a point where we were on the right tracks.

**MS. O'BRIEN:** Mm-hmm.

A lot of that work took place in the second half of 2012.

**MR. HARRINGTON:** Yeah –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – we – but we were working it. Yeah.

**MS. O'BRIEN:** Okay. So you were working it –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – you didn't necessarily know yet how it was gonna work out.

**MR. HARRINGTON:** We had confidence that we would succeed.

**MS. O'BRIEN:** Such confidence that you counted the strategic risk as zero.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** All right.

Commissioner, that might be a good time for the afternoon break, because I'm gonna go into another area.

**THE COMMISSIONER:** Okay.

So we'll adjourn now – or just take a break, rather, for 10 minutes.

**CLERK:** All rise.

### Recess

**CLERK:** Please be seated.

**THE COMMISSIONER:** Ms. O'Brien?

**MS. O'BRIEN:** Thank you, Commissioner.

Madam Clerk, can we please have up P-00130, page 150? Okay, this is one of the other strategic risks that – a change in project scope. And, again, we can see from the chart here this was considered to be very low.

We have had testimony from Mr. Kean on this point as well, and essentially that any – he was asked whether any – there was anything accounted for in the strategic risk analysis to account for changes outside the current boundaries of the project, so scope changes outside the current boundaries. And his evidence was that, no, there was not. Do you agree with that evidence?

**MR. HARRINGTON:** So are we looking at R8? Is that right?

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** So: "Changes in Project scope resulting from maturing system integration" and "operation definition."

**MS. O'BRIEN:** Mmm.

**MR. HARRINGTON:** So what that's talking to is the system – because Paul Humphries and Rob Henderson were the – you know, the operations people and they – we spent a lot of

time ensuring that the design of the Labrador-Island Link was going to fit with the existing system on the Island. And that's what that talks about: System integration and operation definition, and that – a lot of that work had been done between DG2 and DG3.

**MS. O'BRIEN:** Yeah, I do understand that –

**UNIDENTIFIED MALE SPEAKER:** Mr. Commissioner, could we ask to have the microphone a little closer to the witness? We're –

**THE COMMISSIONER:** Yes.

**MR. HARRINGTON:** Okay, sorry about that.

**MS. O'BRIEN:** Thank you.

**THE COMMISSIONER:** It seems to be – your microphone in particular seems to be really sensitive to – like, it doesn't pick up the surround sound, so to speak, as opposed to these ones here. But anyway –

**MR. HARRINGTON:** I guess I'm just lucky.

**THE COMMISSIONER:** – move it in the best you can anyway.

**MR. HARRINGTON:** Yeah, I'll do the best I can. I'll raise my voice.

**THE COMMISSIONER:** If anybody else finds it difficult to hear, please let me know.

**MR. HARRINGTON:** Sorry, Ms. O'Brien.

**MS. O'BRIEN:** No problem.

So I understand from Mr. Kean though, I asked him whether there was anything in strategic risk – the consideration of strategic risk at DG3 to account for project scope changes outside the current boundaries of the project. You know, the project had been defined and, you know, any scope changes outside of that, had anything been accounted for in strategic risk? And his testimony was no.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay, so you agree with that?

**MR. HARRINGTON:** Yes, yes.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Sorry, I was just looking at this particular point.

**MS. O'BRIEN:** Yeah.

And were you aware that scope changes are one of the most, you know, the leading causes of cost overruns on megaprojects?

**MR. HARRINGTON:** Yeah, it's one of them. Yes, yes.

**MS. O'BRIEN:** And you were aware of that at the time?

**MR. HARRINGTON:** Yes, yes.

**MS. O'BRIEN:** Okay.

So I'm just going to ask you, how realistic was it then to account – to include zero dollars for that strategic risk at DG3? I mean you know it's one of the leading causes of cost overruns for megaprojects, why wouldn't you have accounted something for that in the strategic risk evaluation?

**MR. HARRINGTON:** Because of the amount of system integration and operation definition work had been carried out –

**MS. O'BRIEN:** Mm-hmm.

**MR. HARRINGTON:** – because of the fact that we had the full CATIA model on the powerhouse and spillway done, the fact that we'd done both computer modelling and physical modelling of the whole Muskrat Falls site, we felt that those things effectively mitigated the fact that, you know, the engineering wasn't, you know, half – it wasn't, you know – and the basic design hadn't changed since we worked it out from DG2 to DG3.

So, you know, I think that was a reasonable approach. I agreed with him on that one, that the – those are the projects which suffered from scope change. I know we haven't had hardly any on, you know, real scope change the way that we talk about here on the Muskrat Falls site.

**MS. O'BRIEN:** But you have on the transmission lines. I mean scope change is –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – a strategic risk that did materialize on this project, right?

**MR. HARRINGTON:** That was the black swan as we talked about, you know, which was the, you know, the unfortunate events of DarkNL.

**MS. O'BRIEN:** But the – I think the point is that it's well known that scope change is a leading cause of cost overruns on megaprojects. Right?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** You knew that at the time?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** You accounted zero dollars for that because you believed that it wouldn't happen to this project.

**MR. HARRINGTON:** No, we believed – again, going back to those three strategic risks that Westney had put forward that they said that they would dominate everything. So I stick to that.

**MS. O'BRIEN:** Okay, but in your professional assessment, you were satisfied that you really believed, at that time, that the – there wouldn't – this project wouldn't be affected by scope change.

**MR. HARRINGTON:** Well, it says it there: While the risk remains open, exposure is considered very low.

**MS. O'BRIEN:** So you didn't put anything in the strategic risk (inaudible)?

**MR. HARRINGTON:** No, that's correct.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Based upon that.

**MS. O'BRIEN:** Okay.

Looking at page 161, please – yeah, I jumped a little too far, looked at these already.

This R19, R18, these two ones here, this are – were strategic risks that really addressed, you know, a lack of support from grassroots, non-governmental organizations, from Aboriginal or Indigenous groups. And I understand that you had accounted for zeros dollars in strategic risk for these types of strategic risks.

**MR. HARRINGTON:** That's correct, based upon the current status and the – you know, the response from the risk leads responsible.

**MS. O'BRIEN:** Pardon?

**MR. HARRINGTON:** The risk leads, Dawn Dalley, and I think the other one – I don't know who is looking after the top one – Stephen Pellerin. They both advised us that, you know, given the current status and all of the work that had been done, then – and as it says here under Current Status on R18: Include tactical risk exposure to 20, 30 million.

**MS. O'BRIEN:** Yes, we're going to go to that tactical risk here in just a moment. But with respect to strategic risk, I understand that you didn't account for any.

**MR. HARRINGTON:** Well –

**MS. O'BRIEN:** Right?

**MR. HARRINGTON:** – because we covered it, on this particular one, under tactical risk.

**MS. O'BRIEN:** Okay but I understand tactical risks are things that are within the project team's control.

**MR. HARRINGTON:** Yeah, and that was – what this was talking about is that we felt as though we had control over these things now, based upon the management – the action plan and the current status.

**MS. O'BRIEN:** Okay, well, we're going to go to the strategic risk number, but I'm going to put it to you that that addressed the IBA with the Innu. But so – but let's –

**MR. HARRINGTON:** No, it says other Aboriginal groups.

**MS. O'BRIEN:** Okay, well, we will go to those numbers.

**MR. HARRINGTON:** Well, I'm sorry, you mentioned it was Innu, but: "Establish consultation agreements with each of NunatuKavut, Labrador Inuit and 6 Quebec Innu bands."

**MS. O'BRIEN:** Okay, that's –

**MR. HARRINGTON:** So I don't wish to be picky, but it's not just ...

**MS. O'BRIEN:** Okay, let's go to page 239 then.

Okay, so you put me – told me to take a look at this yesterday, actually. This was the tactical risk exposure final revision that you've been looking at?

**MR. HARRINGTON:** Yes –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – I did point that out to –

**MS. O'BRIEN:** Okay, yeah –

**MR. HARRINGTON:** – you yesterday.

**MS. O'BRIEN:** – so I looked over it.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** And I looked for what you would be referring to here.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** So I see here – one here, Aboriginal. Is that –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – what you'd be referring to then?

**MR. HARRINGTON:** That's right, yeah.



**MS. O'BRIEN:** Okay.

So the best-case scenario was that you – was it would cost 8.6 million, is that right?

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** And the worst-case scenario was that it would cost 30 million?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** And it says, the scenario there supporting the worst-case scenario?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** And it says: Reflects 20 million penalty for non-adherence to IBA contracting requirements.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** So that would be the IBA with the Innu?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay, you didn't have any IBA with Nunatsiavut?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** And you didn't have any IBA with NunatuKavut?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay. And you didn't have any IBA with any other grassroots organizations?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Okay.

And then the next one says – the other bullet there is: "Unforeseen IBA administration / implementation exposure."

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** And again, that would be the Innu IBA, right?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** And then it also – so would you agree with me here that that tactical risk does appear just to address the Innu?

**MR. HARRINGTON:** Well, at least 20 million of it.

**MS. O'BRIEN:** Well, 20 – well, the worst-case scenario is 30 million, and it seems to be broken down – 20 million as a penalty, and then, presumably, the other for these unforeseen IBA administration costs.

**MR. HARRINGTON:** I don't think you can draw that conclusion.

**MS. O'BRIEN:** Well, I don't see anything else written on the page.

**MR. HARRINGTON:** Well, yeah – that might not be written on there, but it may be that that's what it covered.

**MS. O'BRIEN:** Okay, someone decided it covered that but just chose not to write it in?

**MR. HARRINGTON:** Yeah, I mean, this was put together to try and capture – you can't get everything in every little bullet.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** It doesn't say, you know, Aboriginal, Innu.

**MS. O'BRIEN:** It doesn't say your interpretation either, I guess.

**MR. HARRINGTON:** Okay. That –

**MS. O'BRIEN:** Fair to say?

**MR. HARRINGTON:** That's fair to say.

**MS. O'BRIEN:** Okay.

And now, I just – I found this really interesting because it does say over here on the notes: "This excludes 70% of cost which must be apportioned to Gull Island."

And I noted that same thing up with the environmental here: “This excludes 70% of costs which must be apportioned to Gull Island.”

So what of these tactical risks were being apportioned to Gull Island?

**MR. HARRINGTON:** I don’t think it means the tactical risk would be apportioned. It’s – there’s always a split between – on the environmental and the Aboriginal side of things, because the environmental EA was for both Gull Island and Muskrat Falls. The IBA was for – and – yeah, was for all of the projects, as well.

So consequently, there was always a split between what Gull should cover and what Muskrat should cover –

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** – and that was an allocation aspect on the total cost of the project.

**MS. O’BRIEN:** Okay, so it got split 70 per cent to Gull Island; 30 per cent to Muskrat Falls?

**MR. HARRINGTON:** That’s what it says, yes.

**MS. O’BRIEN:** Was that consistent with your understanding?

**MR. HARRINGTON:** That’s what I believe, yes.

**MS. O’BRIEN:** Okay, so I mean, obviously, the Muskrat Falls Project couldn’t go ahead without the environmental assessment, right?

**MR. HARRINGTON:** That is correct.

**MS. O’BRIEN:** And the Muskrat Falls Project couldn’t have gone ahead unless there’d been an impact and benefits agreement with the Innu Nation, right?

**MR. HARRINGTON:** That is correct.

**MS. O’BRIEN:** Okay, so notwithstanding that those things had to happen for Muskrat Falls to go ahead, the cost that got apportioned to Muskrat Falls was only 30 per cent of those costs?

**MR. HARRINGTON:** Of the total cost for those – for that particular piece of work – for environmental and Aboriginal.

**MS. O’BRIEN:** Okay, and whose decision was it to apportion it that way?

**MR. HARRINGTON:** That was done based upon allocation procedure – I really don’t know who said that.

**MS. O’BRIEN:** Was it your decision?

**MR. HARRINGTON:** No.

**MS. O’BRIEN:** Would it be someone senior to you?

**MR. HARRINGTON:** Maybe not. It might have been done by the FNA group – the financial group.

**MS. O’BRIEN:** Okay.

**MR. HARRINGTON:** So I couldn’t really answer.

**MS. O’BRIEN:** So these are dollars that were spent, and so, right now, they’re sitting in a Gull Island ledger somewhere at Nalcor, and they weren’t accounted for in the CPW analysis?

**MR. HARRINGTON:** That I don’t know. If they weren’t included in the 6.2, then they wouldn’t be. You’re right.

**MS. O’BRIEN:** Okay. All right.

**MR. HARRINGTON:** So I’m just tying those things together.

**MS. O’BRIEN:** Okay, so we’re getting a little bit more information on that.

Okay, can we go – so that’s what I understand was there for tactical risks –

**THE COMMISSIONER:** Sorry, can I just –

**MS. O’BRIEN:** Yes, absolutely.

**THE COMMISSIONER:** Sorry to – just before you leave this. So I just want to make sure I understand this, Mr. Harrington.

So there are actually costs that would've been incurred prior to Muskrat Falls being sanctioned that are not included in the actual sanction cost because some of it was work for Gull Island, some was work for Muskrat Falls?

**MR. HARRINGTON:** That is correct.

**THE COMMISSIONER:** Do we know approximately how much money we're talking about here?

**MR. HARRINGTON:** I couldn't answer you –

**THE COMMISSIONER:** Okay.

**MR. HARRINGTON:** I don't know that.

**MS. O'BRIEN:** Commissioner, I have put in a request to Nalcor for that information.

**THE COMMISSIONER:** Oh, okay.

**MS. O'BRIEN:** It apparently was sent half an hour ago, so ...

**THE COMMISSIONER:** Okay.

**MS. O'BRIEN:** Okay.

**THE COMMISSIONER:** Apparently.

**MS. O'BRIEN:** So – all right.

Okay, so other than that, there was nothing in for these for things like protests, disruptions to your knowledge, in strategic risk.

**MR. HARRINGTON:** Everything is here or there.

**MS. O'BRIEN:** Okay.

And Mr. Kean had testified that this wasn't a call – that this was a call made by Gil Bennett, to include nothing for those amounts. It would –

**MR. HARRINGTON:** Well, he –

**MS. O'BRIEN:** Do you agree with that or not?

**MR. HARRINGTON:** He would be the risk lead for those things, so he would advise whether he wanted to include something or not.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So that sounds to be correct.

**MS. O'BRIEN:** Okay.

All right, can we go back to page 161, please?

Now, R23 here it's covering site conditions. Now, this one just addresses Muskrat Falls generation station but I – there would have been similar geotechnical issues, you know, risks with the transmission line, right?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

And would you – you know, geotechnical conditions here it says risk range "is considered low given significant mitigation activities. "

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** So nothing was included in the strategic risk for unforeseen subsurface conditions, is that fair to say?

**MR. HARRINGTON:** I think they made an assumption based upon how – on the transmission, how much rock anchors would be required, and that was put into the estimate.

**MS. O'BRIEN:** Right.

And so the risk that those assumptions were ultimately incorrect and, you know, the ground was more expensive to deal with than what was anticipated, that risk – there was nothing accounted –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – for in the estimate for that risk?

**MR. HARRINGTON:** That's correct, yes.

**MS. O'BRIEN:** Okay.

And you know, given that your – you know, I would – would you agree that for – cost

overruns for projects very often have to do with unforeseen subsoil conditions?

**MR. HARRINGTON:** Yes, and certainly on the Muskrat Falls site that was taken care of, right? Very effectively. But geotech, you don't know until you dig it up, right?

**MS. O'BRIEN:** Right.

So you don't –

**MR. HARRINGTON:** But that was – that –

**MS. O'BRIEN:** – know 'til you dig it up so why didn't you include anything –

**MR. HARRINGTON:** That would have been –

**MS. O'BRIEN:** – in there for that risk?

**MR. HARRINGTON:** Well, that – when the estimator puts that together, he includes a certain allowance for that.

**MS. O'BRIEN:** Okay.

But there was – I put to you that there was – besides the allowance there was – would there not still be some strategic risk there? I mean, there – it was a risk that did ultimately materialize, right, on the transmission lines?

**MR. HARRINGTON:** In some places, yes, yes.

**MS. O'BRIEN:** Right. So it cost money that you hadn't anticipated?

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** So it was a strategic risk that did happen?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** But I know we're not looking necessarily the ones that happened but we're looking at the reasonableness of your assessment back in 2012.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** And I just put it to you, given that you're talking about 1,100 kilometres of,

you know, line that have to be put in and knowing the varied and harsh terrains that are being covered, why would you not have included at least something for that risk?

**MR. HARRINGTON:** Well, you know, that specific risk, nothing was included as you quite rightly pointed out. But there was still \$300 to \$600 million identified as a strategic risk exposure.

**MS. O'BRIEN:** At DG3?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Three hundred to 600 –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – at DG3?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Where would I find that number at DG3?

**MR. HARRINGTON:** It's in the QRA.

**MS. O'BRIEN:** Oh, you mean the work that Westney did.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Where the – the mean value is 497.

**MR. HARRINGTON:** Yeah, yeah.

**MS. O'BRIEN:** But I thought that only accounted for those three risks?

**MR. HARRINGTON:** That's what they used as a kind of a, you know, a catch-all for everything.

**MS. O'BRIEN:** What do you mean that's what they used as a catch-all?

**MR. HARRINGTON:** Well, so –

**MS. O'BRIEN:** I thought those were the only risks that they ranged –

**MR. HARRINGTON:** They said –

**MS. O'BRIEN:** – and used in the Monte Carlo simulation.

**MR. HARRINGTON:** Okay. As I said before, those were the three risks that they said would dominate everything. We mitigated a lot of those risks, so that meant that, okay, you know, you mitigated one risk, this other risk can pop up, which it did.

**MS. O'BRIEN:** Okay.

So you're saying that you understood that – sorry, what's your evidence? I'm missing the point.

**MR. HARRINGTON:** So, going back to the Westney discussion that we had –

**MS. O'BRIEN:** Mm-hmm.

**MR. HARRINGTON:** – there were – they were identifying, okay, you've got three dominant risks here, strategic-wise, and these three dominant risks will dwarf everything.

And if they – you know, if they didn't materialize, you still had the range of \$300 to \$600 million. And \$300 to \$600 million in a strategic risk fund was – is quite a reasonable amount of money to have.

**MS. O'BRIEN:** But where did we have that \$300 to \$600 million in the strategic risk fund?

**MR. HARRINGTON:** Well, it was identified. I mean it's not – you know, it was identified as contingent equity and strategic risk exposure. It could've been offset by strategic opportunities. You know, that's not my area. All we can do is identify \$300 to \$600 million is something that you should be aware of.

**MS. O'BRIEN:** Okay, so your evidence is that notwithstanding that in coming up with that range of \$300 to \$600 million, Westney did not consider the risk of – geotechnical risks.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** You're saying that notwithstanding it wasn't considered, because you believe that the risks that they did identify could be mitigated –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – you felt comfortable that there was enough money there to cover geotechnical risks.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** And did you feel that way about other strategic risks as well?

**MR. HARRINGTON:** The – some of the other – as we said before, these were the three dominant risks and \$300 to \$600 million should be adequate to cover all of those.

**MS. O'BRIEN:** Okay.

Can we go to page 148? There was one there I hadn't asked anyone about.

R4 – this is foreign exchange risk. And this one here seems to say that: "Overall requirement for non-CDN expenditures is somewhere in the range of \$500 to \$800 million dollars. From a contracting/procurement" – strategy – "Nalcor assumes Fx exposure." What's FX?

**MR. HARRINGTON:** Foreign ex ....

**MS. O'BRIEN:** Foreign exchange exposure. Is that right?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** "LCP foreign currency exposure considered as part of ... broader Nalcor Financial Risk Management Strategy, and will be considered as part of the project's plans going forward."

Can you explain that part for me?

**MR. HARRINGTON:** This is outside of my area.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So I don't want to speculate.

**MS. O'BRIEN:** Okay. So we can ask someone else –

**MR. HARRINGTON:** Please.

**MS. O'BRIEN:** – about that.

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

Can we go to page 7 of this document, please?

Okay so this talks a bit about, here, “Nalcor’s implementation of Westney’s Risk Resolution Process, illustrated in Figure 1, for quantitative assessment of the potential financial exposure of identified risks on the Project has been done in accordance to industry best practice as recommended by the,” – AACE International – “under its Recommended Practice No. 42R-08.” And the name of that document is there.

I take it you’re familiar with that document, are you, Mr. Harrington?

**MR. HARRINGTON:** I’m familiar with the AACEI – that particular one, yes.

**MS. O'BRIEN:** You’re familiar with it –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – it’s attached to this document, is it not?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** If we go to page 310?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay so it’s attached right there, so –

**MR. HARRINGTON:** Yeah, yeah.

**MS. O'BRIEN:** Yeah. So you’re familiar with that one.

**MR. HARRINGTON:** That’s correct.

**MS. O'BRIEN:** Okay. So – I wanna go to a little bit about what this says about – if we go the bottom of page – can we go to 317, please?

So at the bottom of page 317 it talks about identifying and quantifying systemic risks. And it sort of goes on, on the next page. And it talks about, you know, getting key team members and project stakeholders together to identify and quantify risks?

**MR. HARRINGTON:** Yeah. That’s the risk framing, I would say.

**MS. O'BRIEN:** Okay. So – is it fair to say that one of the reasons you tried get this large team together with, you know, different key team members, other project stakeholders, is – it helps you to – one of the benefits of getting a broad number of people around the table, it helps you to mitigate against biases, I suppose, it would be one benefit of it?

**MR. HARRINGTON:** Yup.

**MS. O'BRIEN:** Okay. So you get people with different backgrounds, different experiences weighing in?

**MR. HARRINGTON:** Yup.

**MS. O'BRIEN:** Okay. So – and now, we know that there was a larger group of people brought in at least for the tactical risk and it’s shown by the attendee sheets that to – whatever extent we can rely on them – but at least they – people did sign their names – but – and we have put into evidence already at P-01158 – Commissioner, this is the document from Westney where they say that’s where the tactical risk work was done, at the end of those workshops.

You’re familiar with that, Mr. Harrington?

**MR. HARRINGTON:** Yes I am.

**MS. O'BRIEN:** Okay.

So it wasn’t clear from Mr. Jason Kean’s evidence, but we’ve since learned from Mr. Dick Westney that there was further work done on the risks by you and Jason Kean at Westney’s offices in Houston –

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** – with Keith Dodson on June 4 and June 5 of 2012.

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. So you and Jason went to Houston to do further work on the tactical and strategic risk analysis. Is that right?

**MR. HARRINGTON:** There was a couple of reasons for that meeting. It was to get the tactical risk work done. We wanted that report because we needed to feed that into the ongoing CPW-type work that was under way, you know. We were under the gun to provide them with, you know, cash flows and things like that. So we needed that information – that was one thing.

And the second thing is we wanted to talk to them about the strategic risk work that they were undertaking and the time risk model.

**MS. O'BRIEN:** Okay and you – why did you not just do that while they were there in St. John's?

**MR. HARRINGTON:** Didn't have time to do that. That was a, you know – they needed to get that information together so that they could – we wanted them to go back and start to develop the reports for us.

**MS. O'BRIEN:** Okay. So when we look at where the tactical risks were after – we see where the tactical risk framing was done with the larger group there –

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** – and then we compare it to how it was – how the tactical risks – the best and worst case scenarios were assessed following your – you and Jason going to Houston.

**MR. HARRINGTON:** With the – with that sheet that you've shown earlier is the rationale for any changes.

**MS. O'BRIEN:** Yeah. And would you agree with me that there was an adjustment downward of the tactical risks?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. So we – my estimate is about, you know, over \$160 million downwards

and I believe you said it was – you've reduced by a certain percentage.

**MR. HARRINGTON:** So it was \$167 million –

**MS. O'BRIEN:** A hundred and sixty-seven – yeah.

**MR. HARRINGTON:** Yeah. Sorry. Over a \$5 billion dollar number.

**MS. O'BRIEN:** So you adjusted them down?

**MR. HARRINGTON:** Yeah. Over that five billion.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Well, there was adjustments up and down but, you know, at the bottom line – that's what it came out to.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** That's – from what I calculated it's less than 2 per cent of the change – a lot of the ranges were pretty much the same – the gaps between the two. And that's just toing and froing with, you know, with Westney on these things.

**MS. O'BRIEN:** Why – I just went – if the idea of getting, like, the – having a larger group together – one of the benefits of that is, you know, guarding against bias and tunnel vision and those kind of things that can creep in if you take too narrow a view –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – why would you not have done that work –

**MR. HARRINGTON:** Sorry.

**MS. O'BRIEN:** – with a larger team? Why would you have just gone – just you and Jason Kean down to Houston to do those adjustments?

**MR. HARRINGTON:** We just wanted to get it over the line.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So, you know, once you put all that effort in this is, you know, and I think Mr. Westney's mentioned it – it's just a kind of fine-tuning to get to a final answer.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I don't see anything untoward in that.

**MS. O'BRIEN:** Well, I'm just – when the AACE practices – and there is a number of them, they talk about the importance of taking – having a lot of people around the table. I mean, ultimately you chose just to have you and Mr. Kean and Mr. Dodson. I think that's the point.

**MR. HARRINGTON:** That's correct. And that was the fine tuning, and the types of changes that were made were – as I mentioned were, you know, were in the range of 2 per cent.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I don't think that's material.

**MS. O'BRIEN:** Okay. So it's the adjusted ranges that you did that led to a 6.7 per cent tactical – I think rounded up to 7 per cent tactical risk contingency that was included at DG3?

**MR. HARRINGTON:** That was the result of the Westney reports –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – at the end of the day.

**MS. O'BRIEN:** And I understand this was done on unescalated numbers?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay. And it was done on – based on the schedule date that had been put into the CPW analysis?

**MR. HARRINGTON:** The target date, yes.

**MS. O'BRIEN:** The target date of first power in mid-2017?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay.

And now, one of the points that Mr. Westney raised was that, you know, that his preference would be that you look at escalated prices when you're doing this risk analysis, but it was Nalcor's decision to go with unescalated.

Do you wanna give some comment on that? Why didn't you do the analysis based on escalated amounts?

**MR. HARRINGTON:** Because the escalation work was still ongoing at that point in time.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And Grant Thornton, in their report, stated that even if you had done that, there was no material difference.

**MS. O'BRIEN:** No, I – well, there – no, there was no – that one thing. I do acknowledge that certainly Grant Thornton says that, but I mean the fact was you went with – the result was it, I think, it did change the number to some extent. I think Mr. Westney said, you know, that it basically made it a 6.1 or a 6.3 versus a 6.7. I forget what his exact –

**MR. HARRINGTON:** I wouldn't be able to –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – comment on that.

**MS. O'BRIEN:** Okay. So your reason for doing it was that the escalation work had not been completed.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Or it was still ongoing. We were still getting feedback on some of the work. As far as I was – as far as my recollection goes. Otherwise we would've included it.

**MS. O'BRIEN:** Okay. And then this broke down further into – I understand, this 7 per cent tactical contingency broke down further into a



3.1 or similar percentage of contingency for the Labrador-Island Link?

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And that's what Westney wrote. They wrote that the base estimate, plus P50 on the tactical risk scale would be the cost that the project could be executed to within the – and according to the plan, excluding what they would call strategic risks. So that's clearly in their document.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And it wasn't, you know – that was a Westney paper, Westney document, so, you know, that was pretty clear to me that that was a good tactical estimate, and a good tactical amount to include, based upon (inaudible).

**MS. O'BRIEN:** It's assuming everything went according to plan though, right?

**MR. HARRINGTON:** Excuse me?

**MS. O'BRIEN:** Because I can bring up that note. Just let me get the note, I think it will be helpful.

Let me just see, it's in – let me just get up the document there so you have it there.

**MR. HARRINGTON:** P-00130.

**MS. O'BRIEN:** Yes – do you know the page reference?

**MR. HARRINGTON:** 268, I think or –

**MS. O'BRIEN:** 268, please.

**MR. HARRINGTON:** – something like that.

**MS. O'BRIEN:** Let's get the note up, Mr. Harrington, so we talk about what you're ...

**MR. HARRINGTON:** I could be wrong on that number.

Oh, pretty close.

**MS. O'BRIEN:** You are very close.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** So I think this is –

**MR. HARRINGTON:** This is it.

**MS. O'BRIEN:** – it, right here, right?

**MR. HARRINGTON:** “The estimate, plus an amount to reach the P50 ....” Well, let's go back a little bit. Stop, please.

“The scope for the project is well defined and represents design development consistent with project sanction. Considerations, such as likely geotechnical conditions and quantity variations due to further design development, were quantified based on the experience of the project team and used as a basis for assessing the possible outcomes.”

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** “The estimate and quantification are consistent with the requirements of project sanction. In many cases, pricing was based on actual bids and budgetary quotes. ‘Check’ estimates were developed by industry experts for key areas, including the Muskrat Falls powerhouse and dam works. Other pricing was benchmarked against representative projects. The effects of weather, labour/skills availability, and supervision were also considered and/or benchmarked. Overall, this project's degree of design development, definition, and methodology is consistent with an AACEI Class 2 estimate.”

And then it goes on to say:

“The estimate, plus an amount to reach the P50 on the results curve, should represent the cost at which the project can be executed according to the plan exclusive of external uncertainties.

“A P50 contingency is \$368 million which equates to 7% of the estimate.”

That is what Westney told us.

**MS. O'BRIEN:** Okay.

So I understand that, but they are saying: Look, you'd have to be according to the plan that is and exclusive of external uncertainties. So there was – they weren't saying that there was a guarantee, they weren't telling you a guarantee here.

**MR. HARRINGTON:** But what they were saying is: excluding the external uncertainties, which is strategic risk in their terminology.

**MS. O'BRIEN:** How do you understand a P50 tactical contingency amount? Do you understand that as a guarantee?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** No. So how do you understand a P50?

**MR. HARRINGTON:** (Inaudible) it's – you've got a P50 chance – well, that's the most – that's the expected value.

**MS. O'BRIEN:** Right, so you have a 50 per cent chance of being more and a 50 per cent chance of being less.

**MR. HARRINGTON:** And that's what they've said here: the results are – “should represent the cost at which the project can be executed ....”

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So, I mean, that's pretty clear to me.

I struggled with what Mr. Westney had said that, you know, it – what was the terminology that was used? It was, you know, evident or something that – but this is pretty clear to me. I don't think any reasonable person could take very much more than to say that that's what they were giving us; that's what they were telling us. “The estimate, plus an amount to reach the P50 on the results curve, should represent the cost at which the project can be executed ....”

**MS. O'BRIEN:** And you understand that that was only a P50 value so, you know –

**MR. HARRINGTON:** But that's what it says. It says the P50 –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – on the results curve, plus the estimate –

**MS. O'BRIEN:** Yeah.

**MR. HARRINGTON:** – is representing the cost at which the project can be executed. So, you know, that's pretty clear to me.

**MS. O'BRIEN:** It says it should represent –

**MR. HARRINGTON:** I think it's clear to anybody.

**MS. O'BRIEN:** – the cost.

But now, the results curve, that's a result of the framing – it's the best case and worst case; how you and Mr. Kean, with the assistance of Mr. Dodson, quantified the tactical risks, right?

**MR. HARRINGTON:** Well, no. I mean, I think that's a little bit extreme to say that because the initial run with all of those people there was done. There was a little bit of fine tuning done of – as I mentioned it before, 2 per cent of changes. And so there was a little bit of fine tuning, but that doesn't diminish the fact that those ranges were essentially coming from a whole bunch of people. Not just me, not just Jason Kean and not just Mr. Dodson.

**MS. O'BRIEN:** But if those ranges were optimistic and too low, then this result would be optimistic and too low, right?

**MR. HARRINGTON:** Well, that means everyone who sat around that table and provided those ranges were as optimistic and too low. Optimism bias can exist, but that's why you try and get a whole group of people to do it initially, and then you just do the fine tuning.

You know, I think, you know, just like optimism bias is a human condition that's almost irresistible in some cases, you know, we got the other bias as well, which is hindsight bias. And hindsight bias is again, I believe to be – you know, it's so easy to fall into that trap that – you know, hindsight bias is also called I-knew-it-all-along syndrome, or creeping determinism.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And do you know that's – what it means is that, you know, people after the fact – after an event has occurred will say: Oh yes, well I knew that all along. But in fact they had no basis to make that prediction. So, you know, it's so easy, here we are sat, you know, so many years later, to look back and say, well, you know, you should have known about that.

Well, we worked on the information that we had at the time. This was the information that was provided to the project team. The project team gets P50, that's been clearly identified, you know, by Mr. Flyvbjerg. You know, it's to avoid the red-meat syndrome, I think he called it.

So, consequently, this is the information we had, as a project team, to make a decision. The estimate plus an amount (inaudible) P50 on risk (inaudible) should represent the cost at which the project can be executed.

**MS. O'BRIEN:** Exclusive of –

**MR. HARRINGTON:** That's pretty clear.

**MS. O'BRIEN:** – strategic risks.

**MR. HARRINGTON:** Yeah, sure, yeah, but –

**MS. O'BRIEN:** And recognizing it's a P50 value, but my question to you was that 368 million, right, that is a result of the curves that were done, based on the inputs that ultimately, I understand, Nalcor was responsible for setting.

**MR. HARRINGTON:** No, that –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** The ranges came from the risk workshop.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And were adjusted ever-so slightly, right, when we got to the site, and that was toing and froing. And it was documented by the exhibit you showed earlier.

**MS. O'BRIEN:** Okay. Well, who got the final say on what the inputs were?

**MR. HARRINGTON:** It was a discussion. You know –

**MS. O'BRIEN:** Who got the final say? Who said these are the inputs –

**MR. HARRINGTON:** It –

**MS. O'BRIEN:** – we're gonna use?

**MR. HARRINGTON:** – was a consensus of opinion.

**MS. O'BRIEN:** Between whom?

**MR. HARRINGTON:** Between the three of us.

**MS. O'BRIEN:** Okay. So – and I think – so between you and Jason and Keith Dodson?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

So, what Mr. Westney has said, and I think it's consistent with a disclaimer statement that he brought us to – some point – maybe it's on the other one – that he says that it was Nalcor was responsible for picking them, but they gave guidance and assistance and input into that, but, ultimately, it was Nalcor's decision.

Do you agree with that?

**MR. HARRINGTON:** Well, it was – that came from the risk workshop.

**MS. O'BRIEN:** But so – but do you agree with that?

**MR. HARRINGTON:** Well, it's Nalcor – yes, yes.

**MS. O'BRIEN:** Okay, you agree with that. All right.

So, Mr. Westney – I – we're going back now to the 3 per cent or 3-plus per cent on the LIL. And I had put it to Mr. Westney that a 3-plus per cent contingency on a 1,100 kilometer transmission line, which includes an undersea cable and

travels over some very (inaudible) terrain and counts as a megaproject itself, when you look at the value of it. I suggested to Mr. Westney that that seemed low, and I felt it would seem low to the average person. Just – someone just going with nothing but good old common sense, seems low. That was the proposition I put to him.

And when I put that to him he agreed and he testified that, as he was reviewing this file for his evidence at the Inquiry, that it stood out to him as being low, too. And that he said he discussed it with Mr. Dodson and he says that Mr. Dodson also agreed it was low, but analysis revealed it was a result of some very specific changes in the ranges that you and Mr. Kean made.

**MR. HARRINGTON:** Well, that's, you know, that's Mr. Westney quoting Mr. Dodson. That's kind of hearsay, isn't it?

**MS. O'BRIEN:** Well, the – yeah, that's good that you can identify that. But, ultimately, this is a Commission of Inquiry and hearsay evidence is allowed and we can do some – certainly some follow-up.

**MR. HARRINGTON:** Sure.

**MS. O'BRIEN:** And we will, in the Commission offices, do some follow up 'cause clearly we have you saying one thing –

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** – and Mr. Dodson reportedly saying another. So we can –

**MR. HARRINGTON:** Yeah, so if you could point –

**MS. O'BRIEN:** – follow up with that. But let me just say to you, does 3 per cent, 3-and-a-bit per cent contingency on the LIL not seem low?

**MR. HARRINGTON:** Yeah, it does seem low.

**MS. O'BRIEN:** Okay. So your – you understood it seemed low.

**MR. HARRINGTON:** But it was arrived at through due process.

**MS. O'BRIEN:** But does – sometimes – do you sometimes not just get the ultimate result and then look at it and say, yeah, well, maybe we should go back and look at our inputs because our output seems low?

**MR. HARRINGTON:** I also believe that there was some toing and froing with regards to putting some changes to the LIL, especially on the Strait of Bell Isle, that would have increased that 3½ per cent.

**MS. O'BRIEN:** Okay. But my question to you was, when it came out 3-plus per cent and it seemed low, did you ever give consideration to perhaps going back and looking at your inputs?

**MR. HARRINGTON:** No, I trusted the system, I trusted the process.

**MS. O'BRIEN:** Okay. You trusted the process. All right, okay.

Can we go to P-01186 here? I'm not sure what I'm gonna pull up, to be honest – my notes.

Okay. So that's some of the discussion with MHI and we'll get back to that. That's fine. Okay, we don't need that now, Madam Clerk, that's okay.

All right, we have heard from – now, I want to talk a little bit – you mentioned Bent Flyvbjerg there. Did you hear his testimony?

**MR. HARRINGTON:** Some of it.

**MS. O'BRIEN:** Okay. So did you hear his testimony that hydro megaprojects are particularly susceptible to cost and schedule overruns? Even –

**MR. HARRINGTON:** I did hear that. That's based upon a 2014 report that he'd done.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So that was after the 2012 decision.

**MS. O'BRIEN:** Okay. Did you ever do any research or review of trends regarding the success of hydroelectric developments?

**MR. HARRINGTON:** Not particularly. I think at some part along we looked at Wuskwatim project and how that turned out.

**MS. O'BRIEN:** The which project?

**MR. HARRINGTON:** Wuskwatim.

**MS. O'BRIEN:** Is that the one in Manitoba?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay. So that was after sanction, was it?

**MR. HARRINGTON:** Yeah, I believe so.

**MS. O'BRIEN:** Okay. So after sanction you sort of looked at it. And when – after the – there was – and that was a project that was running over on costs, right?

**MR. HARRINGTON:** Yeah, I think 15 per cent.

**MS. O'BRIEN:** Okay. So you looked at it then. So when you did look at the trends for hydro projects, what did you find?

**MR. HARRINGTON:** I just looked at the numbers. I didn't look at any of the great details.

**MS. O'BRIEN:** Did you look at –

**MR. HARRINGTON:** Other than –

**MS. O'BRIEN:** – any of the trends?

**MR. HARRINGTON:** – I think, you know, I think it was the labour model that was causing some of that.

**MS. O'BRIEN:** Okay. Did you, at that time, look around what other trends might be for hydroelectric projects?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay.

Did it occur to you when you were – you were taking on here a position as project director for a hydroelectric megaproject?

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** Right? And this was your first time ever being project director of any megaproject?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay, so your first time doing this job, and you certainly had no experience with hydroelectric projects, right?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** When you're taking on this job, and prior to sanction, did it ever occur to you to do some looking around, digging around and seeing what is the experience with megaprojects and what is the experience with hydroelectric megaprojects?

**MR. HARRINGTON:** So, I mean, that's one of the reasons why we engaged Westney, because they had a lot of experience in that area.

**MS. O'BRIEN:** Okay. But did you –

**MR. HARRINGTON:** Not me personally, no.

**MS. O'BRIEN:** Did you even think of doing it?

**MR. HARRINGTON:** I probably did think of doing it.

**MS. O'BRIEN:** Can we bring up P-00810, please? This is at tab 20 of your book.

So this is, you know, I mean it does seem like a place where one might turn one's mind in taking on a project like this. So it seems to have occurred to Charles Bown back in October of 2011. And he specifically put that question to Derrick Sturge.

**MR. HARRINGTON:** Hmm.

**MS. O'BRIEN:** And Mr. Sturge gets back to him and says: "Hi Charles, I have not, but have copied Paul Harrington on this email – perhaps he or SNC / Westney might have something." And your response back is: "We do not have any analysis on hydro project overruns."

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** So, like with that little – let's say, little reminder or suggestion or tweak from Charles Bown, did it occur to you to look into it?

**MR. HARRINGTON:** Yeah, but we'd engaged SNC-Lavalin who – doing the most recent hydro projects in Northern Quebec.

**MS. O'BRIEN:** Okay. Did –

**MR. HARRINGTON:** They brought their knowledge and information to the estimating side of things. So, you know, I think we were expecting that they would bring that knowledge of how their hydro projects were operating and how the capital costs were and build that in, as well as looking at the other projects that were going on in the province as well.

So, you know, they did increase the – their productivity factors.

**MS. O'BRIEN:** Okay.

I guess my question is: Did you ever go to SNC – you're saying you'd hired SNC, SNC had all this experience. Did you ask anyone at SNC what the general experience had been in the market of hydro project developments?

**MR. HARRINGTON:** Well, that would be, you know, relying upon Mr. Paul Lemay's input when he put the estimate together.

**MS. O'BRIEN:** No, I think my question is: Did you ever go and –?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** No, you didn't.

**MR. HARRINGTON:** No, no.

**MS. O'BRIEN:** Okay.

And even when Mr. Charles Bown suggested that this – he's wondering whether you had this information, that didn't prompt you to go ask anybody?

**MR. HARRINGTON:** No, It didn't.

**MS. O'BRIEN:** So you didn't do – you didn't cast your eyes around to see what the situation was in terms of megaprojects – hydroelectric megaprojects; what was happening on those other projects until after sanction?

**MR. HARRINGTON:** That's correct.

**MS. O'BRIEN:** Okay.

The work that was done with Westney – and I'm going to focus right now on the strategic risks – so that work; we've already looked at it at DG3.

Did anyone ever review or validate or do any due diligence on the work that you and Jason Kean and Keith Dodson did in Houston on strategic risk?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay.

So you acknowledge – Manitoba Hydro has given evidence here that that work was not provided to them – so you agree with that?

**MR. HARRINGTON:** I believe so, yeah. I mean, I wasn't in all those meetings. I don't know what was said in all those meetings with MHI.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I believe that Mr. Kean mentioned that he did provide some information that I wasn't aware of.

**MS. O'BRIEN:** Oh, we'll get to – we will get to that – slide 12. We'll get to that.

**MR. HARRINGTON:** Okay, the famous slide 12.

**MS. O'BRIEN:** But – no. But I'm talking about the work that Westney did. Did you provide that to MHI to review it?

**MR. HARRINGTON:** No, because it hadn't been finished –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** – the strategic. But I believe they had access to the DG2 information because –

**MS. O'BRIEN:** Okay, no. I'm talking about the strategic risk work that you did in – for DG3 –

**MR. HARRINGTON:** Oh, for DG3.

**MS. O'BRIEN:** Did anybody review –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – or validate it?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Or do any due diligence on it?

**MR. HARRINGTON:** Nope.

**MS. O'BRIEN:** Okay. And similar, I believe, like the IPR team says that it wasn't provided to them either.

**MR. HARRINGTON:** Well, the IPR team made a particular point of saying that Mr. Westney wouldn't talk about risk.

**MS. O'BRIEN:** No, sorry – you didn't provide that work to the IPR team?

**MR. HARRINGTON:** Because it wasn't done, yeah.

**MS. O'BRIEN:** Okay. Well, it was – well, we'll get to that – when it was completed, but – okay. All right.

So you heard Bent Flyvbjerg – I know you say you heard some of his testimony at the Inquiry. Did you hear his testimony about optimism bias and political bias and how that can impact cost and risk assessments?

**MR. HARRINGTON:** No, I didn't. I didn't – I heard about the optimism bias but I didn't follow up with it. I don't recollect the other things that he talked about.

**MS. O'BRIEN:** Okay. Did you read his report that was filed –

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** – with the Commission?

**MR. HARRINGTON:** No, I didn't.

**MS. O'BRIEN:** Okay. Were you aware of Professor Flyvbjerg in 2012?

**MR. HARRINGTON:** I don't think so. No.

**MS. O'BRIEN:** Okay. Were you aware just even about those general ideas that he put forth that, you know, the bias can creep in to estimates?

**MR. HARRINGTON:** Yeah, I think we understood that – and it may have been Jason who mentioned it to me – Mr. Kean, rather – that, you know, he was – because he would follow up on those things rather than me. You know, Mr. Kean was, you know, looking – always looking at best practices that he could follow.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And so he may have mentioned it to me about the need to make sure that the – that bias is not there.

**MS. O'BRIEN:** Okay.

And would you agree with me that one way to keep bias – optimism bias or other types of biases from creeping in to your work is to have your work reviewed or validated by somebody else?

**MR. HARRINGTON:** Yes. Yeah.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And that's, you know – but that's why we hired Westney. They were the experts in this.

**MS. O'BRIEN:** But they didn't review or – they worked, you're saying, co-operatively with you.

**MR. HARRINGTON:** Yeah.

**MS. O'BRIEN:** But I'm saying one of the ways is to get the work, once you've done, to get it reviewed or validated by somebody else.

**MR. HARRINGTON:** Yeah, but Mr. Dodson is not someone who is going to change his mind very easily. He's a very, you know, determined individual that he's not going to accept anything that he felt was wrong.

He – I mean, he's got a lot of experience and, you know, we respected their experience greatly. And so, you know, you hire –

**MS. O'BRIEN:** Okay, are you speaking for Mr. Dodson now?

**MR. HARRINGTON:** Pardon?

**MS. O'BRIEN:** Are you speaking for Mr. Dodson now?

**MR. HARRINGTON:** How do you mean?

**MS. O'BRIEN:** Well, you're talking about what would it take to change Mr. Dodson's mind or ... you know.

**MR. HARRINGTON:** Well, I'm talking that as I knew Mr. Dodson.

**MS. O'BRIEN:** Okay.

Well, let me just go back to my question, though.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** The question was you've already acknowledged to the Commissioner that your strategic work – your strategic risk work wasn't reviewed or validated by anyone.

**MR. HARRINGTON:** Let me put it this way: We prepared a document –

**MS. O'BRIEN:** Uh-huh.

**MR. HARRINGTON:** – which was the project cost and schedule document.

**MS. O'BRIEN:** Uh-huh.

**MR. HARRINGTON:** As you've mentioned before, you know, you sign off on these things.

**MS. O'BRIEN:** Yeah.

**MR. HARRINGTON:** And that was submitted. Written by Jason, signed off by me and by the EVP of the – Gilbert Bennett as EVP. So, you know, there's the three levels of review.

**MS. O'BRIEN:** All internal to Nalcor.

**MR. HARRINGTON:** All internal to Nalcor.

**MS. O'BRIEN:** So you didn't have any third party do any review or validation?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** No. I mean, you've already said that a few times so –

**MR. HARRINGTON:** Yeah, yeah.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yeah, that's right. I'm just thinking again.

**MS. O'BRIEN:** Okay.

So the – one of the points that Professor Flyvbjerg has made to the Commissioner, and in his report that's been filed, is that, you know, one of the best ways to keep from optimism bias and political bias from creeping into and affecting the accuracy of your estimate is he, as a supporter, taking an outside view, and he, in particular, he advises – he's a proponent of reference class forecasting. Were you aware of that?

**MR. HARRINGTON:** I'm not familiar with that terminology in particular.

**MS. O'BRIEN:** Okay.

I know – do you understand – so you're not familiar with that. Do you understand maybe benchmarking your project estimates, about other – outside view, like against other projects that have gone on in the world?

**MR. HARRINGTON:** There was considerable amount of benchmarking done.

**MS. O'BRIEN:** There was certainly at DG2.

**MR. HARRINGTON:** And DG3.



**MS. O'BRIEN:** But no – nothing for your strategic risk work?

**MR. HARRINGTON:** No, but there's a considerable amount of benchmarking done.

**MS. O'BRIEN:** On the base estimate?

**MR. HARRINGTON:** Yes, that's right.

**MS. O'BRIEN:** But I wanna talk right now about your strategic risk work, okay?

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** So no benchmarking done on that?

**MR. HARRINGTON:** Nope.

**MS. O'BRIEN:** Okay. So there was no one did a check on that that may have ferreted out any biases creeping in?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Can we go to page – P-00130, page 314. So this is the AACE standard.

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** Which you've attached to the DG3 QRA and this is what you say you did your estimate. Can you make that a little bit bigger, please, Madam Clerk?

Can you read this paragraph right here, Mr. Harrington, please?

**MR. HARRINGTON:** I'll take a glass of water, if I may.

**MS. O'BRIEN:** Yes, absolutely.

**MR. HARRINGTON:** "One of the most difficult systemic risks to deal with is 'estimate bias'. When estimate bias is psychological or political in nature, it is particularly difficult to measure and quantify because it deals with deception, intentional or unintentional. To assess the impact of these types of risks (i.e., optimism bias and strategic misrepresentation), a methodology called *reference class forecasting* (not covered here), a form of estimate validation,

has been proposed by Flyvbjerg. Whether and how these systemic psychological and political risks can be better measured, and incorporated in parametric techniques is an area of active research, particularly for government funded (i.e., politically charged) infrastructure mega-projects. In any case, estimate validation (to detect bias among other objectives) is always a recommended practice in conjunction with risk analysis."

**MS. O'BRIEN:** Okay. So the documents that you were relying on and signing off on at DG3, did include references to Dr. Flyvbjerg's work?

**MR. HARRINGTON:** Sure.

**MS. O'BRIEN:** But more importantly here – it's not his particular type of work – it talks about the importance of having your work validated by an outside party to keep bias from creeping in, right? That's what this comes down to.

**MR. HARRINGTON:** And so can I – can we scroll up a little bit, please?

**MS. O'BRIEN:** Sure.

**MR. HARRINGTON:** So this is contingency determination, so this is tactical, right?

**MS. O'BRIEN:** Well, actually, I don't think this makes a distinction between tactical and –

**MR. HARRINGTON:** But –

**MS. O'BRIEN:** – strategic.

**MR. HARRINGTON:** – contingency is tactical, management reserve is management reserve.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So I don't particularly see –

**MS. O'BRIEN:** You'll just have to let – trust me with this one for a second or just let me ask my questions.

**MR. HARRINGTON:** Okay.

**MS. O'BRIEN:** Do you not see there's a value to having somebody look – you know, your tactical risk assessment, Mr. Harrington, I put to you, is not that much different than your strategic risk assessment.

**MR. HARRINGTON:** The tactical risk assessment, in accordance with this, was the subject of that review.

**MS. O'BRIEN:** Yeah.

**MR. HARRINGTON:** The strategic risk wasn't. I've mentioned that.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Said that.

**MS. O'BRIEN:** So my question is, the way you assess and deal with tactical risk, I'm putting to you, is not that much different from how you deal with and assess strategic risks.

**MR. HARRINGTON:** Well, this document is talking about contingency, so –

**MS. O'BRIEN:** Okay, just –

**MR. HARRINGTON:** – you asked me –

**MS. O'BRIEN:** – leave this document for a moment – just let – just answer my questions, okay?

**MR. HARRINGTON:** I'm –

**MS. O'BRIEN:** So, I'm putting to you –

**MR. HARRINGTON:** – trying to answer –

**MS. HUTCHINGS:** Commissioner?

**MR. HARRINGTON:** – your question, but you're pointing out a document to me – I'm not being rude here, I hope I'm not being rude – is a risk analysis, and you've just quoted – asked me to quote a whole section, which I've done, and I've done it, you know, easily.

**MS. O'BRIEN:** Mmm.

**MR. HARRINGTON:** But it's all – this document is all about contingency determination, as far as I can see.

**MS. O'BRIEN:** Show me where this document says it's only dealing with, as you call them, tactical risk?

**MR. HARRINGTON:** It's –

**MS. O'BRIEN:** Where?

**MR. HARRINGTON:** – estimate cost contingency, what do you – you know ...

**MS. O'BRIEN:** It says risk analysis.

**MR. HARRINGTON:** Yeah, I know but it's – what do you – I mean, let's face it, contingency, we've all been through this – tactical, strategic, contingency, management reserve. Contingency is tactical-risk based.

**MS. O'BRIEN:** All right.

So –

**MR. HARRINGTON:** So that's my point. I mean, I've said to you quite clearly that, you know, there was no review by any outside body looking at the strategic risks, but for the tactical risks, there was, right?

**MS. O'BRIEN:** Okay.

I understand your evidence, but please let – could I now ask my questions?

**MR. HARRINGTON:** Absolutely.

**MS. O'BRIEN:** Thank you.

All right, so I'm putting it to you that the way you dealt with tactical risk is not very different from how you dealt with strategic risks. And hear me out – for risks – what – for tactical risk, what you do is you try to identify what the possible risks you could face are. And you're looking at ones within your control, but you try to identify those. And then you frame them, so you try to put dollar values among them.

And then you throw that into a Monte Carlo simulation and you do some – do a – get a

probability analysis done, and you try to come up with an amount of money to add that you should have to cover off the risk of those – those risks coming to fruition.

**MR. HARRINGTON:** Mm-hmm.

**MS. O'BRIEN:** Do you agree with me?

**MR. HARRINGTON:** I agree with you.

**MS. O'BRIEN:** And your process for strategic risks, so you get together, you try to identify what those risks are, right?

**MR. HARRINGTON:** Right.

**MS. O'BRIEN:** You put a dollar value to them, what's the best-case scenario, the worst-case scenario. You put them into the Monte Carlo simulation that runs the probabilistic analysis and it comes up with a dollar value or a range – a dollar value range, which you could set aside to deal with those risks should they occur.

**MR. HARRINGTON:** Well –

**MS. O'BRIEN:** Yes or no. Do you agree?

**MR. HARRINGTON:** I don't necessarily mean you would set that money aside; you would just identify it as a strategic risk exposure.

**MS. O'BRIEN:** Okay, so –

**MR. HARRINGTON:** So –

**MS. O'BRIEN:** – money you may need –

**MR. HARRINGTON:** – setting money aside may – is perhaps going a little bit too far.

**MS. O'BRIEN:** Okay, but money – there's a dollar value exposure there?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** And presumably, if it arises, the money has to come from somewhere.

**MR. HARRINGTON:** That's contingent equity or management reserve.

**MS. O'BRIEN:** Okay. But do you see how those processes are very similar?

**MR. HARRINGTON:** Yes.

**MS. O'BRIEN:** Okay.

And there's a risk, as pointed out here in the AACE document and, I'm going to put it to you just by common sense, that when you're coming up with those dollar values of the ranges, that there's a risk that you can be overly optimistic. You can think, like, we got a handle on this. I don't think this is really going to happen to any great extent. You can be too optimistic when setting the dollar values.

Do you agree with me that that is what –?

**MR. HARRINGTON:** That might happen.

**MS. O'BRIEN:** That might happen. And that might happen for tactical risk?

**MR. HARRINGTON:** I don't think so when you get lots of people looking at it.

**MS. O'BRIEN:** You don't think you can have – you don't think there can be optimism bias even if you have lots of people from Nalcor and a few from SNC sitting around?

**MR. HARRINGTON:** Well, that's the whole idea of having a large group of people to be able to try and avoid that particular thing. And Westney bring to the table that – you know, that knowledge that you shouldn't be narrowing your views on things, you should be widening them out and Mr. Dodson would do that.

**MS. O'BRIEN:** Okay so your view is that there was no possible way for any optimism bias to come into tactical risk the way it was assessed?

**MR. HARRINGTON:** I wouldn't go that far.

**MS. O'BRIEN:** Okay, well –

**MR. HARRINGTON:** But you can only – I mean, we've already explained that optimism bias – we're hard-wired to do it, apparently.

**MS. O'BRIEN:** Right.

**MR. HARRINGTON:** So it's a very difficult thing to absolutely exclude. I don't think anyone would even think about that.

**MS. O'BRIEN:** No, of course not.

So there's a risk, when you're setting your ranges for tactical risk, that optimism bias comes into play in setting those ranges, right?

**MR. HARRINGTON:** To a degree, yes.

**MS. O'BRIEN:** Okay.

And when you're setting the ranges for strategic risk, there's a risk that optimism bias comes into play when you're setting those risks. Do you agree?

**MR. HARRINGTON:** Potentially, yes.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yeah but, you know, we had Mr. Westney there, who – or Dodson there who was – you know, he was telling us that, you know, that these production rates you'll never achieve. Well, we did achieve them. He also –

**MS. O'BRIEN:** So he was telling you, you were being a bit too optimistic?

**MR. HARRINGTON:** Yeah, he was trying to push back on us.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** And that way –

**MS. O'BRIEN:** But you didn't, you held fast?

**MR. HARRINGTON:** Pardon?

**MS. O'BRIEN:** You held fast? You didn't push – he was trying to push back on you but you held.

**MR. HARRINGTON:** No, we went with – we ended up with \$300 to \$600 million as a potential strategic risk range. So that doesn't seem to me to suggest an awful lot of optimism bias, that's a large amount of money.

**MS. O'BRIEN:** Okay. The point is Mr. Dodson was trying to suggest to you that you may be being a bit optimistic in your assessments, but you and Mr. Kean said, no, you were happy with the assessments you were making?

**MR. HARRINGTON:** No, no, that's not how it worked.

**MS. O'BRIEN:** Okay, you said he was trying to push back on you.

**MR. HARRINGTON:** Yeah, he would push back on us and say, no, you're being crazy guys, you know, you need to make that wider.

**MS. O'BRIEN:** Okay, so what did you do then on the – for the production rates or whatever you were just talking about?

**MR. HARRINGTON:** Yeah, we left it as it was.

**MS. O'BRIEN:** So –

**MR. HARRINGTON:** That's how –

**MS. O'BRIEN:** – you didn't change it?

**MR. HARRINGTON:** That's how you got to the however many – \$180 million that were in the strategic risk amount for that particular – that one thing.

**MS. O'BRIEN:** Okay, so he said guys, you're being crazy and you said, no, we're not and you held.

**MR. HARRINGTON:** No, I just said exactly the opposite.

**MS. O'BRIEN:** Oh you changed it, you're saying? You changed it?

**MR. HARRINGTON:** No.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** I've just told you that he had his opinion, right?

**MS. O'BRIEN:** Yes.

**MR. HARRINGTON:** And we stuck with it.

**MS. O'BRIEN:** You stood with what, his opinion, or your –?

**MR. HARRINGTON:** His opinion. That's why he ended up saying that we thought you could get those particular production rates, and he said, no, you can't. So –

**MS. O'BRIEN:** So whose decision did you – whose view did you go with?

**MR. HARRINGTON:** His.

**MS. O'BRIEN:** Okay, so you changed – you went with his?

**MR. HARRINGTON:** What do you mean changed? I don't understand the changed bit.

**MS. O'BRIEN:** You went with his assessment of production rates.

**MR. HARRINGTON:** That's right.

**MS. O'BRIEN:** Okay, okay.

**MR. HARRINGTON:** Because he proposed it in the first place.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** So it wasn't changed, it was accepted.

**MS. O'BRIEN:** Okay, no, I understand you on that.

**MR. HARRINGTON:** So that's a small point, but –

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** Yeah, okay.

**MS. O'BRIEN:** So my point, getting back to it though, is you see that there – even if Mr. Dodson is involved, there's risk that there's people in that – those three people in that room setting the strategic risks may be – may have some optimism bias creeping in.

**MR. HARRINGTON:** Okay, yes.

**MS. O'BRIEN:** You accept that?

**MR. HARRINGTON:** That's a possibility, yeah.

**MS. O'BRIEN:** Right. And what I understand this document to say, generally – the AACE document – is that, look, one way to guard against this is that when you're doing your assessments, get your work validated by someone. Get someone to review it.

**MR. HARRINGTON:** Well, yes, I see that.

**MS. O'BRIEN:** Okay.

**MR. HARRINGTON:** But it's specific to – I'll try to (inaudible). It's specific to contingency here. It's not talking about – and I know what you're going to say, but this standard is specific to contingency –

**MS. O'BRIEN:** And are you saying –

**MR. HARRINGTON:** – not strategic risk.

**MS. O'BRIEN:** – the recommendation is that you don't – but for strategic risk –

**MR. HARRINGTON:** I –

**MS. O'BRIEN:** – the best practices don't get anyone to review it.

**MR. HARRINGTON:** I haven't seen that recommended practice for that particular strategic risk. I think –

**MS. O'BRIEN:** I don't see the word strategic or tactical used in this document.

**MR. HARRINGTON:** Yeah, but cost contingency is. You know, we've talked about this.

**MS. O'BRIEN:** It doesn't say that here, but anyway, I'm just putting to you just if you just want to just put generally, why wouldn't the same principle apply? Why wouldn't the same principle of having somebody else check your work for optimism bias why would that not still hold?

**MR. HARRINGTON:** Well, we put it into the document. It was approved – it was prepared by Jason Kean, it was approved by myself and it

was approved by Gilbert Bennett. There's three people, they're all internal.

**MS. O'BRIEN:** And you didn't have anybody else review it?

**MR. HARRINGTON:** Well, who else could review it?

**MS. O'BRIEN:** Well, we will see that there are other people who could've reviewed it, but nobody else did.

**MR. HARRINGTON:** Nobody else did. That's the truth.

**MS. O'BRIEN:** Commissioner, I'm about to go into another big section. I see we're at 4:25 so it might be a good time to break.

**THE COMMISSIONER:** Okay, it's 25 after 4 now I think, so we'll start tomorrow morning.

How are we doing for time?

**MS. O'BRIEN:** Well, we have Mr. Harrington on the schedule for 3½ days. I certainly anticipate I will definitely finish tomorrow; he'll be going under cross-examination tomorrow. I expect to do it – have it – be done by lunchtime. It is taking me a little bit longer – with some of the back and forth – than I anticipated, but I still think we're okay on the schedule.

**THE COMMISSIONER:** Okay, so I think 9:30 is a good time to start then tomorrow.

All right, tomorrow morning at 9:30.

**MR. HARRINGTON:** Thank you.

**THE COMMISSIONER:** Thank you.

**CLERK:** All rise.

This Commission of Inquiry is concluded for the day.