



“When You Talk - We Listen!”



MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO
2017/18 and 2018/19
GENERAL RATE APPLICATION
PUBLIC HEARING

Before Board Panel:

Robert Gabor	- Board Chairperson
Marilyn Kapitany	- Vice-Chairperson
Larry Ring, QC	- Board Member
Shawn McCutcheon	- Board Member
Sharon McKay	- Board Member
Hugh Grant	- Board Member

HELD AT:

Public Utilities Board
400, 330 Portage Avenue
Winnipeg, Manitoba
January 30th, 2018
Pages 7149 to 7460

1 APPEARANCES

2 Bob Peters) Board Counsel

3 Dayna Steinfeld)

4

5 Patti Ramage) Manitoba Hydro

6 Odette Fernandes (np))

7 Helga Van Iderstine)

8 Doug Bedford (np))

9 Marla Boyd (np))

10 Matthew Ghikas (np))

11 Brent Czarnecki (np))

12

13 Byron Williams) Consumers Coalition

14 Katrine Dilay (np))

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16 William Gange (np)) GAC

17 Peter Miller (np))

18 David Cordingley (np))

19

20 Antoine Hacault) MIPUG

21

22 George Orle (np)) MKO

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24 Senwung Luk (np)) Assembly of

25 Corey Shefman (np)) Manitoba Chiefs

1 LIST OF APPEARANCES (cont'd)

2

3 Kevin Williams (np)) Business Council

4 Douglas Finkbeiner (np)) of Manitoba

5

6 Daryl Ferguson (np)) City of Winnipeg

7

8 Christian Monnin)General Service

9)Small, General

10)Service Medium

11)Customer Classes

12

13 William Haight)Independent Expert

14 William Gardner)Witnesses

15 Kimberley Gilson (np))

16

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1 --- Upon commencing at 9:02 a.m.

2

3 THE CHAIRPERSON: Good morning,
4 everyone. Good morning to the people on line. Mr.
5 Peters, I understand that you're going to tell us what
6 we're doing today.

7 MR. BOB PETERS: Yes, I too have that
8 understanding now. Mr. Chair, we're pleased to
9 welcome to the hearing the independent expert
10 consultant witness panel, which is comprised of
11 representatives of MGF, KCB and Amplitude recognizing
12 that -- and Stanley.

13 I should indicate, as Mr. Simonsen has
14 done, that on the conference call and the video link
15 we have, I believe, Mr. Les Brand from Australia. We
16 also have Mr. Potter and Mr. Phillips from Stanley.
17 They're in the United States. And I should have
18 mentioned that Mr. Les Brand is with Amplitude and is
19 in Australia.

20 I'll leave it to My Friends opposite to
21 introduce the witness panel that is present today. As
22 -- after they are sworn and we can proceed. We expect
23 the entire morning will be on the direct evidence.
24 And then there will be questioning throughout the day
25 today and tomorrow. Thank you, sir.

1 THE CHAIRPERSON: Thank you. Thank
2 you. Mr. Simonsen, can you swear in the witnesses,
3 please.

4 MR. KURT SIMONSEN: Mr. Chair, I'll
5 swear the witnesses who are in the hearing room first
6 then I'll swear the witnesses over the telephone, if
7 that's acceptable?

8 THE CHAIRPERSON: Yes.

9
10 INDEPENDENT WITNESS PANEL - MFG, KCB and Amplitude

11

12 RYAN DEVEREUX, Sworn

13 CAMPBELL ADAMS, Sworn

14 KIERANN FLANAGAN, Sworn

15 VAL MUSFELT, Sworn

16 DAN CAMPBELL, Sworn

17 LESLIE BRAND, Affirmed (by video)

18 JIM POTTER, Affirmed (by video)

19 DWAYNE PHILLIPS, Affirmed (by video)

20

21 THE CHAIRPERSON: Thank you very much.

22 I'll just note for the record that this is the first

23 time we've lived streamed such a large panel so we're

24 hoping that it goes well and I thank Mr. Simonsen and

25 Ms. Schubert because they've been testing this out for

1 quite a while.

2 With that, Mr. Haight, if you'd like to
3 start.

4

5 EXAMINATION-IN-CHIEF BY MR. WILLIAM HAIGHT:

6 MR. WILLIAM HAIGHT: Thank you. Good
7 to remember that. As I said, I will begin with my
8 immediate right and take the members of the MGF panel
9 through their background and qualifications. Then I
10 will move to Mr. Campbell from KCB at the back, and
11 then I will move to the witnesses that are attending
12 by way of video stream.

13 So to my immediate right is Ryan
14 Devereux. Mr. Devereux, you are one (1) of the
15 authors of MGF report, which is Exhibit 2(r); correct?

16 MR. RYAN DEVEREUX: That's correct.

17 MR. WILLIAM HAIGHT: And you are a
18 professional quantity surveyor?

19 MR. RYAN DEVEREUX: That's correct.

20 MR. WILLIAM HAIGHT: And you have over
21 fifteen (15) years experience with heavy industrial
22 natural resource energy and utility infrastructure
23 construction?

24 MR. RYAN DEVEREUX: That is correct.

25 MR. WILLIAM HAIGHT: And you have a

1 degree in construction --

2 THE CHAIRPERSON: Maybe I will just
3 warn the witnesses. These microphones are -- need to
4 be at a certain distance from you. The light needs to
5 be on that indicates that it's on. If you're too far
6 away the reporter won't pick it up and we'll have to -
7 - have to interrupt to -- to tell you to move it
8 closer. I have been told on numerous occasions to
9 move it closer, so don't take it personally.

10 MR. KURT SIMONSEN: Mr. Chair, they'll
11 also need to be very articulate and ensure that
12 they're -- they are close to the microphones so our
13 friends on the telephone can also hear them clearly.

14 MR. WILLIAM HAIGHT: Thank you, Mr.
15 Chair and Mr. Simonsen.

16 Mr. Devereux, you hold a diploma in --
17 in construction engineering technology, which you
18 received from the Northern Alberta Institute of
19 Technology?

20 MR. RYAN DEVEREUX: That is correct.

21 MR. WILLIAM HAIGHT: And your
22 experience in the construction section -- sectors has
23 resulted in your providing advice to both contractors,
24 as well as owners of projects?

25 MR. RYAN DEVEREUX: Correct.

1 MR. WILLIAM HAIGHT: And the range of
2 skills that you have provided to contractors and
3 owners over the last fifteen (15) years, sir, includes
4 strategic asset management, estimating, variation
5 analysis, contractual advice, contract management
6 administration, contract negotiations and lifecycle
7 costing, to name but a few?

8 MR. RYAN DEVEREUX: Yes.

9 MR. WILLIAM HAIGHT: I will then move
10 to Mr. Devereux's immediate right and introduce
11 Campbell Adams.

12 Mr. Adams, you are here on behalf of
13 MGF Project Services, and you are one (1) of the
14 authors of the report that is Exhibit MGF-2(r)?

15 MR. CAMPBELL ADAMS: That's correct.

16 MR. WILLIAM HAIGHT: And as I
17 understand it, sir, you will be the principal
18 spokesperson today for the MGF representatives?

19 MR. CAMPBELL ADAMS: Correct.

20 MR. WILLIAM HAIGHT: You are a
21 chartered quantity surveyor and have been so for over
22 thirty (30) years?

23 MR. CAMPBELL ADAMS: I've been a
24 chartered quantity surveyor for probably thirty (30)
25 of those thirty-three (33).

1 MR. WILLIAM HAIGHT: Okay. You hold a
2 diploma in quantity surveying from University of
3 Ulster in Northern Ireland?

4 MR. CAMPBELL ADAMS: Correct.

5 MR. WILLIAM HAIGHT: You also hold a
6 Masters in Business Administration from the University
7 of Bradford Management Centre in England?

8 MR. CAMPBELL ADAMS: Correct.

9 MR. WILLIAM HAIGHT: You are a member
10 of the Chartered Institute of Arbitrators of England?

11 MR. CAMPBELL ADAMS: Yes.

12 MR. WILLIAM HAIGHT: And I understand
13 that in the course of your evidence today, you will
14 provide the panel and -- and all the other members
15 here with some information as to what exactly a
16 quantity surveyor is and does?

17 MR. CAMPBELL ADAMS: That will be
18 revealed.

19 MR. WILLIAM HAIGHT: Yes, okay. And
20 in your years as a quantity surveyor, you've been
21 involved with the construction of major capital
22 projects?

23 MR. CAMPBELL ADAMS: Yes.

24 MR. WILLIAM HAIGHT: And by the use of
25 the word "major," I'm talking about projects in excess

1 of a billion dollars?

2 MR. CAMPBELL ADAMS: From 1 billion to
3 27 billion.

4 MR. WILLIAM HAIGHT: Okay. And your
5 involvement in these projects -- some of your
6 involvement has been on behalf of owners and some has
7 been on behalf of contractors?

8 MR. CAMPBELL ADAMS: That's correct.

9 MR. WILLIAM HAIGHT: So you've seen
10 these projects from both sides of the owner/
11 contractor fence?

12 MR. CAMPBELL ADAMS: Yes, that's
13 correct.

14 MR. WILLIAM HAIGHT: And your projects
15 have ranged geographically from North America, Europe,
16 the Middle East, Russia, West African and Southeast
17 Asia?

18 MR. CAMPBELL ADAMS: Correct.

19 MR. WILLIAM HAIGHT: And as a quantity
20 surveyor providing advice and services to contractors
21 and owners, the -- the skills that you have brought
22 include development of project contracting strategies
23 and specific contract tactics, contract formation,
24 estimating and tendering, replacement assessments and
25 reporting, post award contract management, design,

1 development and implication of contract management
2 policies, procedures and processes, preparing and
3 leading negotiations and dispute resolution to name
4 but some?

5 MR. CAMPBELL ADAMS: Yes.

6 MR. WILLIAM HAIGHT: Thank you.

7 Moving then next to Mr. Adams' immediate right and
8 I'll introduce Mr. Kieran Flanagan.

9 Mr. Flanagan, you are one (1) of the
10 founders of MGF Project Services.

11 MR. KIERAN FLANAGAN: Correct, yep.

12 MR. WILLIAM HAIGHT: And you hold the
13 position of managing director?

14 MR. KIERAN FLANAGAN: Yes.

15 MR. WILLIAM HAIGHT: And you are one
16 (1) of the authors of the MGF report?

17 MR. KIERAN FLANAGAN: Correct.

18 MR. WILLIAM HAIGHT: And you are also
19 a quantity surveyor and have been so for over twenty-
20 five (25) years.

21 MR. KIERAN FLANAGAN: Yes, and
22 chartered for twenty (20).

23 MR. WILLIAM HAIGHT: And MGF is a
24 quantity surveying and construction cost consultancy
25 firm?

1 MR. KIERAN FLANAGAN: Correct.

2 MR. WILLIAM HAIGHT: So origins begin
3 in Europe and Australia?

4 MR. KIERAN FLANAGAN: Yes.

5 MR. WILLIAM HAIGHT: It's now located
6 in and operates out of Calgary, Alberta?

7 MR. KIERAN FLANAGAN: Correct.

8 MR. WILLIAM HAIGHT: And as I
9 indicated, you are a quantity surveyor. You obtained
10 your Bachelor of Science in quantity surveying from
11 Harriet Wyatt University in Edinburgh, Scotland?

12 MR. KIERAN FLANAGAN: Yes.

13 MR. WILLIAM HAIGHT: You hold a
14 professional diploma in quantity surveying from
15 Limerick, Ireland?

16 MR. KIERAN FLANAGAN: Yes.

17 MR. WILLIAM HAIGHT: You have
18 experience in commercial, residential, oil, gas
19 resources, infrastructure and heavy industry sectors?

20 MR. KIERAN FLANAGAN: Correct.

21 MR. WILLIAM HAIGHT: And you, as well,
22 sir, have -- as a quantity surveyor have provided
23 advice and services to both owners and contractors?

24 MR. KIERAN FLANAGAN: Yes.

25 MR. WILLIAM HAIGHT: And those --

1 those skills include development management,
2 estimating, replacement assessments, contractual
3 advice, contract management and administration, asset
4 management, to name just some of them?

5 MR. KIERAN FLANAGAN: Yes.

6 MR. WILLIAM HAIGHT: Moving to Mr.
7 Flanagan's far right, I will introduce Valerie
8 Musfelt.

9 Ms. Musfelt, you are also one (1) of
10 the authors of the MGF report?

11 MS. VALERIE MUSFELT: That's correct.

12 MR. WILLIAM HAIGHT: And you are
13 employed as the lead scheduler for MGF Project
14 Services?

15 MS. VALERIE MUSFELT: Yes.

16 MR. WILLIAM HAIGHT: And you have a
17 project leadership certificate and project management
18 certificate from the Northern Alberta Institute of
19 Technology?

20 MS. VALERIE MUSFELT: Yes.

21 MR. WILLIAM HAIGHT: You're also an
22 instructor at that Institute as I understand?

23 MS. VALERIE MUSFELT: That is correct.

24 MR. WILLIAM HAIGHT: And a technical
25 writer and a facilitator for that Institute?

1 MS. VALERIE MUSFELT: Yes.

2 MR. WILLIAM HAIGHT: You have over
3 fifteen (15) years of experiences scheduling,
4 facilitation and software specialists in the oil and
5 gas, mining, infrastructure, environmental and general
6 construction sectors?

7 MS. VALERIE MUSFELT: That's correct.

8 MR. WILLIAM HAIGHT: You assist both
9 owners and contractors on projects with facilitating
10 planning, construction scheduling, incorporating
11 change management into schedules, and critical path
12 analysis?

13 MS. VALERIE MUSFELT: That is correct.

14 MR. WILLIAM HAIGHT: And you are --
15 the skills that you bring to both owners and
16 contractors include critical path analysis and
17 reporting on schedule progress?

18 MS. VALERIE MUSFELT: Correct.

19 MR. WILLIAM HAIGHT: Moving then next
20 to -- t behind me, Mr. Dan Campbell.

21 Mr. Campbell -- and by the way, all of
22 these CVs for these individuals are on the record as
23 MGF Exhibits 3-1 to 3-8. The record, I note from the
24 Public Utilities' website does misstate some -- who
25 works for who so to speak. Mr. Campbell who I'm just

1 about to introduce is from Klohn Crippen Berger who
2 you've heard a fair bit about in these proceedings.

3 For ease of reference, Mr. Campbell,
4 I'll refer to them as KCB. You are one (1) of the
5 principles of KCB, Mr. Campbell?

6 MR. DAN CAMPBELL: Yes.

7 MR. WILLIAM HAIGHT: And KCB provides
8 engineering, geoscience and environmental services to
9 an array of different clients throughout the world?

10 MR. DAN CAMPBELL: Yes.

11 MR. WILLIAM HAIGHT: Since 1951 KCB
12 has participated in some of the largest and most
13 challenging engineering projects in the world; is that
14 a fair statement?

15 MR. DAN CAMPBELL: We like to think
16 so.

17 MR. WILLIAM HAIGHT: Okay. You hold a
18 Bachelor of Science in Mechanical Engineering from the
19 University of British Columbia?

20 MR. DAN CAMPBELL: Correct.

21 MR. WILLIAM HAIGHT: You obtained that
22 in 1979?

23 MR. DAN CAMPBELL: Yes.

24 MR. WILLIAM HAIGHT: And for the past
25 thirty-six (36) years, you've been involved in a broad

1 range of major construction projects, including a
2 number of hydroelectric projects?

3 MR. DAN CAMPBELL: Yes.

4 MR. WILLIAM HAIGHT: These projects
5 have varied geographically from Canada to the United
6 States, Argentina, Columbia, Brazil, Peru, Vietnam,
7 Thailand, Sri Lanka and India?

8 MR. DAN CAMPBELL: Yes.

9 MR. WILLIAM HAIGHT: And your
10 experience that you brought to these projects include
11 project planning, design, construction supervision,
12 site inspection, asset evaluation, contract
13 negotiation and project management, to name just some
14 of them?

15 MR. DAN CAMPBELL: Yes.

16 MR. WILLIAM HAIGHT: KCB was asked by
17 MGF to provide assistance with its review of the Keey
18 -- the Keeyask project in the areas of project cost
19 estimate, project design, cost estimate changes and
20 contracting methodology, correct?

21 MR. DAN CAMPBELL: Yes.

22 MR. WILLIAM HAIGHT: And you prepared
23 a report that is dated December of 2017, which is
24 attached as appendix A to the MGF report?

25 MR. DAN CAMPBELL: I was one (1) of

1 the authors, yes.

2 MR. WILLIAM HAIGHT: Yes, and you've
3 also prepared a PowerPoint summary. I'm not sure
4 whether that PowerPoint presentation has been provided
5 with an exhibit number yet today.

6 MR. KURT SIMONSEN: Yes, it has and
7 it's MGF-6.

8 MR. WILLIAM HAIGHT: Thank you, Mr.
9 Simonsen.

10

11 --- EXHIBIT NO. MGF-6: PowerPoint presentation by
12 KCB

13

14 CONTINUED BY MR. WILLIAM HAIGHT:

15 MR. WILLIAM HAIGHT: Moving then to
16 our participants that are attending by way of video.
17 I'll begin with Mr. Les Brand please.

18 MR. KURT SIMONSEN: Just timeout for a
19 minute as we get Les.

20 MR. WILLIAM HAIGHT: Yes. Mr. Brand,
21 can you hear me?

22 MR. LESLIE BRAND: I can, thank you.

23 MR. WILLIAM HAIGHT: And thank you for
24 attending today, sir. Nice to finally meet you
25 somewhat face-to-face.

1 Mr. Brand, you are an author of a
2 report that reviewed the capital expenditure review
3 for Bipole III and the converter stations; is that
4 correct, sir?

5 MR. LESLIE BRAND: That's correct.

6 MR. WILLIAM HAIGHT: And that report
7 has been attached as appendix B to the MGF report.

8 You're aware of that?

9 MR. LESLIE BRAND: Yes, I am.

10 MR. WILLIAM HAIGHT: And you were the
11 director and principal consultant for Amplitude
12 Consultants which is based out of Australia?

13 MR. LESLIE BRAND: Correct.

14 MR. WILLIAM HAIGHT: You hold a degree
15 in Electrical Engineering from the University of
16 Western Australia, as well as a Bachelor of Commerce
17 from that same university?

18 MR. LESLIE BRAND: That's correct.

19 MR. WILLIAM HAIGHT: For approximately
20 twenty-five (25) years, sir, you have been providing
21 engineering -- engineering services for electrical
22 utilities and -- and companies that provide services
23 to electrical utilities?

24 MR. LESLIE BRAND: That's correct.

25 MR. WILLIAM HAIGHT: You have

1 significant experience in this -- in these sectors in
2 Australia, United States, Canada and China, to name
3 just some of the countries?

4 MR. LESLIE BRAND: That's correct.

5 MR. WILLIAM HAIGHT: You have
6 significant experience in -- in assessing HVD systems,
7 as well as converter stations?

8 MR. LESLIE BRAND: Correct.

9 MR. WILLIAM HAIGHT: Your review of
10 these systems include both design review, development
11 of systems and technical specifications and
12 replacement of converter stations?

13 MR. LESLIE BRAND: That's correct.

14 MR. WILLIAM HAIGHT: Would it be safe
15 to say, sir, that your areas of expertise involve all
16 of the nuts and bolts for transmission lines, as well
17 as converter stations?

18 MR. LESLIE BRAND: Predominantly
19 converter stations but I've had some involvement with
20 transmission lines, that's correct.

21 MR. WILLIAM HAIGHT: Right. And the -
22 - in the course of providing services to this
23 industry, sir, I understand that you have provided
24 advice to both contractors, as well as owners?

25 MR. LESLIE BRAND: That's correct.

1 MR. WILLIAM HAIGHT: Thank you, sir.

2 If we can then move to Mr. Potter who is on the
3 screen.

4 Mr. Potter, nice to meet you somewhat
5 face-to-face. You are the transmission group manager
6 and senior engineer with Stanley Consultants?

7 MR. JIM POTTER: Correct.

8 MR. WILLIAM HAIGHT: I understand that
9 Stanley Consultants is one of the world's largest
10 consulting engineering firms with a focus on energy,
11 water transportation and environmental work?

12 MR. JIM POTTER: I like to think so,
13 yes.

14 MR. WILLIAM HAIGHT: Okay. You hold
15 degrees in both civil and structural engineering from
16 Iowa State University and the University of Iowa,
17 respectively?

18 MR. JIM POTTER: That's correct.

19 MR. WILLIAM HAIGHT: And Stanley was
20 asked to provide advisory services to MGF regarding
21 the transmission lines that will originate from the
22 Keeyask generating station?

23 MR. JIM POTTER: That's correct.

24 MR. WILLIAM HAIGHT: And you have
25 significant experience with design and construction of

1 transmission lines, ranging from 69 kVA to 345 kV?

2 MR. JIM POTTER: Correct.

3 MR. WILLIAM HAIGHT: And you have
4 provided design -- both design, as well as project
5 management services for transmission line projects?

6 MR. JIM POTTER: Yes, I have.

7 MR. WILLIAM HAIGHT: And you've been
8 doing so for over thirty (30) years?

9 MR. JIM POTTER: No, that should be
10 twenty-one (21) years.

11 MR. WILLIAM HAIGHT: Excuse me, I have
12 been known to misread a CV on occasion. Thank you
13 very much, Jim. If we can then move to Mr. Phillips.

14 MR. DWAYNE PHILLIPS: Yes, good
15 morning.

16 MR. WILLIAM HAIGHT: Good morning,
17 sir. Nice again to meet you as well, almost face-to-
18 face.

19 Sir, you are constructability lead with
20 Stanley Consultants?

21 MR. DWAYNE PHILLIPS: I am.

22 MR. WILLIAM HAIGHT: And you have over
23 thirty (30) years in construction and operational
24 management in both generation, as well as the
25 transmission of electricity projects?

1 MR. DWAYNE PHILLIPS: I do.

2 MR. WILLIAM HAIGHT: And you have a
3 technical engineering training with -- in nuclear
4 energy through the U.S. Navy?

5 MR. DWAYNE PHILLIPS: Yes, I do.

6 MR. WILLIAM HAIGHT: And you also hold
7 a technical engineering degree through the U.S. Navy
8 in electrical engineering?

9 MR. DWAYNE PHILLIPS: That's correct.

10 MR. WILLIAM HAIGHT: And in your role
11 with Stanley, you've been responsible for project
12 scope, technical design, coordination, construction
13 and scheduling of both transmission, as well as
14 generation projects?

15 MR. DWAYNE PHILLIPS: That's correct.

16 MR. WILLIAM HAIGHT: And prior to
17 joining Stanley, you held managerial positions with
18 several large utilities?

19 MR. DWAYNE PHILLIPS: That's correct.

20 MR. WILLIAM HAIGHT: And you have
21 developed and published a number of training manuals
22 and a number of dif -- on a number of different tropic
23 -- topics relevant to generation transmission,
24 including project management -- and including project
25 management and analysis?

1 MR. DWAYNE PHILLIPS: That's correct.

2 MR. WILLIAM HAIGHT: And like Mr.
3 Potter you provided anal -- analysis to MGF regarding
4 the transmission lines which originate or are to
5 originate from the Keeyask generating station?

6 MR. DWAYNE PHILLIPS: Yes, I did.

7 MR. WILLIAM HAIGHT: Thank you, sir.

8 MR. DWAYNE PHILLIPS: Thank you.

9 MR. WILLIAM HAIGHT: With that
10 background, I will now turn it, with your permission,
11 Mr. Chair over to Mr. Adams who will begin the
12 presentation on behalf of MGF.

13 THE CHAIRPERSON: Thank you, Mr.
14 Haight, please proceed.

15 MR. KURT SIMONSEN: Mr. Haight, before
16 we do that, I'd just like to put on the record that
17 the Amplitude presentation will be MGF-5 and the MGF
18 presentation is MGF-4.

19 And I would ask all parties during the
20 course of their presentation that they introduce the
21 slide number so our friends on the telephone can
22 follow along exactly where we are in the presentation.

23 MR. WILLIAM HAIGHT: Thank you, Mr.
24 Simonsen.

25

1 --- EXHIBIT NO. MGF-4: MGF presentation.

2

3 --- EXHIBIT NO. MGF-5: Amplitude presentation

4

5 CONTINUED BY MR. HAIGHT:

6 PRESENTATION BY MFG

7 MR. CAMPBELL ADAMS: Good morning,

8 everyone. Could we please move to the slide entitled

9 Contents, please. And this is slide number 3.

10 This is the overview of what we will be
11 presenting this morning to everyone. I'll tell you a
12 little bit about the company; decipher what a quantity
13 surveyor is because they're not common in Canada. And
14 then we'll go through the -- the main sections of our
15 -- our report; most likely, focusing more on the --
16 the Keeyask hydroelectric dam and to a lesser extent
17 the other -- the other components of the -- of the
18 report.

19 MGF Project Services is a quantity
20 surveying construction cost consultancy firm. Oh,
21 next slide, sorry, is number 4. Its origins are in
22 Europe and Australia where quantity surveying is more
23 common. There -- they work in multiple industrial
24 sectors, offering services starting from when the
25 owner has the idea of a project; helping the owner put

1 their first cost proposal together for that; looking
2 at contracting strategies; how to build it; which
3 contractors tendering; giving award recommendations to
4 the owners; and then helping to manage that -- or
5 those contracts through to successful completion.

6 The team who -- who worked in this
7 assignment has a broad geographic experience set on
8 major capital projects working across many
9 jurisdictions, as you can see there, from North
10 America, Australia, Europe and certain parts of -- of
11 Africa.

12 If we move to slide 5. If you go back
13 over the last three (3) centuries the year '59 has had
14 some amazing events. In 1959 Arthur Guinness invented
15 a wonderful nutritional drink called Guinness. In
16 1959, yours truly made his debut. However, in 1859,
17 we have the first recorded role of someone called a
18 quantity surveyor.

19 And a quantity surveyor, our -- our
20 training is -- it's all about the construction process
21 from the start of it to the end of it. We're -- we
22 not only cover contrite law, the law of tort, we do
23 building economics. We cover construction
24 technologies or disciplines like structural
25 engineering, electrical engineering, civil engineering

1 and we are the -- the centre point of bringing all
2 that information together to put it into a contract --
3 a tendering and contracting process so these major
4 capital projects get built.

5 The services we offer start from
6 strategy, or cost estimating, a strategy, preparing
7 tender documents, evaluating the bids that come back,
8 and risk those, and give an evaluation to award. And
9 then we move into what's called the post-award contact
10 management fee is where we're -- we get the contract
11 in place. We manage the contract. We look at -- we
12 -- we try to ensure that the obligations of both
13 parties are actually performed. We value the work as
14 it goes along so the contractor company paid the
15 proper amount, and the owner doesn't overpay.

16 Like most contracts, they don't always
17 run smoothly. We -- we try our best to -- to
18 mitigate, avoid, minimize. Sometimes that works.
19 Sometimes it doesn't. You get involved in dispute
20 resolution that be a negotiation. It can be a
21 mediation. It can be escalated to arbitration, or
22 even worse, we end up in court. So the QS, for short,
23 is a very broadly experienced individual relative to
24 the major capital projects arena.

25 Slide 6, please. Now, there's a

1 wonderful picture of the dam. Slide 7, if I can see
2 okay. This slide gives a summary of the -- of
3 Manitoba Hydro's revised budget. It started about six
4 point five (6.5). There was some additional scope
5 added. There was some scope removed. That was a,
6 what, \$2.23 billion net increase. And I think the --
7 the point this slide makes is that a significant
8 portion of that increase is due to the outcome of the
9 amending agreement number 7 negotiated between Hydro
10 and its contractor BBE.

11 The reason for the -- the greater
12 contract value or target price is additional man hours
13 to perform the contract and extending the cost based
14 on higher productivity rates.

15 Number 8, please. The next two (2) --
16 the next two (2) slides will provide the cost
17 categories of how the increases were built up, and
18 also the cost reductions. There are no numbers there,
19 because that is commercially sensitive, and it's not
20 within our permission to share this in this -- this
21 forum.

22 Slide 9, please. Again, this is the --
23 the cost reduction slide -- slide. Down on the left-
24 hand side, you can see the -- the categories of cost
25 that built up to reduce the -- the overall new project

1 budget of eight point seven (8.7).

2 Number 10, please. Cost reimbursable.
3 Cost reimbursable is not a bad pricing mechanism,
4 despite some of the conversations we have had. If it
5 is used appropriately and well-managed, it can be the
6 right choice for an owner in which to place a
7 contract.

8 Cost reimbursable with an
9 underperforming contractor who continually lets down
10 its owner is a world of pain. The mechanism, in
11 essence, means that whatever costs the contractor
12 incurs in performing the work, it gets paid that cost
13 by the owner. That means that the items there like
14 labour costs, material costs, escalation,
15 productivity, those risks all fall onto the owner who
16 agrees to a cost reimbursable pricing mechanism.

17 In other pricing mechanisms, some of
18 those risks are placed on the contractor.
19 Productivity is a classic one. Whether you're
20 building a hydroelectric project, or you're building
21 an oil battery, contractors learn -- they know how to
22 manage productivity. It's what they do. Owners
23 typically don't know how to do that, because it's not
24 their skill set. It's not their game.

25 At this point, I'd like to pass the --

1 the microphone to my colleague Mme. Val, who's going
2 to take us through the next number of slides.

3 MS. VAL MUSFELT: Thank you, Campbell.
4 Next slide, please. Okay. On the -- this slide here,
5 BBE forecast completion dates, what we're really
6 trying to show is the -- the different dates that are
7 on the different schedules.

8 So first off, we have the 8th of
9 October, 2021, and this is the planned completion
10 date. So this is the date as per amending agreement
11 number 7. And this is for the Unit 7 generator. If
12 you look at the most recent forecast schedule, and
13 that would have been dated the 6th of October, 2017,
14 they're forecasting a completion date on that same
15 unit for the 23rd of January, 2022.

16 Now, Manitoba Hydro has a -- a control
17 date for when they -- the unit should be ready, and
18 that control date is the baseline date of October of
19 2021, plus approximately ten (10) months of
20 contingency. So that date is the 4th of August, 2022.
21 Now, when we went in and took a look at the
22 productivity of BBE, we applied that productivity onto
23 all the concreting activities and determined that
24 based on that level of productivity, the completion
25 date for the Unit 7 would be the 25th of November,

1 2022. So that represents an order of magnitude delay
2 of four hundred and ten (410) days from the baseline
3 date of 8th of October, 2021 to our forecast date of
4 the 25th of November, 2022.

5 Next slide, please. The next slide is
6 -- really, what we're trying to show is this -- the
7 schedule history of the different dates. So in this
8 slide, if we start from the top bar and work our way
9 down, the first bar shows the date of 19th of August,
10 2020, and that would have been on the original
11 baseline schedule. So that was when Unit 7 was to be
12 -- that was the in-service date for Unit 7.

13 The next date directly below that, the
14 blue bar showing 7th of October, as discussed in the
15 previous slide, that is the baseline date as of the
16 amending agreement number 7.

17 Now, what we're showing in the third
18 bar, the purple bar, this is a new bar that -- or a
19 new date that wasn't in the previous slide. And this
20 represents the Manitoba Hydro integrated master
21 schedule. So in the -- in schedules, typically you
22 would have a baseline schedule, and you would have a
23 forecast schedule. The baseline schedule represents
24 the planned dates, so as per the contract, whereas the
25 forecast is based on progress. So this particular

1 schedule would show the progress as at the 6th of
2 October, 2017. So on this schedule, Manitoba Hydro is
3 showing that the completion date for that same Unit 7
4 is the 28th of May, 2022.

5 Now, as you can see, this date is still
6 prior to the control date of the 4th August that
7 Manitoba Hydro -- Hydro has. And again, that was the
8 baseline date, plus approximately ten (10) months of
9 contingency. And then just to show that with our
10 forecast, based on the level of productivity, the date
11 would slip out to the 25th of November.

12 So what we're showing are two (2) main
13 dates, here, the two hundred and twenty-nine (229) day
14 delay represents the delay from BBE's date to Manitoba
15 Hydro's date. So the BBE slippage date would have
16 been approximately a hundred and three (103) days.
17 But when you integrate it with other contractors on
18 the schedule, what you're going to see is they may not
19 be on the interface quite the same way. So that's
20 pushing out Units 5 through 7 to the two hundred and
21 twenty-nine (229) days. So that's -- this slide is
22 really just trying to summarize all the different
23 dates that we have going on on the project.

24 Can we see the next slide, please? So
25 this slide really just recaps the dates that I just

1 talked about on that graph. Can we move to the next
2 slide, please. Now, the next thing that we're talking
3 about here is a basis of schedule. And a basis of
4 schedule is a document that describes what's going on
5 on a schedule. Just like you would have a basis of
6 estimate from a cost perspective, you usually have a
7 basis of schedule for all of your -- like, your
8 integrated master schedule. You would have it usually
9 on some of your main contractor schedules.

10 What this document does is it really
11 explains what's going on in the schedule. So it's
12 going to show you this scope of work. It's going to
13 tell you if there are specific constraints. It's
14 going to talk about different calendars that may be in
15 play. So it's such a very important document that
16 describes what's going on in the schedule. It would
17 also indicate whether things are being fast-tracked,
18 whether there's winter work that's occurring. So all
19 of this is typically in that document.

20 So we've noticed that BBE did have a
21 basis of schedule prior to amending agreement number
22 7, but after amending agreement number 7, they did --
23 BBE did submit one, but unfortunately, it wasn't
24 detailed enough, so it was rejected by Manitoba Hydro.
25 And to -- at the point of the writing this document,

1 there was no revised basis of schedule for BBE.

2 Next slide. Now, the next thing that
3 we talk about is negative float. And negative float,
4 by definition, really means that an activity is
5 extremely critical. Now, when you're looking at it
6 from a scheduling perspective, negative float
7 basically means that you have activities that are
8 slipping that can't happen on the scheduled date.
9 Now, going through and analyzing the BBE schedule, I
10 came across a thousand and thirty (1,030) activities
11 that were with negative float.

12 So then the next thing is, Okay, why --
13 what's causing the negative float? So I went in and
14 took a look, and there were approximately fifteen (15)
15 activities that had constraints that were causing all
16 of this negative float. And when you looked at these
17 activities that were impacted by this negative float,
18 ninety some of them -- ninety-seven (97) of them were
19 on the critical path. And what that's really saying
20 is that anything on the critical path, any delay means
21 that you will delay the end date of the project. So
22 we're basically just saying that it's important that
23 this negative float gets removed from the schedule so
24 that you can get a true picture of where things are
25 really at on the schedule.

1 Now at this point, we're moving on to
2 the next slide. I will hand the microphone back to my
3 colleague, Campbell.

4

5 (BRIEF PAUSE)

6

7 MR. CAMPBELL ADAMS: Sorry. Okay.
8 I'm on the air again. Just to build on what Val said,
9 there, the -- that third bullet point about the
10 ninety-seven (97) activities on the critical path, our
11 view of the -- this project is that the concreting
12 activities are the critical path for this project. Of
13 that ninety-seven (97), eighty-five (85) are
14 concreting activities. So that brings into question
15 whether there is a coherent schedule to build the --
16 the project, and that is something we were
17 recommending gets -- gets addressed as quickly as
18 possible.

19 Next slide, please, number 16. There -
20 - there has been some commercially-sensitive
21 information in this that we've had to -- to remove. I
22 think the -- the bottom line, and the message here is
23 that this is a problem area, earthworks productivity.
24 It hasn't gone well in 2016. When their plan was re-
25 cast for 2017, it still hasn't gone particularly well,

1 with the contractor taking more -- more time than
2 planned to do the -- to do the work. This
3 deteriorating productivity is going to cost more in
4 terms of the direct costs of doing the work, the
5 indirect costs associated with that, and will drive a
6 longer -- a longer schedule.

7 There is a figure there of 88.4
8 million. That is not a precise cost. It's an order
9 of magnitude. It's to give a sliver of perhaps this
10 is -- perhaps it might end up -- could be higher,
11 could be lower, could be lower if more control is
12 brought to bear on this contractor to get them to
13 perform better. The -- the message is that the -- the
14 contractor's inefficiencies is causing Hydro to pay
15 more.

16 Slide 17, please. Concrete placement
17 has been another area of under performance by Hydro's
18 contractor. Their promises to what they would deliver
19 in 2016 were not met, were not kept. They revised
20 their -- their schedule with new productivities as
21 part of the amending agreement number 7, and those
22 have not been met in 2017. And it really -- it -- it
23 demonstrates to us the BBE is very optimistic with its
24 productivity rates, and that they're not realistic
25 within their capability to -- to deliver against.

1 We -- we have to say that we -- we
2 can't change the past, but we can influence the
3 future. The recommendation there is to -- is to work
4 with BBE, find out what it is they can, what -- what
5 are they capable of doing, of realistic productivities
6 that they can achieve, agree that, re-cast the
7 schedule, redo the forecast and completion cost, and
8 give -- give Hydro a realistic plan to get these guys
9 to work and see where we're -- where we're going.

10 The last bullet point there refers to
11 the -- the sequencing of subsequent contractors. The
12 contractor who follow in the -- the path of BBE have
13 been told there's a time they're required to come and
14 perform their works, and they plan for that, and they
15 price for that. The more that those dates get delayed
16 or pushed back raises the opportunity for them to
17 rightly seek compensation in terms of extra money and
18 more time to perform their contract. BBE is cost
19 reimbursable, so most likely, I would suggest that the
20 cost of those delay and disruption claims will fall on
21 to Hydro to pay for.

22

23 (BRIEF PAUSE)

24

25 MR. CAMPBELL ADAMS: This is slide 18.

1 Yes, some of the -- our information has been redacted
2 for commerciality reasons. It is the -- it's -- it's
3 the same comment. It's the contractor is inefficient.
4 They're taking longer to do the work. And -- and the
5 concreting activities that we believe they are moving
6 to perform are more complex. They're more complicated
7 than what they have had to do hitherto. That begs the
8 question: Why would we think that their
9 productivities will improve? We put an order of
10 magnitude additional cost in there. Again, it's --
11 it's a best forecast at this point in time, could be a
12 bit higher, could be lower, but directionally, this is
13 where the cost for this activity is likely to head.

14 Next slide, please. This is number 19.
15 We were asked to look at the -- the approaches of
16 tender management and contract management. Both were
17 very well written, comprehensive. Tendering was
18 sufficient, lots of document to support the teams and
19 what they -- what they had to do to guide them in
20 their -- in their job. Same for contract management.

21 The -- the concern we have is the --
22 whilst the written documentation is there, that
23 there's still this concern of BBE's noncompliance with
24 their contractor. There's some obligations they have
25 that they seem to repeatedly get away with, so they

1 don't do it.

2 Our recommendation is that Hydro
3 initiates periodic contract compliance reviews. We
4 have seen these in other industries. They are --
5 they're -- they're very effective. Both parties to
6 the contract get to be measured against what it is
7 they should be doing. Are they doing it? If they're
8 not doing it, why are they not? It can be done by an
9 internal team. It can be done by an external team.
10 But the -- the outcome of this is it -- it pro --
11 promotes assurance. It promotes compliance with the
12 contract, and makes sure that both parties are doing
13 what they -- they signed up to do.

14 The next slide is number 20. The
15 message of this slide is the physical construction
16 progress. We -- we're advised by the -- the
17 construction monthly report, there, as stating 24
18 percent, whilst the actual spend in indirects is -- is
19 over 30 percent. So that's telling us that we're
20 spending more money on indirects than for the -- the
21 con -- the actual construction progress we're -- we're
22 getting. This is a -- another inefficiency finding, I
23 would suggest. And again, if that 6.4 percent cost
24 variance continues, then the indirects budget will
25 have to be funded with further monies to get the -- to

1 get to the end of the contract.

2 Slide 21. As part of our assignment,
3 we -- we come up with the final cost range, a final
4 potential forecast, a range within which we felt that
5 all other things being equal, that the cost of Keeyask
6 would fall somewhere within that billion dollar range.
7 It's currently reported at eight point seven (8.7).
8 We think there's a lot of pressure to going above
9 that. The issues that drive that are the -- it's
10 really the ongoing under performance of BBE, their
11 productivities for concreting, earthworks, is pushing
12 the schedule to the right. The costs are going up
13 further, indirects are being consumed, and there is
14 the potential delay and disruption to other
15 contractors.

16 The last bullet point is trying to
17 convey that this -- this range is not fixed and firm.
18 There -- there may be actions that Hydro can take to
19 bring more control to its contractor and try to
20 mitigate the costs going -- going higher.

21 The next slide deals with construction
22 management.

23

24 (BRIEF PAUSE)

25

1 MR. CAMPBELL ADAMS: The -- the
2 evidence we have found suggests to us the -- that BBE
3 is struggling to plan, manage, and execute its work.
4 2016 for concreting earthworks didn't go well. 2017
5 didn't go well. So unless something changes, you can
6 reasonably expect this to continue.

7 The impact of the cost reimbursable
8 compensation mechanism means that all construction
9 decisions, all inefficiencies of its contractor, ends
10 up being paid by -- by the owner, in this case, Hydro.
11 As I said, plan productivity is not being achieved.
12 It's -- it's startling that the -- the contract that
13 Hydro has stipulates that the schedule shall not have
14 one (1) negative float activity, yet we find one
15 thousand and thirty (1,030) that don't meet the
16 planned schedule. They spend more in directs budgets
17 than for less construction progress.

18 In our view, this -- this is endemic of
19 inadequate supervision, inefficient supervision, and
20 we -- we believe that this is one (1) of the levers
21 that Hydro can pull to try and arrest and then help
22 BBE improve its -- its performance.

23 Slide 23, please. So just in
24 summary...

25

1 (BRIEF PAUSE)

2

3 MR. CAMPBELL ADAMS: In summary, BBE
4 is not performing as they promised Hydro. They've let
5 them down in 2016. As we say in golf, they got a
6 Mulligan and they got to renegotiate the amending
7 agreement number 7. And they recast their
8 productivity through schedule and the final cost. And
9 they have not performed in 2017.

10 XXX billion was added to the GCC on
11 account of their poor productivity and the additional
12 indirect spend. They are being paid their actual
13 costs rather than for quantities of work performed
14 against fixed-price unit risk, which would drive them
15 to be responsible for both time, cost, productivity.
16 With this upward pressure, our view is that the
17 current contingency is likely to be insufficient if
18 this performance continues.

19 The final bullet point restates the --
20 the wide range of potential outcomes for this. So I
21 think to -- to conclude, if we don't hear them, the
22 alarm bells are ringing. We can't change the past,
23 but there's four (4) years to run. And I believe
24 there's an opportunity to try and get this contractor
25 to perform better for its owner, Manitoba Hydro. That

1 ends the Keeyask presentation. Just move straight on
2 to the converter stations, Mr. Chairman?

3 THE CHAIRPERSON: Sorry, Mr. Adams.
4 I've got one (1) question, if I could. When you're --
5 when you're citing the -- the nine-point-five (9.5)
6 and ten-point-five (10.5), is nine-point-five (9.5),
7 the P50 and ten-point-five (10.5) the P90? Or are we
8 looking at a different standard of estimate?

9 MR. CAMPBELL ADAMS: You're looking at
10 a different approach to estimate.

11 THE CHAIRPERSON: Okay.

12 MR. CAMPBELL ADAMS: In my experience,
13 the -- we -- we prefer to build up estimates as
14 construction and project professionals. We do that
15 understanding activity, understanding cost,
16 understanding risk, understanding time. The -- the
17 use of Monte Carlo P50s, P75, P90s, I think is a good
18 test of a well thought through plan. I -- I don't
19 believe in rolling the dice when it comes to
20 determining what the final cost would be? We -- we
21 build this up from -- from a bottoms up perspective.

22 THE CHAIRPERSON: Okay. Thank you.
23 Certainly. Ms. Kapitany...?

24 THE VICE-CHAIRPERSON: Mr. Adams, just
25 looking at your slide 19. I see your comment at the

1 bottom that the recommendation is for Hydro to
2 initiate period cont -- periodic contract compliance
3 reviews.

4 Given the structure of this contract as
5 you know what, what levers does Hydro have to improve
6 the performance of the contractor

7 MR. CAMPBELL ADAMS: They're paying
8 them money. They've got a contractor who has let them
9 down in 2016/2017. Our -- our view would be you've
10 got to sit with your contractor and understand that if
11 you planned a process to pour concrete a certain way,
12 and that's your plan and it's not working, you've got
13 to get down to the root cause of why is that not
14 working. And it's -- in the -- in the past I've seen
15 this just is constant vigilance when an owner has gone
16 down the cost reimbursable path and it's not working.
17 It's -- my father used to say, Hold their feet to the
18 fire. It's that kind of scrutiny.

19 On a cost reimbursable price contract
20 you cannot stand away from what's going on. It's your
21 money they are spending. As opposed -- as opposed to
22 a lump sum where -- well, let me see. You build me
23 this and I pay you this. It's lump sum. The
24 contractor has the responsibility for performing the
25 work within the right time, to the right quality for

1 that price. You stand off and you watch that. You
2 don't tinker and tamper with the lump sum.

3 Cost reimbursable is better managed
4 when you've got a -- oh, what's that saying? It's a -
5 - a salt-and-pepper team. You've got the owner's team
6 embedded, co-located with the contractor. What are
7 they doing day-to-day? What's working well? What's
8 not working well? How do we learn? How do we correct?
9 It's quite high level, but I -- I'm sure within that
10 contract there are -- there are levers to be pulled
11 that the negative float -- if you're not allowed to
12 have negative float and it's stipulated in your
13 contract, why the heck let it happen?

14 MR. WILLIAM HAIGHT: So for the
15 purposes of the record, just to the written record,
16 when Mr. Adams held up two (2) objects, one (1) was
17 this, one (1) was that, one (1) was a pen. The other
18 was -- was an eyeglass case. So two (2) different --
19 very different objects, for the purpose of the record.

20 BOARD MEMBER GRANT: Let me just
21 follow-up on that in terms of the nature of the
22 contract. So suppose it was a fixed-price contract,
23 and you got into a situation of inadequate
24 productivity. I'm -- I'm thinking of these holdup
25 costs that the contractor often has a certain

1 leverage.

2 And so I guess going back to Board
3 Member Kapitany's question, would the world really be
4 that much different? Does the -- are you held hostage
5 to a certain extent by your contractor if the threat
6 of walking away from the project? I guess I'm
7 wondering -- there's -- I'm -- I'm sure there's lots
8 of cost overruns in fixed-price contracts that you
9 must've seen. And so...

10 MR. CAMPBELL ADAMS: If -- if I may,
11 the -- the cost overrun on a fixed-price compensation
12 strategy belongs to the contractor, not the owner.

13 BOARD MEMBER GRANT: No, I understand
14 that. But if they -- they walk up to you halfway
15 through building your house and say, You know, by the
16 way, I've already -- I'm -- I'm going to lose money
17 doing this. I'm going to walk away from it.

18 How easy -- you know, what sort of
19 position does that put the homeowner in?

20 MR. CAMPBELL ADAMS: Well, I think you
21 should enforce your contract. If the -- the
22 contractor, if he walks away then you're going to sue
23 him for damages. There is something about -- the --
24 the contracts typically say that the time and the
25 price are sufficient for performing the work. We had

1 that in the original contract from BBE.

2 The -- the -- that price, I'm not going
3 to say it in case I get off side of someone, there's
4 an undertaking in that contract that that price is
5 sufficient to perform the work. The work hasn't
6 changed. You get to the -- the Mulligan I spoke to
7 and you get the amending agreement, and then it
8 becomes that next target price. There's still an
9 undertaking in the contract that their price is
10 sufficient for doing the work. They are representing
11 that. They have to stand over that.

12 BOARD MEMBER GRANT: But surely you've
13 seen fixed-price contracts which have -- I'm going to
14 use the homeowner as the example -- has simply agreed
15 to absorb the higher cost.

16 MR. CAMPBELL ADAMS: Yes.

17 BOARD MEMBER GRANT: Have you observed
18 that's --

19 MR. CAMPBELL ADAMS: Well, that --
20 that's the -- that's the contractor's risk. That's
21 how they make -- they make more money. If it goes
22 badly wrong, and it's not that that happens, that's --
23 there may be reasons for that, but it doesn't affect
24 the position of the -- the owner. Otherwise,
25 everybody will be -- all -- all owners will be held to

1 ransom.

2 BOARD MEMBER GRANT: That was my
3 point.

4 MR. CAMPBELL ADAMS: I've only seen --
5 I've only seen one (1) walk away.

6 BOARD MEMBER GRANT: Okay. Thank you.

7 THE CHAIRPERSON: Sorry, Mr. Adams,
8 for your nine-point-five (9.5) to ten-point-five
9 (10.5), what assumptions did you make about the south
10 dam, considering they haven't done geotech on it yet?

11 MR. CAMPBELL ADAMS: Just a second.

12 THE CHAIRPERSON: Yeah.

13

14 (BRIEF PAUSE)

15

16 MR. CAMPBELL ADAMS: We -- we took
17 figures that were given to us as part of the
18 assignment, and we put some contingency in against
19 that. There's no way we know what that could be me.
20 There's no way Hydro today would know what that would
21 be, unless somebody's got a crystal ball, which I
22 haven't found in my thirty-three (33) years.

23 THE CHAIRPERSON: Yes. Thank you.

24

25 (BRIEF PAUSE)

1 MR. CAMPBELL ADAMS: Converter
2 stations. So we're on slide 25. The team did a
3 review of the -- as part of the assignment to look at
4 how cost estimating was performed. They -- they found
5 it was -- it was well done. The basis of estimate,
6 which is a narrative that explains how the costs were
7 derived, was well written, aligns with best practices.
8 The -- their approach was consistent
9 with industry standards, and there was -- they made --
10 Hydro made great use of estimating templates to
11 promote -- to promote consistency. As ever, when
12 somebody looks at something, one (1) of the folks
13 thought that a bit more detail would've been good, but
14 overall it was a -- it was a good -- good review from
15 our perspective.

16 Tendering and contracting. Okay. Let
17 me -- let me give you some background as to what this
18 means because it might just be our termin -- our --
19 our terms, given that we're the quantity surveyors.
20 The -- the approach to market speaks to how you -- how
21 you get your price. You can competitively tender to a
22 number of firms that have got the right technical
23 skills, commercial skills, financial backing to do the
24 work. You can single source where you take one (1) of
25 those companies that you could competitively tender

1 to, and you can decide to negotiate directly with
2 them.

3 You can also sole source. And sole
4 source is when you've got to deal with one (1) company
5 who only can provide that product or service. An
6 example of that would be if you wanted the LNG skid
7 technology, you could only deal with ConocoPhillips to
8 get that. You cannot competitively tender that. So
9 that is the -- that is the range of the opportunity
10 when it comes to approach -- approach to market.

11 Contract types are the -- are the --
12 what I call the terms and conditions around whether
13 you are buying construction, or a service, or you're
14 asking somebody to design, procure, and build your
15 project. The -- the risk allocations are different.
16 The rules are different. The skills to perform them
17 are different. And that's what I mean by contract
18 types in this slide.

19 The pricing mechanism is one (1) of the
20 key functions of the contract that allocates risk. At
21 one (1) end of the continuum, if it's cost
22 reimbursable, the risk -- the risks are largely held
23 by the owner. At the other end of the continuum, if
24 it's lump-sum, the risks are probably better allocated
25 with the contractor, in particular, being responsible

1 for time, cost, and schedule.

2 Our review of the -- the tender and
3 contracting of the converter stations, we thought it
4 was very well done. The con -- HVDC converter
5 equipment was -- it was competitively tendered to, I
6 think, three (3) world-renowned companies. It was a
7 design, supply, construct, install, and commission
8 contract, and the contractor was paid on achieving key
9 lumps -- lump-sum milestones.

10 The camp operations was a -- was a
11 single source contract. It was placed on a services -
12 - service-based contract, and it was -- used a cost
13 reimbursable pricing mechanism because the -- of the
14 fluctuation and variability in what would be consumed.
15 And they were compensated for managing that with a
16 management fee. All -- all good choices in -- in our
17 --in our view.

18 Slide 27, please. As I said in the
19 previous slide, the -- the choice -- choices made by
20 Hydro for the contract pricing mechanism were -- were
21 excellent. They -- they are -- they -- they promote
22 predictability in outcomes, which is something that we
23 always want as owners in terms of final cost and
24 schedule. At the time of the report there was around
25 320 million to be spent between then and August or the

1 31st of July, if I'm more precise, this year.

2 The 83 percent on lump-sum and 4
3 percent in unit rate, that's 87 percent on a fixed
4 pricing mechanism and 13 percent was cost
5 reimbursable. We thought cost control was -- was well
6 exercised. There were some variations, but they had
7 not had a significant cost impact in our -- in our
8 opinion.

9 28, please. Oh, summary. We -- we
10 came away with thinking this was a well-managed
11 project. Estimating was well done, well-written
12 pieces of estimate, which is not something we always
13 find. We concur that the likelihood of a cost overrun
14 was low, and effective use was made of the -- those
15 fixed-price compensation mechanisms, the lump-sum, the
16 unit price that placed those -- the risk of
17 productivity cost and schedule on to the contractor
18 market.

19

20 (BRIEF PAUSE)

21

22 MR. CAMPBELL ADAMS: Moving to slide
23 30. We're now on Bipole III transmission line. The
24 team was impressed with the -- how the final
25 preconstruction estimate was compiled. We like using

1 quantity since we're quantity surveyors, and they used
2 applicable unit rates to come up with the values of
3 those -- of the estimate. It's an approach that was
4 consistent with our industry standard.

5 In working with Hydro's team, we find
6 them a knowledgeable and very capable group of people.
7 As ever, you ask somebody to look at something, they
8 will find something to tell you can do better. And
9 the -- the guys felt that a bit more transparency or
10 backup would be good for the estimate. And if you're
11 using a value in one (1) summary that it's the same
12 value you use in another so they align. But all in
13 all it found to be that it was fine.

14 31, please. As with the -- the
15 converter stations, Hydro's contracting strategy,
16 their approach to market, their use of lump-sum on
17 unit rate and cost reimbursable pricing mechanisms was
18 -- was highly appropriate. Examples there are
19 transmission line clearing as a lump-sum, the
20 stringing contract as a unit rate. And where, for
21 example, they required inspection services, which you
22 call out from time to time, that was done on a cost
23 reimbursable basis which just makes a lot of sense.

24 32. During our review we came across
25 the performance of Rokstad Power Corporation. They

1 seem to have struggled achieving their promised work
2 plan. In November, many of their dates appeared to be
3 slipping from the approved baseline dates. This is
4 obviously a risk that Hydro became aware of. They
5 stepped in. They -- they took immediate action. They
6 -- they requested a recovery plan from RPC. I'm not
7 sure that we saw that, but I know on the 9th of
8 November, to try and de-escalate this risk are de-risk
9 it, sorry, they removed scope -- a part of the scope
10 of work from Rokstad, so they could focus on the other
11 -- the other three (3) dominion areas, and they gave
12 that scope to another contractor to perform.

13 Whilst we -- we believe that is -- that
14 was the right course of action, you've still got a
15 contractor who may still incur some progress issues
16 between now and the end of the winter season. If that
17 does come to pass, then there may be a further
18 schedule impact of one (1) year if they don't finish
19 their reduced scope of work.

20 Thank you. We're on slide 33 for the
21 record. So the preconstruction control budget was
22 1.66 billion. It increased by around 300 million.
23 Nothing untoward in that. The -- the key contributing
24 factors that you can see there were just additional
25 scope that was required and it was added to the -- to

1 the to the project.

2 Slide 34, please. So in summary, the
3 team found the -- the transmission line project well-
4 managed, well-organized, great use of the compensation
5 mechanisms to manage risk better, place that
6 appropriately on the contractor market rather than
7 keeping that in-house within Hydro.

8 We believe it's on schedule to complete
9 on the 31st of July this year, although it's worth
10 noting that some contractors did have some slippage on
11 the critical path. And the -- probably the biggest
12 risk to a successful conclusion to this is Rokstad
13 Power Corporation. And just to repeat, Hydro is
14 aware. They stepped in and they're taking action to -
15 - to de-risk that to the extent that they can.

16 Moving on to the Manitoba-Minnesota
17 Transmission Project. The cost estimate is 453
18 million. I hope that that's not commercially
19 sensitive because it's on my screen. We found a lot
20 of good practices when we reviewed this. The -- the
21 level of project definition was excellent in terms of
22 being able to take quantities off to get your cost
23 estimate. Again, good -- good use of historic project
24 unit rates and the use of existing project templates
25 to promote consistency and accuracy in building --

1 building your estimate.

2 As ever, a little shortcoming. We --
3 we like to have a basis of estimate to read when we
4 look at an estimate, so we understand -- we get a
5 narrative to explain where did the costs come from,
6 how were they compiled. And we don't believe from
7 what we reviewed that one (1) was prepared for this.
8 A small point.

9 So let me -- let me take you slowly
10 through this because I'm not a scheduler, but I try to
11 understand things and as best I can. If get into
12 difficulty you'll be hearing from -- from Val again.
13 In looking at schedules, the -- the use of a common
14 template was -- was very well used. It did promote
15 consistency across the schedules.

16 If you look at the third bullet point
17 where it refers to "high logic density," and let me
18 look at my notes. Logic density, the metric of logic
19 density assesses the average number of logic links per
20 activity. If the score is greater than four (4), then
21 that would indicate an overly complex schedule that we
22 would recommend gets reviewed to take out the
23 complexity and make it -- place it better for success.

24 Missing logic, in the next bullet
25 point, means that either the activity before that

1 activity, the predecessor or the successor or both are
2 missing. So it's sort of standing out its own. Where
3 we identify that, then it means that we have not got a
4 critical path with which to follow to complete the
5 project on the due date.

6 High duration activities indicate that
7 -- where you have activities that are greater than two
8 (2) months, it points that there is insufficient
9 detail to manage that activity. And they -- these
10 need to be further reviewed, deconstructed, decomposed
11 into more granular activity so you understand what has
12 to happen to establish your critical path and get you
13 to finish by the -- the due date. So within this
14 there is some stuff that was really well done, but
15 there's some homework, I believe, that can be done in
16 the coming months just to -- to raise the schedule to
17 a better place.

18 38, please. In looking at the -- the
19 estimated cost for -- for the MMTP, our colleagues
20 Stanley Consulting focused on a significant percentage
21 of the estimated project cost. The -- the outcome of
22 that analysis would suggest that the estimate that's
23 being carried is lower at its highest level than other
24 similar industry projects. When Stanley drilled down
25 into the cost components, as ever you find some are

1 higher than you thought and you find some that are
2 lower than you thought.

3 I think the -- the message here is that
4 we would recommend a review of that, just test the
5 points that we have made to see whether they agree, or
6 they need to amend them, or otherwise. And just re --
7 refine the -- that -- that estimated cost because in
8 our view it was -- it was on the low slide.

9 Slide 39, please. So in summary,
10 project's on schedule. The estimating methodology was
11 -- was consistent with industry standard and what we
12 would expect. In performing subsequent cost estimates
13 we -- we believe that the process would be improved
14 upon, if it's done pursuant to an estimate preparation
15 plan of hat are we going to do to build this cost
16 estimate. And as they build the cost estimate, just
17 compile that basis of estimate to provide a narrative
18 to explain to the reader how the costs were -- were
19 derived, were compiled/

20 So moving to the Great Northern
21 Transmission Line. The review concluded that the --
22 the estimate appeared on the high side. We can't talk
23 too much about some of the pricing because it's
24 commercially sensitive. We believe that further
25 review is required to establish the reasonableness of

1 the cost estimate. And again, as -- as before, having
2 a basis of estimate to explain the -- the estimate
3 would be -- would be very, very useful.

4 42, please. We reviewed the -- we
5 reviewed the construction management agreement that
6 sets out the obligations and rights of Hydro's 669
7 company with Minnesota Power. This was a -- this was
8 a very well drafted, very well thought through, very
9 well written agreement. It would operate well at the
10 operational level. We felt that it protects Hydro's
11 risks, business interests very well. It identifies
12 the risks, provides mechanisms to deal with those.

13 And I -- and I think it's worth -- it's
14 worth reporting that not only was the document, well -
15 - well-written, but I've seen documents that are well
16 written, but badly understood by those who have to
17 manage them. But in -- in speaking with the folks at
18 Hydro, they -- their key personnel had a common and
19 shared understanding of the content of that agreement,
20 which -- which is a great thing to report back on.

21 Slide 44. The schedules generally were
22 assessed as -- as medium quality. Some areas that
23 would improve would be breaking down activities into
24 greater detail. We did find high duration activities
25 that in future, for more adequate planning control

1 purposes, need to be broken down.

2 THE CHAIRPERSON: Excuse me for a
3 second. I think we may have skipped a page.

4 MR. CAMPBELL ADAMS: Oh, did we?
5 Well, beg your pardon.

6 THE CHAIRPERSON: Yeah, I think we're
7 at the forecast at completion page.

8 MR. CAMPBELL ADAMS: Oh, sorry.

9

10 (BRIEF PAUSE)

11

12 MR. CAMPBELL ADAMS: Oh, okay.
13 Apologies. So this has been redacted for some
14 commercial sensitivities. However, the cost estimate
15 in 2013 is the 677 million. No comment on the next
16 one (1). We find, as ever, the cost estimate
17 methodology was -- was consistent and well done.
18 Solid project definition with -- which, again, to get
19 quantities to evaluate unit risk to give you a better
20 feel for what the cost is likely to be.

21 There was, in this case, a summary of
22 cost assumption that -- that was provided that gave
23 you an understanding of how the cost estimate was
24 built up. However, the more formal basis of estimate
25 was not. The conclusion from the team was that the --

1 the overall cost was high and the recommendation was
2 for this to be -- to be revisited.

3 I think now we can go to 40 -- 44. The
4 schedules were assessed as medium quality. As touched
5 on earlier, we -- we find a number of activities that
6 were -- which suffered from either high duration or
7 missing logic, and -- and these -- these matters need
8 to be addressed to give more -- what's the word --
9 more integrity to the schedule that's being presented
10 and is to be followed.

11 So in conclusion, we found the project
12 be well -- well-organized, well-managed. The
13 construction management agreement, we were impressed
14 with how it was drafted from an operational and a risk
15 perspective. The estimate methodology was -- was
16 consistent with what we would've expected. And the --
17 the last comment there is, it was considered high when
18 benchmarked with other projects. And this is
19 something that we would expect Hydro over time as it
20 progresses this project to have a look at that again.
21 I think that's me done.

22 THE CHAIRPERSON: Thank you. Mr.
23 Haight, are you planning to proceed with Amplitude
24 next?

25 MR. WILLIAM HAIGHT: No. Planning

1 just to proceed with Mr. Campbell from KCB next.

2 THE CHAIRPERSON: Okay. With Mr.
3 Campbell. You know, I think it might be a good point
4 to take the morning break. So we'll -- we'll break
5 for fifteen (15) minutes now. Okay. Thank you.

6

7 --- Upon recessing at 10:22 a.m.

8 --- Upon resuming at 10:40 a.m.

9

10 THE CHAIRPERSON: Mr. Haight...?

11 MR. WILLIAM HAIGHT: Mr. Chair, we're
12 ready to proceed with -- with Dan Campbell's
13 presentation.

14 THE CHAIRPERSON: Thank you.

15

16 CONTINUED BY MR. WILLIAM HAIGHT:

17 PRESENTATION BY KCB

18 MR. DAN CAMPBELL: Thank you and good
19 morning to all. I apologize for the lateness of our
20 presentation being provided. There was some confusion
21 with MGF and I happened to be in Mexico and it was
22 warmer there than here, I must confess.

23 Okay. Can you hear me now? Okay.

24 First, a brief history of KCB and we're a consulting
25 engineering company. Some of our major clients

1 include BC Hydro. We're working on Site C. I'm sure
2 you've heard of that project. Ontario Power
3 Generation, SaskPower. We work for contractors as
4 well.

5 Our typical competitors are Hatch and
6 SNC is two (2) examples. The flowchart on the -- on
7 the cover here is just to give an idea of what I'm
8 going to be covering in my presentation this morning.
9 The -- our report was a team effort. I was not the
10 only author. Garry Stevenson, one of our geotechnical
11 engineers with over forty (40) years of experience was
12 -- he did the -- the geotechnical portion and he did
13 the northern -- he has northern climate experience as
14 well.

15 Neil Heidstra, a structural engineer
16 with thirty-five (35) plus years of experience was the
17 lead on the -- on the structural piece and he was also
18 recently the lead on the powerhouse design for Site C.

19 Unfortunately, the others could not be
20 available today. For example, Garry is at -- at a
21 review board meeting on Site C. So I guess I drew the
22 short straw, please bear with me.

23 Next slide. The presentation is going
24 to cover the project costs where -- specifically where
25 -- where the overruns in terms of the contracts, the

1 project design, the -- the -- where the specifications
2 -- was the design generally reasonable and was --
3 fundamentally, did the contractor seem to be provided
4 with enough information to be able to proceed with --
5 with his work.

6 A review of the extra work orders as --
7 as the information was provided by Manitoba Hydro.
8 Did they have a significant impact in the project cost
9 to date. We looked at the unit prices. We compared
10 them with other costs -- other projects I should say.
11 We also looked finally at the contracting methodology
12 from the perspective of the contract format. Did it
13 make sense to us, right? And we did not go to site,
14 so we don't have any comments on what -- what happened
15 there. And MGF has already commented in detail about
16 the -- the schedule and so I'm not mentioning that
17 today.

18 Thank you. Slide 3. We reviewed the
19 cost overruns in the different contracts and the
20 information that was provided by Manitoba Hydro to
21 identify -- to identify the contracts that were
22 important and of concern. Then we looked in more
23 detail about the information on those contracts to see
24 if we could identify anything that, again, was of
25 concern to us.

1 Again, as I said, we looked at the
2 extra work orders. We looked at the -- then we looked
3 to the contract format. Specifically, the measurement
4 and payment sections.

5 Next slide, please. In the -- in the
6 contracting summary table that was provided by
7 Manitoba Hydro, there were two hundred and forty-seven
8 (247) contracts which as you see were 4.6 billion, and
9 the increase was 1.9 billion to date or -- or that was
10 shown in the information that we -- we saw.

11 We looked at that and we said, what are
12 the -- where and what are the important contract
13 increases. So we sorted all the information by
14 contract value. Then we calculated the percentage
15 increase for each contract to see if that was of
16 interest and that was provided in -- in the report.

17 Then we sorted the percentage increase
18 of each contract as a percentage of the total project
19 cost to try and understand which contract changes were
20 important to the overall project, right.

21 There's a bunch of information that's
22 not shown here, obviously, for commercially sensitive
23 reasons, but the list here lists the order of
24 contracts, and for most important to least important.
25 Everything that's not on that list is effectively

1 insignificant.

2 And I think the only comment I can
3 probably make about this is that the general civil
4 contract is about ten (10) times more important than -
5 - than the second contract in terms of cost increase.
6 I don't think I can say any more than that.

7 Next slide, please. So, obviously, the
8 general civil contract with BBE is the critical
9 contract for the project, with a significant --
10 responsible for a significant portion of the project
11 overrun, right. We tired and did a calculation or we
12 did a calculation, and we said if they were on budget
13 and schedule, how much would the project be over
14 budget? And that's that number there, 628 million,
15 right, or 23 percent.

16 But not all of that 23 percent is
17 directly -- is -- is directly related to work that was
18 -- that other contractors would've been able to claim.
19 A lot of it is directly -- is directly related to
20 delays in the civil contract. For example, Voith used
21 the delay to date to significantly increase the value
22 of their contract. Obviously, things like the camp
23 were also major contract increases, both in percentage
24 and dollar value because of the increase in the
25 schedule and the higher manpower then maybe was

1 originally planned. So the impact of the delay is not
2 only on the civil contractor.

3 Next slide, please.

4 THE VICE-CHAIRPERSON: Could I just
5 ask you one question before you leave that slide?

6 MR. DAN CAMPBELL: Sure.

7 THE VICE-CHAIRPERSON: You say if BBE
8 was on budget and schedule the project would only be
9 over budget by 23 percent.

10 Is 23 percent something that you would
11 think is normally, acceptable? How would you place
12 that?

13 MR. DAN CAMPBELL: That 23 percent
14 includes the cost overruns -- or sorry, the additional
15 costs claimed by the other contractors, like Voith and
16 the camp and people like that. So the -- we didn't
17 calculate -- because we have no really good way to do
18 it, what the cost overrun would have been if those
19 other delay costs had not been incorporated.

20 So that number should be less and less
21 is better. Normally.

22

23 (BRIEF PAUSE)

24

25 MR. DAN CAMPBELL: Just find -- okay.

1 Then we sort of said, okay, where the design change is
2 a major driver of the cost increases because we're
3 looking at -- we're engineers, we're looking at this
4 from an engineering perspective, trying to see if --
5 if the design is reasonable.

6 From our experience design changes
7 typically appear as revisions to drawings and
8 specifications, right. So we review the drawing and
9 specification logs which were provided by Manitoba
10 Hydro, right. We noticed that there -- to date or to
11 July 2017, there were twelve (12) versions of the
12 technical specifications between March and July --
13 March 2014 and July 2017. So we looked at those three
14 (3) dates. We looked at them in 2014; we looked at
15 them on version 3 in May 2015; and we looked at
16 version 12 from July 2017, and then we reproduced a
17 table, which is I think the next slide, please.

18 Slide eight. And this is just an
19 extract of that table and what we did is we looked at
20 those dates and we looked -- we coloured the revisions
21 to see revision 1, for example -- or -- is -- is
22 green, right. So that's a -- one (1) revision. And
23 if it's more than -- two (2) or more revisions, it got
24 coloured yellow. So we had a bit of a colour coding
25 to try and see where the important revisions were

1 because then our next move was to go back and look at
2 those -- at those sections in more detail.

3 Okay, next slide, please. And that
4 table -- and it's a multipage table and you just had
5 an extract in this presentation. So there were many,
6 many sections that were changed; at least twenty (20)
7 sections were changed in the -- between those two (2)
8 versions, right. All of the changes have some impact
9 on the costs, always, right. Sometimes it goes up;
10 sometimes it goes down. Most of the time it goes up,
11 right.

12 What we saw is that a lot of mechanical
13 and electrical changes were being made and some of
14 them were technic -- technically astute. For example,
15 the lighting was incor -- it was made to be much more
16 environmentally sensitive with the use of LEDs and so
17 that was upgraded and that was a reasonable change.

18 Now, those costs inside the civil
19 contract, the mechanical/electrical changes that were
20 -- that we noticed were generally small dollar values
21 in the total value of the contract because the
22 mechanical/electrical inside the civil contract is
23 generally a small dollar value compared with the
24 excavation and civil work and concrete work.

25 Very little changes were actually made

1 in the excavation, the fills and the concrete
2 specifications. They were very consistent through all
3 of the documents that we looked at in terms of the
4 specifications. So, therefore, we couldn't -- we
5 couldn't actually's blame the specifications, quote
6 unquote, for the cost increase that we saw in the
7 civil contract. So then we said, okay, maybe it's the
8 quantities.

9 Next slide, please. Sorry
10 geotechnical. This may address somebody else's
11 question from earlier in the day. So then we said,
12 okay, maybe it's the basis of the geotechnical
13 information. Was the information insignificant or
14 inadequate; was it -- were there a lot of changes as a
15 result of -- of investigations that weren't there.

16 And I'm not a geotechnical engineer but
17 this is what I get from my -- from my geotechnical
18 engineer Garry is that the investigations appear to
19 have been reasonably comprehensive, both for
20 construction materials and for the structures. In
21 other words, do they have the materials that are
22 needed to build the project. The borrow areas and all
23 that good stuff. And do they actually -- have they
24 actually investigated where the structures are going
25 to be so that they try -- are -- are minimizing the

1 risk when the excavation is done of -- of surprise.

2 I'll use that phrase.

3 Of course, as MGF noted in their
4 presentation, you can always find things that can be
5 done better. And we found a few things which causes a
6 little bit of interest, one of which the regional
7 bedrock geology drawings in the contract, which in the
8 vicinity of the major structures do not actually show
9 clearly and easily the locations of the drill holes
10 and test pits, which is a -- means that the contractor
11 has go and search for it and try and put those two (2)
12 pieces of information together.

13 The information is there, as far as we
14 can see, right. So it was more of a pres -- of a
15 presentation issue and make it easy for the
16 contractor, but there's obviously an opportunity for
17 the information to be missed or misinterpreted if it's
18 not presented that way.

19 There was a brittle deformation zone
20 which crosses the axis of the principal structures
21 beneath the central dam and the coffer dam, and that
22 only had one (1) drill hole in it. Now the comment
23 was that that was healed. In other words, it was --
24 I'll use -- I'll just leave it at that being -- not
25 being a geotechnical engineer, but the issue being

1 really it was not an issue. Although there was only
2 one (1) hole, to investigate it.

3 And then there was a ductile
4 deformation zone, a shearer fault, shown on the
5 geology plan beneath the central dam which is mainly
6 in the water, and that was not investigated and we
7 understand why because it's in the water, and it's
8 hard to get to, and it's dangerous. But we noticed
9 that it did -- that deformation zone did continue on
10 to the island near Gull Rapids, but there didn't seem
11 to be particularly a lot of investigation of that. So
12 there's -- those are three (3) issues which were --
13 were noted.

14 Next slide, please. As I mentioned,
15 was there enough material for construction? Did you
16 actually have all the rock that you needed. The
17 material balance was reviewed. The engineer had a
18 material balance plan which he showed which is one way
19 of doing it, right, and he had identified that there
20 was enough material to build the project, which is
21 obviously good. He -- that plan showed that the rock
22 excavations were being 100 percent utilized.

23 You might think there's a risk there,
24 but we don't think so because there's certainly
25 abundant additional rock available in nearby qua --

1 quarries so we don't see that as an issue.

2 Ditto with the impervious borrow
3 material which goes in this -- in the core of the
4 dams, right. We'd -- there were three (3) locations
5 identified and the material volumes, they greatly
6 exceeded what was needed. So we're saying to
7 ourselves, okay, that looks good.

8 Next slide, please. Oh, sorry, back
9 one, please. Okay. Forward again, please. Then the
10 question of: Can you actually build the structures?
11 We've seen some designs and -- in earth-filled
12 structures which are actually not possible to
13 construct. So that -- we thought that was worthy of
14 investigation. Can you actually build what was --
15 what was shown on the drawings, right?

16 Yes, there's some areas which are going
17 to be slow to construct, right and -- and compact,
18 right, and there are some narrow zones, but we didn't
19 see -- other than those little narrow zones, we didn't
20 see any particular need for special placement
21 techniques, or any fancy -- fancywork there. So we
22 weren't -- we didn't see a problem there.

23 The designs, from our experience, and
24 our design skills are appropriate for a northern
25 climate. So we were happy with that. We did note

1 that the placement of the zone 5 riprap bedding as
2 shown in the upper parts of the dams will be
3 challenging. The zone widths are narrow. This -- and
4 -- but it's only two (2) vertical metres in height.
5 So it's not a lot of volume in the grand scheme of the
6 amount of materials that have to be placed on this
7 project.

8 So from a geotechnical design
9 perspective, in summary, as I say, there -- there are
10 a few areas where more investigations might have
11 helped but overall the geotechnical information is
12 sufficient, and there's plenty of material available
13 to build the project.

14 So from our perspective, we said, okay,
15 the information the contractor had and what appears to
16 be there from a geotechnical perspective and from a
17 specifications perspective we're happy.

18 So next slide, please. What about the
19 drawings? Were the drawing sufficient and in enough
20 detail to be able to build the project, right.
21 There's a drawing list which has twenty-three hundred
22 (2300) drawings in it, IFC, associated for the general
23 civil contract. We did not read every drawing. We
24 didn't have time, right. We looked at them in some
25 detail and we particularly looked at them -- Garry

1 looked at them from the geotechnical perspective just
2 because there's a lot of -- a lot of effort and money
3 in the -- in the earthworks piece to see whether or
4 not they looked reasonable from his perspective. And
5 the answer is yes, right. And generally IFC drawings
6 are clear and certainly define the majority of the
7 permanent works. We didn't have a problem with the
8 drawings, right.

9 The information that was presented on
10 the drawings showed a design that was substantially
11 complete, right, prior -- prior to award, to the
12 actual contract, right. So we didn't see a lot of
13 opportunity for the contractor to actually go back and
14 say, well, that you've revised the drawings many times
15 or you didn't tell me about something in particular
16 that, I needed a dam here or something like that. You
17 didn't tell me about it. So, we were looking -- we
18 were looking at that to see if there was an issue
19 there and the only real thing that we saw that the --
20 that the contractor had to do was figure out his
21 construction methodology. What he had to do was
22 defined.

23 So then we said, okay, what about the
24 drawings. Were they revised lots of times? Did he --
25 can the contractor come back and claim that the

1 drawings -- the drawings were -- were inadequate and
2 designed and revised and there was multiple times and
3 every time it cost us money. So we looked at the
4 revision history.

5 Next slide, please. This is just a
6 graph showing the IFC wri -- drawing revision log that
7 shows the drawings that were issued -- issued for
8 construction, revision 0, revision 1, revision 2, et
9 cetera.

10 You can clearly see that the majority
11 of the drawings were not revised after issued IFC.
12 This is very good because this -- this tells the cont
13 -- tells us that the contractor generally had the
14 information that he needed to be able to design from.
15 So, that's a positive thing. So far everything looks
16 good.

17 Next slide, please. So then we said,
18 maybe they were late. Maybe the drawings came late.
19 So we looked at the issue of when -- when they were
20 issued by year. Okay. And there you can see it.
21 There's a graph as well. Okay. We know the
22 contractor priced the job in 2014 with a limited
23 number of drawings. You can see there, the IFC
24 drawing list, right. The majority of the drawings
25 were prepared later in 2016 and '17, possibly, but we

1 don't have particular proof that the contractor missed
2 or did not allow for the complexity of the job. Maybe
3 that explains some of the -- some of the issues,
4 right, and therefore underbid the pro -- the project,
5 right.

6 And certainly there's the possibility
7 that the engineer could have added more detail in the
8 drawings that he's produced in 2015, '16 and '17 and,
9 certainly, he did because he produced the mechanical
10 drawings in more detail and there's a bunch of
11 information there. But they were issued IFC and the
12 technical specs weren't revised and so those are --
13 I'll use the word "if" questions, "maybe" questions.
14 They're not cast in stone facts, definitely questions
15 -- or -- or reasons for some -- for some of the
16 issues, some of the cost overrun.

17 Slide 16, please. So from a design
18 perspective, the revision to the specifications have
19 been generally related to the balance of plant work,
20 i.e., the mechanical/electrical work and should be low
21 -- low cost impacts on the entire project. Some more
22 geotechnical investigations might have helped but
23 overall we don't think that -- that the information
24 was insufficient. We think there's enough information
25 there and there's lots of materials to build it. The

1 drawing information is good. The design is reasonable
2 and well detailed. The number of drawings produced is
3 reasonable for a project of this size. It's not like
4 he had to build it with two (2) drawings on the back
5 of a cigarette box. He had lots of drawings and lots
6 of information, right. The only niggling potential
7 issue may be the timing of the drawing production,
8 which may have created some delays, not sure.

9 In summary, design changes do not
10 account for, in our opinion, for the major cost
11 increase.

12 Next slide, please. So then we looked
13 at the extra work order information that was provided.
14 Do the extra work orders show where the costs came
15 from? So we reviewed the extra work orders from the
16 general civil contractor as extracted from the Keeyask
17 contract revision register for allocated contingency
18 August 2017.

19 And I must say that I want to
20 complement Manitoba Hydro for all of the information
21 that they provide and -- and the quality of the
22 information, for the excellent job of tracking the
23 extra work order and the extra -- and generally
24 supplying the -- providing the data. They've -- they
25 are doing an excellent job from our obser -- from our

1 observation.

2 What we saw there is that the extra
3 work orders which are driven by technical information
4 add up to a number which includes another number, a
5 small number, about 10 percent of that directed by
6 Manitoba Hydro and direct work that they asked for.
7 We'll leave it at that.

8 Next slide, please. We looked to the
9 information by year to see if there was a -- an issue
10 there in terms of: Was the extra work orders, were
11 they a function of -- of year? What we found was that
12 the majority of the informa -- of the extra work that
13 was -- that was listed was done in 2015 and '16, which
14 makes sense because of the great rece -- reset of the
15 project in 2017, right.

16 The number which is we can't tell you
17 was -- was noticeable, but we also noticed that the
18 profit reductions were a bigger number than the extra
19 work orders. So there's actually a -- a net savings
20 when you subtract the extra work orders. When you
21 take the extra work orders and subtract the profit
22 reductions, there's actually been a net savings to the
23 project to date, based on the information that was
24 provided.

25 Next slide, please. So on that basis

1 we can't sort of say the extra work that's been
2 claimed to date or paid to date is driving the project
3 cost either, right. And in fact, in 2017, there's
4 been some additional money saved by technical changes.

5 Quantity estimates. This goes back to
6 the question of target price and unit rates, times --
7 times quantities equals the target price. Manitoba
8 Hydro mentioned in one (1) of the documents that the
9 cost increases to date are -- was a reflection of the
10 change in quantities. They believe that's part of the
11 -- one (1) of the issues that have -- that has
12 impacted the price change.

13 Most of the work to date was related to
14 earthworks and concrete. As we said, the civil -- or
15 sorry, the mechanical/electrical turbine installation
16 and gates, all the good things for a person like
17 myself as a mechanical engineer, that hasn't been done
18 yet. So -- but we did look at the -- we concentrated
19 our review on the earthworks and the concrete
20 quantities and their changes.

21 Next slide. We looked at the -- at the
22 concrete works and the formwork and there's a long
23 table, which is in our report. This is just an
24 extract of it. We looked at the variances there to
25 see whether or not the variance percentages and that's

1 column C there, vary dramatically between the original
2 budget, the current budget so -- and we also reviewed
3 some of the information that was provided in a Hatch
4 report, a Stage IV Hatch Report which was in 2012 or
5 '13, I believe. I'm not sure of the date on that
6 one.

7 So we want -- because we were looking
8 to see if there was a trend from the very early part
9 of the -- of the project to the end to see whether or
10 not the quantity changes were significant enough to
11 actually drive a cost change, a major cost change.

12 Next slide, please. We saw variances
13 ranging from minus 41 percent for granular fill to
14 plus 86 percent for rockfill. Remember, we've
15 identified there's lots of materials, right. So our
16 suspicion is in the way it was priced or the way it
17 was -- it was -- was being considered there is that
18 there's been some category changes in some of those
19 rockfills in particular, and then that shows when you
20 look at some of the definitions I believe of what the
21 rockfill is in terms of the sizes and the sieve mixes
22 for some of the -- for some of the fills from what one
23 -- from early in the project to later in the project.

24 So -- and I think that -- that's not
25 entirely unreasonable because you will classify your

1 rock based on what you can make from the quarries that
2 you have, and then you'll use it appropriately. But,
3 when you add it all up, you've only got a variance of
4 about 4 percent in terms of the total volumes of all
5 these different bits and pieces.

6 Now, I know there was some geotechnical
7 issues with some additional excavation. And I've
8 heard that there's some issues with additional heights
9 of cofferdams and so some of that may account for some
10 of that but still 4 percent is not a huge number. And
11 if you were to do it on a unit price basis, that would
12 presumably change your price by something similar,
13 maybe.

14 The concrete volumes going right back
15 to the initial Hatch report are remarkably close
16 throughout the estimates. So, the changing quantities
17 in total doesn't seem, from our perspective, to
18 justify the change in the contract value.

19 Next slide, please. So where are we at
20 this point? The design is reasonable. The drawings
21 and specifications have very few revisions, i.e.,
22 they're reasonable. The geotechnical investigations
23 are reasonable and generally good. The extra work
24 orders technically have -- don't seem to have been
25 excessive, right. The quantity estimates are in total

1 reasonable close. We're thinking as we're going
2 through this project at this point, everything looks
3 pretty good. We haven't figured out -- found the
4 smoking gun yet.

5 Next slide, please. And we looked at
6 unit prices. Were the unit prices changed in '87
7 (sic) and if so, what was the impact? This was a
8 difficult thing to do because what we found was that
9 the -- there was (a) a lot of information. There was
10 a very, very, very detailed breakup -- breakdown and
11 development of unit prices in the -- in the -- in the
12 different contracts and they weren't always -- or the
13 different versions and they weren't always directly
14 comparable. We had a limited time.

15 And so we kind of struggled with this.
16 And so what we did is we took similar items in the --
17 in the bill of quantities and we grouped them together
18 into consolidated unit prices, right, so that we could
19 have a fewer -- a fewer -- a smaller grouping and we
20 could also bundle things together, which were not easy
21 to -- to directly comparable from one document to
22 another. And then we divided the total cost of the
23 grouped items by the total quantities.

24 Next slide, please. The following
25 consolidated items were reviewed. The cast-in-place

1 concrete. Now, we recognize -- and I think it's
2 really important to understand -- that concrete
3 construction is different for the spillway, for
4 example, compared with the powerhouse, or the te --
5 and/or the intake in terms of the complexity, the
6 amount of rebar, the formwork, all of these things
7 have an impact on the -- on the unit price nominally
8 of your cast -- cast-in-place concrete. So that one
9 we broke out into those four -- four (4) groupings and
10 you can see we -- we chose a formwork ratio --
11 formwork area to concrete volume ratio, which is
12 defined there. We looked at the volumes of
13 reinforcing steel, structural steel, right, the
14 unclassified excavations, the rock excavations, the
15 impervious fills, the granular -- granular fills
16 together as a -- and the rockfills.

17 Next slide, please. We compared the --
18 all of that information after we consolidated it
19 altogether in a -- in our own spreadsheet between the
20 March 2014 contract AA3 and the AA7 version of 2017.

21 Next slide, please. And you can see
22 there's the -- the quantity -- the quantities are
23 shown on this table, right, and you can see that
24 there's similar. They're not identical, but there's
25 certainly similar, right. So this goes back to the

1 comment that I made earlier that the quantities
2 generally were -- were similar.

3 I think the thing that I can say that
4 the blacked out piece in terms of unit price --

5 THE CHAIRPERSON: Technology is
6 wonderful when it works.

7

8 (BRIEF PAUSE)

9

10 MR. KURT SIMONSEN: Whoever just
11 joined, can you please mute your phone. Thank you.

12 THE CHAIRPERSON: Mr. Campbell...?

13 MR. DAN CAMPBELL: Could I stop saying
14 I've lost my train of thought?

15 The unit prices all increased between
16 three (3) and seven (7) significantly, as a comment.

17 Next slide, please. Between, as I say
18 in the slide there, between 67 to 366 percent. When
19 you looked at the entire bill of quantities, not just
20 those that -- subset that I was talking about there,
21 we saw that there were similar increases through the
22 entire bill of quantities comparing 3 and 7.

23

24 (BRIEF PAUSE)

25

1 MR. DAN CAMPBELL: So if you were to
2 assume that the quantities times the unit price equals
3 the target price, which is true, right, the target
4 price estimate in 7 is much larger than in 3, and it's
5 a function of the unit price increase, not the
6 quantity increase. Next slide, please.

7

8 (BRIEF PAUSE)

9

10 MR. DAN CAMPBELL: Then we said, Okay,
11 somebody's going to ask, I'm assuming, so we did, are
12 the Keeyask unit prices comparable to other similar
13 projects? I have to be careful when I say here
14 because of confidentiality reasons on other similar
15 projects, but what we did is we compared the unit
16 prices that were present -- that were available to us
17 on Keeyask with some historical information for
18 similar work for a large hydroelectric project in
19 Northern Canada. One (1) of the reasons we
20 consolidated the projects is because that information
21 is commercially sensitive to other clients. We
22 couldn't present it anyhow.

23 And we -- the next slide shows -- well,
24 is was supposed to show the his -- the comparison
25 between 3 and 7, and our estimates. Unfortunately,

1 the good bits aren't shown. So we might as well move
2 on to the next slide, please.

3 What it's -- so we saw there is that
4 the initial contract appears to be generally low
5 compared with what we are -- that we have for
6 historical information, and that the amending
7 agreement 7 prices would be -- appeared to be
8 significantly higher compared with what we have.

9 Thank you. So being engineers, we then
10 said, Well, what impact does that have on the subset
11 of information that we're actually looking at in terms
12 of that unit price comparison? So we did that
13 calculation. It's nicely shown in the black, right?
14 The -- unfortunately, I can't tell you the numbers,
15 but looking at the numbers and I would say that the
16 original contract was dramatically low, and that the
17 existing for the AA7 version is, while higher than
18 what -- what our math showed it might be, is much
19 closer to what our math showed it should be.

20 So fundamentally, we don't think the
21 contractor could have done the job for the price he
22 bid it, all right, if the target price was high -- was
23 -- was ultimately how he was being paid. So we said,
24 This is a bit of an issue. So we said, Well, how is
25 he be -- getting -- getting paid?

1 Next slide, please. So we read the
2 contract. This was after we've done all of the good
3 engineering bits to see if we can figure out what's
4 going on. And the blue bit is a direct quotation,
5 more or less, out of the contract, and it talks about
6 the work being on a cost reimbursable basis, fine,
7 with an initial target price and final target price,
8 which is subject to terms of the contract and measured
9 -- and there's going to be measurement in the contract
10 documents, and there would be no change to the unit
11 price unless actual quantities vary by some numbers,
12 and this all looks sort of initially pretty good, all
13 right? So that -- because this is certainly
14 reasonable for a contract with unit prices and
15 measured qualities leading to a final target price
16 with some ultimate adjustments.

17 Next slide, please. Basis for payment,
18 section 9:

19 "Subject to these terms and
20 conditions of payment, the purchaser
21 shall pay the contractor and
22 contractor's actual costs,
23 emphasis by us], incurred in the
24 performance of the work."

25 Now, section 9 has a bunch of

1 modifications to the -- to the contract related to
2 profit, and GA&O, and there's a bunch of formulas
3 based on actual costs, and the final target price.
4 And generally, the -- the wording seems reasonable,
5 except it never actually says what the actual costs
6 are. It says -- it never actually says the actual
7 costs are equal to the quantities times the unit
8 price.

9 So we had to read some more. So we
10 went looking for the definition of actual costs. In
11 section 11, "actual costs shall mean only the
12 following." And I've shortened that section, but
13 basically, and I think you people already know this
14 all probably way to well, it's all the actual indirect
15 and direct costs, all the labour, equipment, et
16 cetera, et cetera, et cetera, incurred by the
17 contractor. Again, the definition of actual cost --
18 there is no connection between actual costs and the
19 quantities and unit prices.

20 We have never seen a contract of this
21 size, in our experience, that does this. In fact, I
22 went around and I had a discussion with some of our
23 senior management about contracts of this value and
24 this particular contracting strategy. And I asked
25 other people who have experienced, like, thirty-five

1 (35), forty (40) years experience, have they seen a
2 major project with this as the contract format,
3 payment format? And the answer was no.

4 Yes, there are certainly, as MGF
5 mentioned in the -- in the transmission contracts,
6 there are sections of contracts that have cost
7 reimbursable sections, all right? For example,
8 typically on drilling contracts, where you have a
9 driller, and you're drilling -- doing in-field
10 investigations, those are that way because
11 fundamentally, someone is telling the contractor
12 exactly when to do, Drill down till you -- till now.
13 Okay, we're down far enough. Stop. Move over, let's
14 do another hole over here, all right? Someone is
15 directing the contractor specifically in controlling
16 when he stops and starts, telling him what to do.

17 But we don't -- we've never seen -- and
18 I'm not saying this hasn't been done. I'm just
19 saying, we've never seen it, right, on a contract of
20 this size, of the -- in this industry, or in the
21 mining industry that we're familiar with, and we work
22 in that industry as well, contracts that are set up
23 like this.

24 Next slide, please. So our
25 conclusions. Design is reasonable. Drawings and

1 specs are reasonable. Geotechnical inf --
2 investigations are reasonable. Technical -- extra
3 work orders have been okay. Quantity estimates are
4 okay. The unit price -- original unit prices were --
5 were optimistically low. As I said, the contractor
6 would not, in our opinion, have been able to do the
7 work for the original target price, and that the
8 actual costs are not based on the quantities and unit
9 prices. And I mean, MGF commented on that as well,
10 and I think that's really the -- the crux of the
11 matter, from our perspective, and our review of what
12 is happened, is that the contractor basically did not
13 have the incentive -- I'll use that word -- to be able
14 to perform to meet his unit price times quantity
15 calculation. Thank you.

16

17 (BRIEF PAUSE)

18

19 THE CHAIRPERSON: Mr. Haight, did you
20 want to proceed with your next witness?

21 MR. WILLIAM HAIGHT: Yeah, I -- I
22 think that we should be able to deal with the
23 Amplitude presentation before the lunch hour?

24 THE CHAIRPERSON: Well, we will go
25 late if required into the lunch hour --

1 MR. WILLIAM HAIGHT: Sure.

2 THE CHAIRPERSON: -- but I think it'd
3 be better to go through -- go through it now.

4 MR. WILLIAM HAIGHT: Yes, sir.

5

6 (BRIEF PAUSE)

7

8 MR. WILLIAM HAIGHT: Mr. Brand, can
9 you hear us now, sir?

10 MR. LES BRAND: Yes, I can hear you.
11 So can -- good morning, everyone. Can everyone hear
12 me okay?

13 MR. KURT SIMONSEN: Yes, we're okay,
14 Mr. Brand.

15 MR. LES BRAND: Okay. So we'll go
16 through my present -- our -- Amplitude's presentation.
17 So if we can go to slide -- to slide 2.

18 MR. KURT SIMONSEN: We have slide 2.

19

20 PRESENTATION BY AMPLITUDE CONSULTANTS:

21 MR. LES BRAND: Okay. Great, thank
22 you. Right. So this presentation, it's -- it's
23 relatively shorter than the others, and it's really
24 just a summary of our report. Just by way of
25 introduction, Amplitude Consultants are an Australian-

1 based consultancy. We specialize in the various
2 technical issues associated with the transmission and
3 distribution of electricity, and in particular, we
4 specialize in the high-voltage direct current
5 technology, as well as a few other things. We're
6 based down here in Australia, but our consultants have
7 experience with HVDC projects globally.

8 So going through the presentation, we
9 were asked to -- to look at the HVDC converter
10 stations in particular. Amplitude's scope of work, as
11 -- as I'm showing here, was to assist MGF with the
12 assessment of reasonable of the current forecast at
13 completion capital cost of the converter stations, and
14 to provide an opinion on whether appropriate
15 contingencies and reserves have been provisioned. As
16 I pointed out, it's only in relation to -- to the two
17 (2) converter stations associated with the Bipole III
18 project.

19 Can we go to slide 3. Now, what we
20 found when we -- when we looked through the documents,
21 most -- the most recent revision to the cost estimates
22 was completed in 2016. We were specifically asked to
23 look at the difference between the previous cost
24 estimate, 2014, and -- and compare it against the --
25 the 2016 cost estimate.

1 As MGF have already mentioned, there
2 was a -- a -- quite a -- a detailed basis for estimate
3 document, so the 2014 estimate. It was a good
4 document, and I think the point was made earlier, it
5 did lack a -- a bit of detail, but it was -- it was
6 sufficient for our purpose.

7 What we found was during the estimate,
8 Manitoba Hydro applied a work breakdown structure
9 method. When I broke down the converter station costs
10 into a number of work breakdown structures, and you
11 can see them there in the table, quite an appropriate
12 way to -- to divide up the -- the various technical
13 elements of -- of the converter station.

14 But we found that the -- the difference
15 between the 2014 and the 2000 and -- 2016 estimates...

16

17 (BRIEF PAUSE)

18

19 MR. KURT SIMONSEN: We've clearly lost
20 him. We're going to send him a note to try and get
21 him to sign in again.

22 THE CHAIRPERSON: We'll -- we'll --
23 yeah. We'll wait to see the response. Mr. Simonsen,
24 is there way that he would know that the call's been
25 dropped? Do you know?

1 MR. KURT SIMONSEN: If he's not
2 hearing us, he should know.

3 THE CHAIRPERSON: Yeah, but we're not
4 --

5 MR. KURT SIMONSEN: No, I know.

6 THE CHAIRPERSON: -- okay.

7 MR. KURT SIMONSEN: So that's why
8 we're sending him an email.

9

10 (BRIEF PAUSE)

11

12 MR. LES BRAND: Good morning.
13 Apologies. Can everyone hear me okay?

14 MR. KURT SIMONSEN: Yeah, welcome
15 back. I -- that must be the Australian telephone, I
16 assume.

17 MR. LES BRAND: Yes, well, we -- we
18 have -- we have dropped out two (2) or three (3) times
19 this morning already, so we should be okay.

20 So where did we get up to, slide 4?

21 MR. KURT SIMONSEN: We're -- slide --
22 slide 3, we were looking at the table.

23 MR. WILLIAM HAIGHT: Your last words,
24 Mr. brand, was "comparing the 2014 and 2016
25 estimates," and that's where you cut out.

1 MR. LES BRAND: Okay. Thank you.

2 Apologies. And what we found was that the -- it was a
3 difference of -- of the order of just over 104 million
4 between the two (2) estimates.

5 Now, if we go to slide 4, comparing the
6 2014 to 2016 estimates, we noted some material changes
7 to the work breakdown structures for the convert --
8 the two (2) converter stations, Keewatinohk and Riel.
9 But the most notable increase was to the contingency
10 value, and the -- the numbers were -- have been
11 removed from -- commercially-sensitive information.

12 But what we -- what we did note, when
13 we drilled down into it, is that the increase in
14 contingency was -- was due to an increase -- a
15 requested increase in confidence from P50 to P75, as
16 was recommended by the Boston Consulting Group.

17 In terms of scope change, the only
18 significant scope change that we could notice between
19 2014 and 2016 was additional funding required for an
20 access road to Conawapa, which is related to a project
21 that was shelved, but originally, there was a plan to
22 share the costs associated with that access road.

23 Exploring the -- the work breakdown
24 structures for the KCS, and Keewat -- Keewatinohk
25 converter station, and Riel converter station, we

1 found that those two (2) work breakdown structures
2 make up close to 78 percent of the total budget for
3 the converter stations, which -- which is to be
4 expected. The EPC contract for the -- for the HVDC
5 converter stations, and the EPC contract for the
6 synchronous condensers make up a significant portion
7 of those two (2) work breakdown structure elements.

8 The next slide, slide 5. So this was
9 already touched on by MGF in their presentation, but
10 there was a competitive tender process applied to the
11 converter station contracts. The technology -- the
12 three (3) bidders each had a -- a international
13 technology partner, Siemens, ABB, and Alstom. In our
14 view, the technology -- the technology partners, all
15 three (3) bidders, which -- which are Siemens, ABB,
16 and Alstom, which is now GE, are well -- well-known in
17 the HVDC industry, and have a long history of
18 providing this technology globally.

19 We reviewed the techno-economic
20 evaluation of the bidders. These appear -- these
21 appear to have been thorough, with consideration given
22 to technical capability compliance, performance
23 technology, schedule, and overall value, and the
24 contract was awarded to Siemens Mortenson.

25 Go to slide 6, please. When it comes

1 to checking the reasonableness of converter station
2 pricing, we -- we make the point, and we've made the
3 point in our report that the pricing of HVDC
4 converters depends on a number -- many factors, and
5 many of those factors are known only to the vendors at
6 the time of pricing. It's a -- it's a common trait of
7 HVDC projects that each project is quite unique, and
8 offers a -- an opportunity for the vendors to -- to
9 apply unique charac -- characteristics --
10 characteristics, but it gets to the point that every
11 converter station is -- that's built every year is
12 more or less the spoke design.

13 It does make it a little bit difficult
14 to compare the cost of one (1) converter station to
15 the other. There's also a -- a general reluctance of
16 the vendors, because it is such a -- a tight and
17 competitive area, and is -- is a -- a -- often, a
18 leading-edge technology that costing information can
19 be quite difficult to find, or reliable cost
20 information can be quite difficult to find in the
21 public domain.

22 There are also other elements that
23 impact the cost of one (1) project to another, the
24 cost of raw materials or metals at the time, lots of
25 copper, lots of aluminum, and steel, associated with

1 the project. The global demand for HVDC and the
2 capacity -- manufacturing capacity of the vendors can
3 impact pricing as well. For example, if -- if all the
4 major vendors have pretty full order books, that could
5 increase the price, and often, the schedule of the
6 project. If it's the -- the opposite, we could end up
7 with lower prices in the market. And project location
8 is -- is an issue as well with the three (3) vendors
9 here all European-based, Sweden, Germany and -- and
10 the UK, and therefore the further away from the --
11 from the -- the manufacturing facilities, then the --
12 the higher the price can be. So overall, the
13 comparison of proj -- of the cost of an HVDC converter
14 station to other projects requires an understanding of
15 the scope of each project, and an understanding of any
16 key differences between them.

17 Go to the next slide, slide 7. Looking
18 at the scope of the Bipole III project, there are --
19 there are a couple of specific characteristics
20 associated with Bipole III that may influence the
21 costs, in most cases -- in all cases, result in a
22 higher cost than other HVDC projects would not
23 normally have these characteristics.

24 So the first one is that, from a
25 technical perspective, the project required two (2)

1 series valve groups per pole, and without getting too
2 technical, it's -- it's a way of -- of providing
3 additional reliability and availability to the
4 project, and it can also be driven by the general size
5 of the equipment, in particular, the transformers. I
6 could not find anywhere as to why that was charged
7 for this particular project.

8 But suffice it to say, when compared to
9 the price of other projects, the majority of other
10 projects that have been built up until now had only
11 had one (1) valve group per pole. And public --
12 public information and -- and documentation quite
13 clearly points out that a two (2) series valve group
14 pole project should have a -- a higher price than one
15 (1) valve group per pole.

16 Also, in the Bipole III project, there
17 are extreme temperature and environmental conditions
18 to be experienced both during construction and during
19 operation. There's the remoteness factor of the
20 Keewatinohk converter station, which would have added
21 some -- some costs to -- to a project when compared to
22 others, and there are some unique controls applied to
23 this project which wouldn't normally occur to projects
24 in warmer climates or outside of North America, and
25 I've listed a few of them here: De-icing, some SPS

1 requirements, run-back capability, and NERC cyber-
2 security requirements.

3 The other interesting thing about
4 Bipole III converter station specification is it
5 requires a continuous overlay of 2,300 megawatts. So
6 although it's a 2,000 megawatt project, this
7 continuous overload would, in our view, require that
8 the converter stations themselves have its major
9 project elements, mostly primary equipment, rated for
10 the higher value because of the requirement for a
11 continuous overload. Now, from a cost perspective,
12 when we did a comparison, we actually used 2,300
13 megawatts when trying to determine a -- a cost per
14 megawatt.

15 So I'm going to slide 8. Thank you.
16 So we performed a comparison of the overall cost per
17 megawatt. We can't show that number for commercially-
18 sensitive reasons, but we compared that against
19 published costs of similar projects. These -- we've -
20 - we had to apply at a -- it's -- it's a very high-
21 level comparison, so we had to apply time and for --
22 foreign exchange assumptions to those other projects.

23 We noted that of the projects we were
24 able to -- to source costing information, all but one
25 (1) was based on one (1) valve group per pole. What

1 we found was that looking at the different types of
2 information, we found ranges -- a -- a range of a
3 costing based on that -- that quite high-level dollars
4 per megawatt value that was often in the order of --
5 or marginally below the value of the EPC contract for
6 the converter station. However, we concluded, and we
7 are of the view that the EPC costs for the Bipole III
8 converter station, which concludes variations to date,
9 are reasonable, after taking into consideration the
10 use of two (2) valve groups per pole, the remoteness
11 of the Keewatinohk converter station, and the extreme
12 temperature and environmental conditions associated
13 with this project.

14 Now it's slide 9. Thank you. So
15 another significant part of the cost of the converter
16 stations was the synchronous condenser costs. We have
17 performed a -- a similar activity -- similar
18 comparison as we did for the HVDC converters. So the
19 scope of the EPC contract is for four (4) 250 MVar
20 synchronous condensers at the Riel converter station.
21 Once again, it was taken through a competitive tender
22 process. The contract was awarded to Voith. And we
23 performed an analysis of similar published costs. We
24 found a range where on our dollars per MVar level and
25 we found that the Voith contract is within that range,

1 although it -- it is on the high side of the range,
2 and we're of the view that this is reasonable to
3 expect for -- for similar reasons as we mentioned for
4 the HVDC converter station, but in particular, the
5 extreme temperature and environmental conditions
6 associated with the Bipole III project.

7 And we'll go to slide 10. So the
8 second part of our scope was to comment on the
9 reasonableness of contingencies and reserves, and
10 unfortunately, with this part of the -- our scope for
11 this presentation, we -- we had to remove, obviously,
12 some -- a fair amount of information for commercially-
13 sensitive reasons. But the process we followed, we --
14 we compared the reported actual costs at -- as of
15 September 2017 to the 2016 budget. The comparison
16 showed a remaining budget as of September '17 for the
17 -- for the whole converter station, all converter
18 station work breakdown structures of about 614
19 million.

20 Go to the next slide, slide 11. So we
21 -- we reviewed the monthly reports and the schedule
22 updates in order to get an understanding of the status
23 of the project. We also looked at the -- the progress
24 payments to date, the current vendor of each contract,
25 the -- the major contracts, particularly the Siemens

1 and the -- and the Voith contracts, and compared the
2 progress payments to date against our -- against our
3 outstanding payment past amounts due.

4 From there, we -- we concluded, or
5 we're of the view that the remaining budgets for the
6 converter stations in general should be satisfactory,
7 and -- and should not, without an event, that's --
8 that's unforeseen at this point, should not lead to a
9 draw from contingency. We found that for the
10 Keewatinohk 230 kVA switch yard there was only a small
11 -- the budget that's -- exceeded the amount of
12 progress payments that are due, so they will -- will -
13 - it will require a draw from contingency.

14 However, when you combine the
15 expectations that the converter station contracts will
16 come in on budget and the -- the relatively small draw
17 from contingency, our -- our conclusion in this
18 respect was that the remaining contingency should be
19 considered reasonable to cover the impact of any
20 unexpected activities, which cannot be ascertained
21 from the information made available for this review.

22 So that's slide 12. That's -- that's
23 our presentation. Thank you.

24 THE CHAIRPERSON: Thank you, sir. Dr.
25 Williams, I've got you down for fifteen (15) minutes.

1 Did you want to start now, or afterwards?

2 DR. BYRON WILLIAMS: I think -- I
3 think I can manage it, sir.

4 THE CHAIRPERSON: Okay. Thank you.

5 MR. WILLIAM HAIGHT: I should just
6 say, Mr. Chair, that we have been in contact with
7 Misters Phillips and Potter, just to determine whether
8 they, after hearing the presentations, had anything
9 that they wished to add. And they have indicated that
10 they do not. And so we can proceed with the cross-
11 examination.

12 THE CHAIRPERSON: Thank you.

13 MS. HELGA VAN IDERSTINE: Mr. Chair,
14 if I could just have a couple of minutes to consult
15 with counsel for MGF and Board counsel, I'd appreciate
16 it.

17 THE CHAIRPERSON: Certainly.

18

19 (BRIEF PAUSE)

20

21 THE CHAIRPERSON: Mr. Haight, I
22 understand you have something to say.

23 MR. WILLIAM HAIGHT: Yes, I do. Thank
24 you, Mr. Chair. Ms. van Iderstine has brought to my
25 attention, as well as counsel to PUB, a portion of the

1 MGF presentation which was not included in the public
2 presentation, and which Manitoba Hydro has no
3 objection to it being included in the public
4 presentation. It was inadvertently left out. MGF
5 believed it to be CSI and so, therefore, it was not
6 included. We have had a discussion and there's no
7 objection to it being included in the public
8 presentation.

9 The only caveat that -- that because
10 MGF assumed that it would be part of the CSI
11 presentation, it really didn't come here today
12 prepared to answer any involved questions regarding
13 this page. And -- and, of course, it just wants to
14 reserve its rights to -- to answer fully and
15 completely any questions about this page at -- at a
16 point in time when they are more fully prepared to do
17 so. So be that this afternoon, be that tomorrow
18 morning, whatever that might be.

19 THE CHAIRPERSON: Fine. Ms. Van
20 Iderstine...? It's fine. It's not CSI?

21 MS. HELGA VAN IDERSTINE: No, I mean --

22 THE CHAIRPERSON: Hydro's okay with
23 the --

24 MS. HELGA VAN IDERSTINE: -- we just
25 wondered when they took it off the record whether they

1 thought they couldn't speak to it because there were
2 some -- in order to answer questions they had to
3 disclose CSI. But the document itself is not CSI, no.

4 THE CHAIRPERSON: Okay. So if -- if
5 we could proceed and, I guess, put the document on the
6 record and then have MGF go through it.

7

8 (BRIEF PAUSE)

9

10 THE CHAIRPERSON: That -- Mr. Haight,
11 is this going to be a separate exhibit number or just
12 part of the --

13 MR. WILLIAM HAIGHT: No, it would be
14 part of the public presentation, sir. Yeah.

15 MR. KURT SIMONSEN: We'll call it 4-1,
16 Mr. Haight.

17 MR. WILLIAM HAIGHT: Thank you, Mr.
18 Simonsen.

19

20 --- EXHIBIT NO. MGF-4-1: MGF Presentation

21

22 PRESENTATION CONTINUED BY MGF:

23 MR. CAMPBELL ADAMS: The -- earlier on
24 today we gave the -- the range again of 9.5 to 10.5
25 billion. In front of you we have our calculation as

1 to what the project value might be, around the 9.9
2 billion. What I'll do for a minute or two (2) is just
3 talk you through the construct of that, taking us to
4 the 9.9 billion total. The -- the basis of this was
5 taking the expenditure to date that was reported by
6 Hydro as at the 31st of December 2016, and adding to
7 that Hydro's estimated cost to completion from the 1st
8 of January 2017 through to the end.

9 The next bullet points, craft to
10 foreman ratio, trade in cash discounts, increased use
11 of overtime, net BBE indirect costs, the earthwork
12 productivity, scaffold and crane costs, and concrete
13 productivity are -- have been calculated and taken
14 directly from our final report. Those were our
15 assessments of the costs associated with those cost
16 categories.

17 With the data that we find, we've added
18 in additional costs associated with the delay and
19 disruption to Voith, and to ongoing service contracts
20 that will be required to support the project. For
21 example, camp operations. I believe, in accordance
22 with -- I'll watch my language -- in accordance with
23 Hydro's interest and escalation, we have used their
24 percentage to that. And given some of the -- the
25 risks that lie ahead over the next four (4) years, we

1 have added to this a contingency of -- of 10 percent.
2 When you add it all up -- up together that order of
3 magnitude estimate of project cost comes to 9.9
4 billion.

5 MR. WILLIAM HAIGHT: So that is it,
6 essentially, for that particular Exhibit 4.1. And the
7 panel is now able to answer questions under cross-
8 examination, if you should so -- so choose, Mr. Chair.

9 THE CHAIRPERSON: Thank you. I've
10 been advised by counsel for the Consumers Coalition,
11 GSS, GSM, and MIPUG that they do have questions, but
12 they should not take too long. So I would suggest
13 that we'll proceed now with those questions, and maybe
14 if we can finish, you know, on or before 12:30 we'll
15 just take a break later on. And then we would just
16 have Manitoba Hydro and -- and Board counsel in the
17 afternoon. So, Mr. Williams...? Dr. Williams, sorry.

18

19 CROSS-EXAMINATION BY DR. BYRON WILLIAMS:

20 DR. BYRON WILLIAMS: Good morning,
21 members of the panel, and good morning, MGF, et al
22 team. Perhaps we can go -- and my first few questions
23 are to Mr. Campbell in the back. Mr. Campbell, can
24 you -- can you see me, sir? Okay. Perhaps we can go
25 to the pre-filed evidence from December of 2017 of

1 Klohn Crippen Berger, appendix A to MGF's evidence,
2 page 33, towards the bottom, please, Kristen.

3 MR. DAN CAMPBELL: Klohn Crippen
4 Berger, by the way, is how you say it. KCB for short.

5 DR. BYRON WILLIAMS: And, excuse me, I
6 misspoke. It should be page 34. And, sir, I
7 apologize for the mispronunciation and I'll govern
8 myself with KCB going forward. And -- and certainly,
9 just so you know, sir, I know you'll see me sitting
10 beside a number of Hydro employees or external
11 counsel. I just want you to -- not that I don't think
12 highly of my friends to my left, but I want you to
13 distinguish me from -- I'm not part of Hydro, okay,
14 sir? You understand that?

15 Going down towards the bottom of this
16 page, just scroll down a bit more, Kristen. Okay. So
17 at KCB and -- and Mr. Campbell, first of all, thank
18 you for the way that you unraveled that story like a
19 detective story. That was very entertaining and --
20 and informative. Obviously, towards the end of your
21 presentation you raised the concern with the -- with
22 the contract, the -- the March 2014 contract, and --
23 and what you saw as an absence of connection between
24 actual costs and quantities and unit price -- prices.

25 You recall that, sir?

1 MR. DAN CAMPBELL: Yes, sir.

2 DR. BYRON WILLIAMS: Would -- to my
3 knowledge, sir, you -- you didn't talk about is in the
4 last paragraph of page 34, which is a clause within
5 the contract by which the contractor, presumably the
6 general civil contractor, is paid two (2) months in
7 advance -- advance for planned work.

8 You didn't refer to that in your
9 presentation this morning, sir?

10 MR. DAN CAMPBELL: That's correct.

11 DR. BYRON WILLIAMS: Sir, you
12 characterize -- to -- to back up for a moment, you
13 noted when you began your presentation this morning
14 that you have had some involvement with Site C in
15 British Columbia?

16 MR. DAN CAMPBELL: I personally have
17 not, but Klohn Crippen Burger is one (1) of the co-
18 designers of it.

19 DR. BYRON WILLIAMS: Okay. And, sir,
20 in terms of the -- the clause in which the contractor
21 is paid two (2) months in advance for planned work,
22 you suggest that that is a con -- a clause that you've
23 not seen previously before in a contract, sir?

24 MR. DAN CAMPBELL: Correct.

25 DR. BYRON WILLIAMS: And, sir, from

1 the issue of incentives or -- what is the implication
2 of this unusual clause? Why does it matter, sir?

3 MR. DAN CAMPBELL: We made an
4 assumption that the contractor was being paid in
5 advance for work he had yet to do so that his cash
6 flow would remain positive, which is what I said in
7 the paragraph. It's an interesting way to do it. We
8 haven't seen it done that way before.

9 Typically, where we've seen it to make
10 the contractor have a positive cash flow he's given a
11 mobilization payment. And that mobilization payment
12 is enough to get him going and hopefully make sure
13 that when his regular billings come in, based on the
14 work that he does, that his cash flow remains positive
15 and he's happy. We don't know the ne -- what the
16 negotiation logic was or the rationale was. We just
17 made the assumption and I'm just saying we haven't
18 seen it that way before.

19 DR. BYRON WILLIAMS: Okay. And the
20 observation that you've not seen it before, that would
21 extend to the Site C contract to your knowledge, sir?

22 MR. DAN CAMPBELL: I don't believe I
23 can comment on that.

24 DR. BYRON WILLIAMS: Fair enough. Let
25 -- let us go to the top of the next page. And, sir,

1 you may have a similar answer. In -- in the last
2 paragraph on page 35 you're describing again the fact
3 that KCB has not seen a large contract previously
4 where payment was not related to actual performance of
5 the cont -- construction work.

6 Do you see that reference, sir?

7 MR. DAN CAMPBELL: Yes.

8 DR. BYRON WILLIAMS: And, sir, if
9 you're able to comment, would that comment extend to
10 Site C as well?

11 MR. DAN CAMPBELL: Yes, I believe
12 those contracts, in terms of the bid documents, were
13 publicly -- generally publicly available and I believe
14 that the Site C contracts are based on -- generally
15 based on unit prices, times, quantities, or lump sums.

16 DR. BYRON WILLIAMS: And, sir, do you
17 have any sense of when the contracts related to Site C
18 were let?

19 MR. DAN CAMPBELL: Over the last three
20 (3) years, perhaps.

21 DR. BYRON WILLIAMS: And regulatory
22 approval via the National Energy Board decision would
23 have been three (3) or four (4) years ago, sir,
24 subject to check?

25 MR. DAN CAMPBELL: I'm not able to

1 comment. Don't know.

2 DR. BYRON WILLIAMS: Thank you for
3 that. Mr. Adams, perhaps we can go to the pre-filed
4 written evidence of MGF, and specifically page 80
5 under Finding Number 10, Keeyask construction
6 management. And, sir, likewise we'll -- you didn't
7 unravel a detective story, but our clients do thank
8 you for your lyrical presentation this morning. I've
9 never heard the word endemic pronounced with such
10 vigour.

11 Sir, we don't need to go there, but
12 you'll recall in -- in your PowerPoint presentation
13 today, and specifically at slide 10 in your verbal
14 description of it, I believe you used words to the --
15 to the sense that cost reimbursable pricing mechanisms
16 are not necessarily a bad mechanism.

17 Do -- do you recall using words to that
18 effect, sir?

19 MR. CAMPBELL ADAMS: Yes.

20 DR. BYRON WILLIAMS: What our clients
21 took to be the thrust of your commentary on that page
22 though, sir, is that they can become an inefficient
23 mechanism in circumstances where Hydro bears all of
24 the productivity and schedule risk and fails to hold
25 the general civil contractor's feet to the fire.

1 Would that be fair, sir? You're
2 nodding your head?

3 MR. CAMPBELL ADAMS: Yes.

4 DR. BYRON WILLIAMS: Yes. In that
5 context, sir, directing your attention to the third
6 last paragraph, your concern is with the cost
7 reimbursable contract as entered into with regard to
8 Keeyask, that it promoted and rewarded inefficient
9 work, sir?

10 MR. CAMPBELL ADAMS: What are you
11 looking at? Sorry.

12 DR. BYRON WILLIAMS: The third last
13 paragraph, sir.

14 MR. CAMPBELL ADAMS: Yes, I see it.

15 DR. BYRON WILLIAMS: And that it did
16 not encourage efficient work, sir? That was your
17 conclusion?

18 MR. CAMPBELL ADAMS: Yes.

19 DR. BYRON WILLIAMS: And generally,
20 sir, would you agree that in terms of business
21 practices that pass-through costs, regardless of
22 productivity or adherence to schedule, those could
23 generally be described as not efficient and not
24 prudent?

25 MR. CAMPBELL ADAMS: Cost reimbursable

1 contracts work well when the scope is not defined and
2 it's difficult to -- to define the scope and to put a
3 boundary around it. An example would be you're going
4 to build a house, and you believe there are services,
5 pipes under your plot, but you don't where they are.
6 You can't get that really on a lump price because you
7 can't show the contractor what it is he or she has to
8 do. So cost reimbursable is appropriate for that.
9 When you know what it is you want to have built,
10 you've got project definition. Cost reimbursable is
11 an unusual pricing mechanism to choose.

12 DR. BYRON WILLIAMS: And ultimately
13 inefficient, sir?

14 MR. CAMPBELL ADAMS: It can be, yes.

15 DR. BYRON WILLIAMS: I think, Mr.
16 Chair and members of the panel, I thank MGF for those
17 comments, and I'll move on -- or I'm -- I'm completed
18 our cross, sir.

19 THE CHAIRPERSON: Thank you, Dr.
20 Williams. Sorry. M. Monnin...?

21

22 CROSS-EXAMINATION BY MR. CHRISTIAN MONNIN:

23 MR. CHRISTIAN MONNIN: Thank you, Mr.
24 Chair, members of the panel. Good morning. I'm
25 counsel for General Service Small, General Service

1 Medium customer class and also Keystone Agricultural
2 Producers. I have a few questions. I'll start with
3 Mr. Adams, and then a few short questions for Mr.
4 Campbell.

5 Mr. Adams, with respect to MGF is it
6 safe to say that MGF's view is that Keeyask poses the
7 greatest threat to the capital expenditures program?

8 MR. CAMPBELL ADAMS: Yes.

9 MR. CHRISTIAN MONNIN: And I want to
10 explore the notion of Mulligan which you've raised a
11 few times in -- in your evidence this morning. Now,
12 you'd agree with me that Mulligan in golf is a shot --
13 it's a -- it's a chance to perform a shot, usually
14 after the first chance went wrong either through bad
15 luck or for -- or through a blunder.

16 You agree with that?

17 MR. CAMPBELL ADAMS: A do-over, yes.

18 MR. CHRISTIAN MONNIN: And in -- in
19 golf the result is that the hole is played and scored
20 as if that errant shot had never been made.

21 Is that fair to say?

22 MR. CAMPBELL ADAMS: Yes.

23 MR. CHRISTIAN MONNIN: Now, you
24 referred to the Amending Agreement Number 7 as a
25 Mulligan. Is it fair to say that Amending Agreement

1 Number 7 doesn't undo the bad luck or the blunders
2 that occurred previous to February 20 of 2017?

3 MR. CAMPBELL ADAMS: Yes. What I was
4 trying to convey was the contractor was given a second
5 chance to get it right.

6 MR. CHRISTIAN MONNIN: Right. And
7 with -- let's refer to that as a correction shot,
8 perhaps.

9 With that correction shot, is it safe
10 to say that it's MGF's view that even with the
11 Amending Agree -- Amending Agreement Number 7, BBE or
12 Manitoba Hydro is continuing to miss the revised
13 productivities for concreting and earthworks?

14 MR. CAMPBELL ADAMS: Yes. Those have
15 been missed, both in 2016 and 2017.

16 MR. CHRISTIAN MONNIN: And, Kristen,
17 if you can please go to page 63 and 64 of the MGF
18 report. If you scroll down. Under the order of
19 magnitude estimate, we have the range of 9.5 billion
20 to 10.5 billion. And on the next page over, please,
21 MGF's view was that it's difficult to advise where the
22 final cost will land in this range and it gives two
23 (2) points of -- of advice. First, that if Manitoba
24 Hydro addresses the current issues, taking control of
25 the project and its contractors, the final cost will

1 be at the lower end of the range. And that -- that
2 would be the 9.5 billion that we see on the previous
3 page.

4 Is that...

5 MR. CAMPBELL ADAMS: Yes.

6 MR. CHRISTIAN MONNIN: And then,
7 number 2, keeping the status quo and leaving control
8 with the contractor result in the final cost at the
9 upper of the range. And that would be the 10.5
10 million (sic)?

11 MR. CAMPBELL ADAMS: Yes.

12 MR. CHRISTIAN MONNIN: So looking at
13 number 1, and -- and staying with the -- the golf
14 vernacular, would you agree with me that BBE would
15 need to be a scratch golfer in order to ensure that
16 they -- they're at the 9.5 -- the lower range?
17 Meaning they'd have to be -- they'd -- they'd have to
18 correct every single outstanding issue that you have
19 identified in your report in order to be at the lower
20 end of the range.

21 Is that fair to say?

22 MR. CAMPBELL ADAMS: Our -- our view
23 is they've got to get control of their productivities.
24 They've got to be able to provide productivities and
25 achieve them. That has not happened between the --

1 their tender and 2016. They get a chance to restate
2 them in the Amending Agreement, and those are still
3 not being met.

4 MR. CHRISTIAN MONNIN: And they would
5 have to take control of all of the productivities?

6 MR. CAMPBELL ADAMS: Yes.

7 MR. CHRISTIAN MONNIN: Thank you very
8 much, Mr. -- Mr. Adams. Mr. Campbell, a few questions
9 for you with regards to the Klohn Crippen Berger
10 report. At page 35, My Friend Dr. Williams took you
11 through two (2) outliers regarding -- or concerns that
12 were raised with respect to the contract, the first
13 being the actual costs and the other one (1).

14 If you go one (1) page up, page 34,
15 apologize, Kristen. And the other one (1) being
16 referred to in the second -- or the last paragraph,
17 another interesting clause. I think the answer is on
18 the second page -- on the next page over. I just want
19 to make sure that when Manitoba Hydro had this second
20 shot or second bite at the apple with the Amending
21 Agreement Number 7, they didn't correct the language
22 or those clauses.

23 Is that fair -- fair to say?

24 MR. DAN CAMPBELL: I believe that to
25 be correct.

1 MR. CHRISTIAN MONNIN: Thank you. No
2 further questions. Thank you, Mr. Chair.

3 THE CHAIRPERSON: Thank you, Mr.
4 Monnin. M. Hacault...?

5

6 CROSS-EXAMINATION BY MR. ANTOINE HACAULT:

7 MR. ANTOINE HACAULT: Yes, my name is
8 that Mr. Hacault. I represent industrial users in
9 this province. And my question is a follow-up to --
10 or my series of questions is a follow-up to those
11 asked by Counsel Monnin, and also relates to MGF-4-1,
12 which is the last exhibit with the numbers on it.

13 In this process we have been looking at
14 estimates and probabilities. And you had one (1)
15 question from the Chair on that issue. I'd like to
16 explore it. I really don't care who answers this.

17 Are there any stages or critical points
18 in the schedule or the works at which we should be
19 looking to have a better idea of where we're going to
20 land in final costs of Keeyask?

21

22 (BRIEF PAUSE)

23

24 MR. CAMPBELL ADAMS: I think you've
25 asked a really good and important question. Given

1 what we've reviewed again here today, the -- the first
2 activity, in -- in our professional opinion, is to
3 work with BBE to understand what productivities they
4 can realistically achieve. And whatever advice they
5 give, test those productivities, that they -- they
6 makes sense, that they look achievable that they're --
7 they're thoughtful, they're thought through, they're
8 considered, they're backed up, hopefully with some
9 kind of historic data to underpin those assumptions.

10 Once you get to a point that you
11 believe you've tested and challenged and you've got
12 now the real productivity they can do for the -- the
13 structures and concrete ahead, then we would suggest
14 that the schedule is -- is recast with those realistic
15 achievable productivities.

16 In concert with that, you should look
17 at the associated estimate of costs that go with that,
18 the directs, the indirect. There is the -- the issue
19 of other contracts that will interface with the
20 progress of the BBE contract, like Voith, for example,
21 and figure out where is that going to play. And if
22 it's a different date, are we facing further delay and
23 disruption impacts.

24 Until we get to what I would call that
25 steady state, I -- I couldn't sit here and predict a

1 point in time when you will know better. I think that
2 Hydro needs to see that BBE is going to deliver as
3 they have promised. They haven't. They -- they were
4 let down in 2016. They've been let down in 2017. But
5 until we correct the productivity issue for concreting
6 and earthworks, it's difficult for us to sit here and
7 -- and give you a date in the future, a milestone in
8 the future by which you'll have a better handle.

9 I -- I think one (1) -- one (1) more
10 point to add is, given -- given the history with this
11 contractor, that once we've got a better schedule and
12 cost that that is just rigorously enforced, making
13 sure that it happens. If it doesn't happen on one (1)
14 day, step in and figure out why did the plan not work.
15 Where did it go wrong? What can we learn? How does
16 it impacts subsequent activities? That's my answer.

17 MR. ANTOINE HACAULT: Mr. Campbell, do
18 you have anything further to add on that issue?

19 MR. DAN CAMPBELL: The classic issues
20 related to construction of a hydro project in terms of
21 impacts on cost often have to do with the excavation
22 piece. And if all of the excavation has not yet been
23 completed, so the contractor knows or can -- someone
24 can predict and measure how much additional volume or
25 how much -- if there are changes, or what the actual

1 volume of material that has to be placed.

2 If that work has not been done when
3 that point is reached, that's a -- certainly a point
4 where the future is hopefully easier to predict. So
5 that's one (1) point that I think should be
6 considered. I agree with what Campbell said, but I -
7 - and MGF said, but I think that's -- I think in
8 answering your question a little more specifically,
9 that's one (1) point.

10 The other one (1) would be when you
11 look at where the handover points are to Voith and to
12 the spillway contractor, who I don't believe is on the
13 critical path, but could eventually become there. The
14 -- and how they perform, those are -- those are points
15 where I think you -- you want to look very carefully
16 because those contractors may well be looking for
17 other opportunities to ask for additional funding at
18 some point in the future. And it all counts, whether
19 it's the civil contractor's money, or whether it's
20 Voith asking for more money, or whoever. It's all
21 money.

22 And the coordination, in particular,
23 inside the powerhouse going forward when the ser --
24 when -- when Voith finally comes on to site, and how
25 they have to interface with the civil construction,

1 which are particularly the concrete placement which
2 won't be complete, how they share the powerhouse crane
3 is a excellent example, is an area where care needs to
4 be taken. And certainly I would anticipate that
5 Manitoba Hydro, based on their experience in the past,
6 is going to be intimately involved in the -- in the
7 coordination of the powerhouse crane sharing.

8 I think that those are a couple of
9 areas where I think maybe you would want to get back
10 and get a review or get a confirmation that things are
11 still on track.

12 Does that help?

13 MR. ANTOINE HACAULT: Yes, it does.
14 Now, so I may be oversimplifying this, but if after
15 Hydro sits down with its general contractor and
16 believes it's come to get a reasonable handle on
17 what's going to happen with respect to productivity
18 and redoes a schedule according to that, there might
19 be natural points at which all parties, including this
20 Board, might want to revisit estimates to see whether
21 we're on track for an eight-point-seven (8.7) number,
22 a nine-point-five (9.5) number, or a ten-point-five
23 (10.5) number.

24 Is that fair?

25 MR. CAMPBELL ADAMS: Yes, that's fair.

1 MR. ANTOINE HACAULT: And then we talk
2 about handover points, you know the works inside and
3 out, gentlemen sitting in front of me, is that the
4 completion of the concrete works that allows
5 coordination of the powerhouse work? Could you
6 provide a little bit more explanation on those
7 handover points, what you meant by that?

8 MR. DAN CAMPBELL: When you build a
9 hydroelectric unit there's a bunch of concrete that's
10 poured in the excavation, I should say, and then
11 there's the foundation that's poured and there's some
12 concrete built to a certain point. And then at that
13 point in time, the equipment supplier comes in and he
14 has to install the turbine. And often significant
15 portions of that are embedded in concrete. So he has
16 to put it in and position it, and then the civil
17 contractor has to come in and put concrete around it.

18 And they work their way up basically
19 from the basement up to the operating floor, a bit in
20 lockstep with the mechanical contractor doing work,
21 the civil contractor coming back to do a little bit,
22 the mechanical contractor doing some more, eventually
23 the electrical contractor putting in the generator
24 pieces. And eventually the unit is complete to a
25 point where you can walk around on the floors and it's

1 all -- it's all built.

2 That coordination is something that
3 while that is happening on a particular unit, the
4 contractor is also attempting to pour concrete around,
5 for example, the basement or the -- the walls even of
6 the other units further down in the powerhouse. So
7 he's wanting to be able to work overtop of or past,
8 beyond where, for example, the mechanical contractor
9 is working.

10 There's issues with the powerhouse
11 crane. Often there's more than one (1) powerhouse
12 crane. I suspect there is in this particular project.
13 There's temporary cranes sometimes used, concrete
14 pumps, all kinds of equipment. At some point in time
15 down the road you then get into actual electrical
16 commissioning of the first unit while you may well
17 still be building the last unit.

18 Care has to be taken that -- that you
19 can do that without interference. And the
20 coordination of that, and there's a -- there's -- that
21 is, in our experience, in a contract where -- in a
22 contracting situation where you have multiple
23 contractors responsible to the owner, it's the owner's
24 responsibility to take some significant hands-on
25 management of all of those contracts during that

1 construction phase when they're all working in the
2 same place.

3 Where there's a specific point in time,
4 I think it would be prudent to suggest that at the
5 point in time when it looks like they've got a fixed
6 point in time where the -- Voith can start the
7 installation of the first unit, you would want to be
8 able to understand whether or not you're -- you have a
9 high likelihood of continuing on successfully.

10 Thereafter, then it becomes a
11 coordination issue and -- and the owner will know just
12 as much, if not more, than either of the contractor
13 because he's actually balancing the wishes of both of
14 them, because they will both at certain times be
15 asking for the same space and place. And nei -- you -
16 - they can't be in the same place in space at the same
17 time. So sometimes you -- you tell Voith, No, you
18 can't do it today. But they -- do they have float in
19 their schedule? They should have, because they've
20 done this before.

21 Ditto if the -- the civil contractor
22 wants to pour concrete and do a major pour. You may
23 tell him, Sorry, you can't do it during day shift.
24 You have to do it during night shift because Voith is
25 on day shift on the cranes and you can't have the

1 crane. So that's when the intensity ramps up in terms
2 of the coordination. Everything outside the
3 powerhouse, with the exception of the spillway, I
4 believe is something that the civil contractor has
5 fundamentally control of.

6 Does that help?

7 MR. ANTOINE HACAULT: Yes, it does.

8 So in a general way if parties here were going to
9 review the progress of where we are at between an 8.5
10 billion number and a 10.5 billion number, would it
11 make sense to come back annually, if that was
12 somebody's wish? Say, for example, later in the fall
13 of 2018 and later in the fall of 2019 to keep track of
14 this project and -- and what's happening.

15

16 (BRIEF PAUSE)

17

18 MR. DAN CAMPBELL: My opinion on that
19 one (1), and MGF may have a different opinion, is that
20 it's not an annual review. It's a point review. And
21 so you need to look at the schedule of what's being
22 planned. Then you have to look at what they actually
23 achieve, and you have to pick some points in the
24 future. And so that's when we want to do it.

25 When -- when they get to this point,

1 for example, and Voith is being -- going to come on
2 site, prior to that you want to make sure that they
3 can come on-site on schedule. Then after they've done
4 some significant portion of unit 1, to the point where
5 the civil contractor is fundamentally not involved,
6 you want to look at the timing of that and see whether
7 or not you can extrapolate what might happen when you
8 get the unit 7 in terms of schedule. So it's not a
9 let's do it every -- every March. Its let's do it at
10 certain specific points in time, in my opinion.

11 MR. ANTOINE HACAULT: And right now is
12 there a best estimate of a range of months, say four
13 (4) to six (6) months, as to when that point in time
14 might be?

15

16 (BRIEF PAUSE)

17

18 MR. DAN CAMPBELL: I don't think Klohn
19 Crippen knows the schedule well enough to be able to
20 answer that specific question. That would be
21 something that we would have to go away and study.
22 And certainly I think I would ask -- suggest that you
23 might want to ask Manitoba Hydro that question as
24 well.

25 MR. ANTOINE HACAULT: Thank you,

1 members of the panel. And, Mr. Chair, those are all
2 of my questions.

3 THE CHAIRPERSON: Thank you, M.
4 Hacault. We will break for lunch until 1:30. Thank
5 you.

6
7 --- Upon recessing at 12:26 p.m.

8 --- Upon resuming at 1:32 p.m.

9
10 THE CHAIRPERSON: Good afternoon. Ms.
11 Ramage, I understand you wanted to put something on
12 the record? Are you doing it in a Newfoundland
13 accent?

14 MS. PATTI RAMAGE: I wish. My husband
15 can do a great one, I can't. Yes, Mr. Chair, earlier
16 in the proceedings with respect to rebuttal and the
17 one transcript reference I don't have on me is -- is
18 where you said this, but you had -- when you ruled
19 that Manitoba Hydro could deal with certain issues on
20 rebuttal you indic -- an issue that if there was any
21 additional we should come back to you.

22 And we have one (1) additional issue
23 that we wish to bring to your attention that we would
24 intend to address in rebuttal and that is a -- an item
25 that came in MPA's presentation at page 33 of their

1 presentation where MPA introduced new information for
2 the first time on the record, which was a Moody's
3 report titled US Public Power Utilities With
4 Generation Ownership. That's what its title is and
5 they indicated it's available at Moodys.com.

6 That document, nod its contents, were
7 on -- referenced in MPA's prefiled evidence and the
8 first we saw of it was in the January 15th slidedeck.
9 And as a -- it's -- it's not a public document. In
10 fact, it's a pay to review document. Mr. Colaiacovo
11 spoke to the Moody's report at transcript page 4919
12 and the comments he made, in short, Manitoba Hydro
13 disagreed. Mr. Ghikas attempted to deal with them in
14 cross but was unsuccessful.

15 And we have a disagreement in opinion
16 or -- or what Moody's -- I -- I don't want to jump
17 ahead of myself. There was a term. Mr. Colaiacovo
18 gave his definition. Manitoba Hydro staff believe it
19 is incorrect, and they wish to put on the record their
20 view of what it means and what that means to Manitoba
21 Hydro. So, we are requesting that -- that we be
22 allowed to refer to that in rebuttal.

23 I am advised by Mr. McCallum, who was
24 working out a couple of slides in order to address
25 these things, that he expects the entire rebuttal to

1 take roughly fifteen (15) minutes.

2 THE CHAIRPERSON: Thank you.

3 MS. PATTI RAMAGE: So the -- and the -
4 - the notion is that we -- we would just have Mr.
5 McCallum address it by slide to -- similar to a direct
6 in short, and then keep it short. So we -- we wanted
7 to give you notice of that. I have already spoken to
8 counsel for MIPUG and the Coalition, as well as Mr.
9 Peters. They have not had an opportunity, I don't
10 think, to look at the transcript references and
11 provide their comments.

12 And before I turn the -- turn the mic
13 over, the one other thing I should bring to the
14 Board's attention is Board counsel following MIPUG's
15 evidence requested Manitoba Hydro do some additional
16 IFF runs. Manitoba Hydro is undertaking those runs.
17 One (1) of the issues we'll have to address is in
18 Board counsels' request, they indicated that this may
19 actually be CSI. We have to look at that for that,
20 but I can advise that Manitoba Hydro is looking at
21 those runs and working on them. And I have to say
22 much to my chagrin because I'm telling these people
23 they need to help me with final argument but, in any
24 event, wanted to bring that to your attention also.

25 THE CHAIRPERSON: And Ms. Ramage, I

1 understand that at least from Board counsel that we're
2 looking at Thursday morning for the rebuttal rather
3 than Friday morning?

4 MS. PATTI RAMAGE: Yes, that's what
5 we're work -- working to.

6 THE CHAIRPERSON: Thank you very much.
7 And by --

8 MS. PATTI RAMAGE: And we're expecting
9 the presentation will be distributed then Wednesday
10 evening is the goal for us.

11 THE CHAIRPERSON: Thank you. Just for
12 the record when I made the comment to Ms. Ramage, it's
13 because we both saw the play Come from Away, which if
14 any of you have a chance of seeing is spectacular so.

15 MS. PATTI RAMAGE: It may be the one
16 thing everyone in the room could agree on.

17 THE CHAIRPERSON: That's true, thank
18 you very much. Ms. Van Iderstine...?

19

20 CROSS-EXAMINATION BY MS. HELGA VAN IDERSTINE:

21 MS. HELGA VAN IDERSTINE: Thank you.
22 So I'm going to address a couple comments, first of
23 all, to Mr. Phillips and Mr. Potter and Mr. Brand and
24 that is, I have no questions for you so you're off the
25 hook at least for a couple of hours from my

1 perspective.

2 And then if I can address the questions
3 to both Mr. --

4 MR. WILLIAM HAIGHT: Perhaps, Ms. Van
5 Iderstine, sorry to interrupt, if we could just have
6 Mr. Brand, Phillips and Potter acknowledge that they
7 received that. Are they on the line?

8 MR. JIM POTTER: So, we're having a
9 very hard time hearing you.

10 MR. WILLIAM HAIGHT: Try it again.

11 MS. HELGA VAN IDERSTINE: Do you want
12 me to start --

13 MR. LESLIE BRAND: Yes, I'm on the
14 line and likewise having trouble hearing.

15 MS. HELGA VAN IDERSTINE: Well, from -
16 - this is Ms. Helga Van Iderstine. I'm couns --
17 external counsel for Manitoba Hydro, and I was just
18 going to address you by saying that I don't have any
19 questions for you.

20 MR. WILLIAM HAIGHT: And -- and what I
21 will say to all of those individuals is that even
22 though Ms. Van Iderstine doesn't have direct questions
23 for you, there may be areas that you can assist the
24 MGF and KCB personnel with and so, I would invite you
25 to -- to stay on the line.

1 MR. DWAYNE PHILLIPS: Understand,
2 we'll stay on the line.

3

4 (BRIEF PAUSE)

5

6 MR. WILLIAM HAIGHT: You -- you heard
7 from Mr. Brand, Mr. Potter and Mr. Phillips.

8

9 MR. KURT SIMONSEN: And could I ask
10 Mr. Brand, Mr. Potter and Mr. Phillips to make sure
11 their telephones are -- are on mute.

12 MR. LESLIE BRAND: Yes, will do.

13

14 CONTINUED BY MS. HELGA VAN IDERSTINE:

15

16 MS. HELGA VAN IDERSTINE: Okay. And
17 Mr. Campbell, I know that you will be answering for
18 KCB and am I right, Mr. Adams, that your pri -- I
19 should primarily direct my questions to you and if
20 somebody else wants to chime in they can do so at that
21 point?

22

23 MR. CAMPBELL ADAMS: Absolutely.

24

25 MS. HELGA VAN IDERSTINE: Okay. So
26 this is to both Mr. Adams and Mr. Campbell, did you
27 have an opportunity prior to preparing your reports to
28 review the Needs For and Alternatives To report from
29 the Manitoba Public Utilities Board relating to the

1 Keeyask project?

2 MR. DAN CAMPBELL: No, KCB did not
3 review it.

4 MR. CAMPBELL ADAMS: We had received
5 it but I'm not -- I can't speak to the extent to which
6 it was fully reviewed.

7 MS. HELGA VAN IDERSTINE: Okay.

8 MR. CAMPBELL ADAMS: I know I
9 certainly personally did not.

10 MS. HELGA VAN IDERSTINE: Were you --
11 and so again, Mr. Campbell or Mr. -- Mr. Adams, were
12 you aware that the contract model was discussed at
13 that proceeding, the NFAT proceeding, and reviewed by
14 the independent assessor Knighte Piesold?

15 First of all, Mr. Campbell.

16 MR. DAN CAMPBELL: In reviewing the
17 documentation that was provided, it became clear to us
18 that the contracting model had been discussed with
19 Knighte Piesold and others.

20 MS. HELGA VAN IDERSTINE: And just to
21 clarify that would be after you received the probably
22 the IR responses or the rebuttal from Manitoba Hydro?

23 MR. DAN CAMPBELL: Not, it was
24 actually prior to that.

25 MS. HELGA VAN IDERSTINE: Mr.

1 Adams...?

2 MR. CAMPBELL ADAMS: Yes.

3 MS. HELGA VAN IDERSTINE: So you had -
4 - you were aware of that that Knighte Piesold had
5 reviewed it, the contracting model?

6 MR. CAMPBELL ADAMS: Yes.

7 MS. HELGA VAN IDERSTINE: And again,
8 that was after you had -- was that before or after
9 you'd prepared your report?

10 MR. CAMPBELL ADAMS: It would've been
11 before, I believe.

12 MS. HELGA VAN IDERSTINE: So Mr.
13 Campbell, I have a few questions about the KCB report
14 and your comments about the contracting model.

15 And first of all, on page 39 which is
16 217 of the KCB report and that's MG -- sorry, that is
17 MGF-217. It's page 39 so I guess I went a little too
18 far.

19

20 (BRIEF PAUSE)

21

22 MS. HELGA VAN IDERSTINE: Sorry, I'm
23 confusing you, I'm sorry, Kristen, that was 39 of the
24 KCB report, but you know what, we'll just leave that
25 for a second, because the question really was, and I

1 think Mr. Campbell probably knows the area.

2 In that report you had stated that in
3 your opinion:

4 "The most significant issue for the
5 project was the almost 100 percent
6 decoupling of work performance from
7 payment by paying actual costs
8 instead of quantities times unit
9 prices for actual work done."

10 Do you recall that?

11 MR. DAN CAMPBELL: Yes.

12 MS. HELGA VAN IDERSTINE: And what you
13 would be describing there is a cost reimbursable
14 contract?

15 MR. DAN CAMPBELL: Yes.

16 MS. HELGA VAN IDERSTINE: And I just
17 want to make sure we're all on the same page so if
18 you'll bear with me.

19 A target price contract would be
20 established by multiplying the quantities in the
21 contract to the unit prices bid by the contractor to
22 reach a target price?

23 MR. DAN CAMPBELL: That would be the
24 definition of target price, yes.

25 MS. HELGA VAN IDERSTINE: And if you

1 were paying quantities multiplied by the unit price
2 for actual work completed, that would more closely
3 relate to a unit price contract?

4 MR. DAN CAMPBELL: Yes.

5 MS. HELGA VAN IDERSTINE: And did you
6 review the KPMG report attached to Manitoba Hydro's
7 rebuttal evidence, and that's at Manitoba Hydro
8 Exhibit 117 and page 64, bottom of the page. It's the
9 second page of the appendix. Go down to the bottom of
10 the page.

11

12 (BRIEF PAUSE)

13

14 MS. HELGA VAN IDERSTINE: And did you
15 review where it states... My apologies. Where they
16 say:

17 "The gain share/pain share formula
18 was structured as follows: The gain
19 share formula for cost savings was
20 80 percent for Manitoba Hydro and 20
21 percent for BBE. If BBE delivered a
22 project under the adjusted target
23 price, as defined in the contract,
24 the profit increased from a
25 percentage to another percentage of

1 the additional savings. The pain
2 share formula, however, was more
3 punitive to the contractor if the
4 cost went over the adjusted target
5 price BBE was responsible for 80
6 percent of the cost overruns and
7 their percentage of profit would
8 erode to zero profit based on the
9 amount of cost overrun.
10 Additionally, once the actual costs
11 exceeded the target price by 1.3
12 times, BBE would no longer receive
13 their percentage GA&O and the
14 objective of this cap on GA&O was to
15 ensure that the contractor would not
16 benefit from escalating project
17 costs and remove the incentive for
18 the contractor to increase project
19 cost to improve their overall
20 position."

21 I'm sorry if I didn't have the site
22 there correctly for you. Do you want me to find that
23 site properly for you so you can review that?

24 Okay, so, -- it's at the top of the
25 page, up on page 2. There we go. And where the

1 bullets are.

2 MR. DAN CAMPBELL: What is the
3 question?

4 MS. HELGA VAN IDERSTINE: So did you
5 have a chance to review that?

6 MR. DAN CAMPBELL: Briefly.

7 MS. HELGA VAN IDERSTINE: And if you -
8 - now that you've reviewed it, can we agree that the
9 original price -- original contract that Manitoba
10 Hydro signed with BBE was not a pure cost reimbursable
11 contract but more accurately described a cost
12 reimbursable contract with a target price?

13

14 (BRIEF PAUSE)

15

16 MR. DAN CAMPBELL: I don't think I
17 would describe it that way.

18 MS. HELGA VAN IDERSTINE: Okay. And
19 so you are aware, though, that the GA&O was capped?

20 MR. DAN CAMPBELL: Yes.

21 MS. HELGA VAN IDERSTINE: And that
22 would take -- that would provide some incentive then
23 to the contractor to ensure that their -- they came in
24 within the target?

25 MR. DAN CAMPBELL: It should.

1 MS. HELGA VAN IDERSTINE: And so in
2 that sense, it's not a pure cost reimbursable
3 contract?

4 MR. DAN CAMPBELL: Yes.

5 MS. HELGA VAN IDERSTINE: Meaning that
6 the contractor is sharing some of the risk?

7 MR. DAN CAMPBELL: Yes.

8 MS. HELGA VAN IDERSTINE: Now before I
9 go any further, GA&O means general administration and
10 overhead; is that right?

11 MR. DAN CAMPBELL: Yes.

12 MS. HELGA VAN IDERSTINE: And that
13 would typically support the -- meaning it supports the
14 project from the contractor's home offices, including
15 but not limited to expenses such as human resource,
16 management, corporate procurement, IT, that sort of
17 thing?

18 MR. DAN CAMPBELL: Yes.

19 MS. HELGA VAN IDERSTINE: And Mr.
20 Campbell, I see from your CV and for the comments
21 you've made this morning that you've been involved in
22 several hydroelectric projects?

23 MR. DAN CAMPBELL: Yes.

24 MS. HELGA VAN IDERSTINE: And in a
25 variety of capacities?

1 MR. DAN CAMPBELL: Yes.

2 MS. HELGA VAN IDERSTINE: As a
3 consultant to the owner?

4 MR. DAN CAMPBELL: Yes.

5 MS. HELGA VAN IDERSTINE: Project
6 manager?

7 MR. DAN CAMPBELL: Yes.

8 MS. HELGA VAN IDERSTINE: You've done
9 design?

10 MR. DAN CAMPBELL: Yes.

11 MS. HELGA VAN IDERSTINE: And it would
12 be fair to say that every one of those projects is
13 different?

14 MR. DAN CAMPBELL: Yes.

15 MS. HELGA VAN IDERSTINE: They have
16 different risks?

17 MR. DAN CAMPBELL: There's different
18 roles for the engineer.

19 MS. HELGA VAN IDERSTINE: Yeah,
20 different roles for the engineers but the project as a
21 total would have different risks depending on the
22 circumstances of the project, where it was located,
23 that sort of thing?

24 MR. DAN CAMPBELL: Yes.

25 MS. HELGA VAN IDERSTINE: There'd be

1 different design challenges, again, depending on where
2 it's located?

3 MR. DAN CAMPBELL: Yes.

4 MS. HELGA VAN IDERSTINE: And so,
5 although there are similarities obviously between a
6 hydroelectric project in one place and another
7 hydroelectric project, there's also a lot of
8 differences?

9 MR. DAN CAMPBELL: All hydro -- all
10 significant hydroelectric projects are fundamentally
11 custom objects.

12 MS. HELGA VAN IDERSTINE: And we look
13 at Keeyask, the complexity of that would be
14 associated, that would be things like location.

15 You agree with that?

16 MR. DAN CAMPBELL: It's certainly a
17 significant factor, yes.

18 MS. HELGA VAN IDERSTINE: Some of the
19 geotechnical issues associated with it?

20 MR. DAN CAMPBELL: I think there's, as
21 I said, in -- in our report and in my comments this
22 morning, I think there was enough investigation that
23 from the perspective of the complexity of the project
24 it's not as complex and it's reasonably well-known.

25 MS. HELGA VAN IDERSTINE: You say not

1 as complex as some; more complex than others?

2 MR. DAN CAMPBELL: Yes.

3 MS. HELGA VAN IDERSTINE: It's subject
4 to extreme weather conditions given its location?

5 MR. DAN CAMPBELL: Certainly.

6 MS. HELGA VAN IDERSTINE: And Mr.
7 Campbell, in your report one (1) of the things you
8 speculated on was the --

9 "The potential reason for the cost
10 reimbursable contract being selected
11 may have been to push the
12 construction project quickly."

13 Do you recall having said that?

14 MR. DAN CAMPBELL: Yes.

15 MS. HELGA VAN IDERSTINE: And I
16 understand that from the Manitoba Hydro staff that you
17 didn't have any discussions with them about that?

18 MR. DAN CAMPBELL: That's why it was
19 speculation.

20 MS. HELGA VAN IDERSTINE: Exactly. So
21 I just want to talk to you a little bit about some of
22 -- and put to you some of the evidence about why that
23 contract was selected and see what your thoughts are.

24 So, first of all, when selecting a
25 contract delivery strategy, would you agree that one

1 (1) of the considerations is the market conditions
2 that might influence the availability of major con --
3 contractors willing to bid on a project?

4 MR. DAN CAMPBELL: No argument.

5 MS. HELGA VAN IDERSTINE: And so the
6 example that came to us was in Vancouver recently or
7 Toronto where the housing prices have been so hot, a
8 buyer was really subject to the whims of the seller.
9 If the seller wanted to sell it to them they could buy
10 it, but the prices were going up and the seller had
11 the choice of who they wanted to -- to sell to.

12 Would that be a good analogy to a hot
13 construction market where the experienced contractors
14 have a choice of who they might decide to bid on and
15 what projects they would bid on.

16 MR. DAN CAMPBELL: All contractors
17 have a choice on whether they want to bid or not.

18 MS. HELGA VAN IDERSTINE: Okay. Well,
19 let me take you back a bit. Do you recall the period
20 of time just before mid-2014 when oil prices were
21 escalating quite quickly?

22 MR. DAN CAMPBELL: Yes.

23 MS. HELGA VAN IDERSTINE: And there
24 were a number of projects across North America that
25 were on the way -- under way, particularly, in the oil

1 industry that were attracting a lot of labour, general
2 contractors to them?

3 MR. DAN CAMPBELL: Yes.

4 MS. HELGA VAN IDERSTINE: And in that
5 kind of market, would you agree that senior project
6 managers and general contractors would've had their
7 pick of what projects they might want to bid on?

8 MR. DAN CAMPBELL: Yes, they -- they
9 always have the choice of what project to bid -- to
10 bid on and certainly, there were more projects perhaps
11 at the time.

12 MS. HELGA VAN IDERSTINE: And
13 therefore, owners would have less negotiating room
14 with respect to choosing contractors and the terms
15 that contractors might be prepared to take on?

16 MR. DAN CAMPBELL: I think that the
17 decision about whether you proceed or not is a
18 function of the negotiation that you make with the
19 contractor and/or the price that is presented. And if
20 the price was presented as being too high under a
21 contracting model that shared the risks or put the
22 risk on one side or the other, then the owner has --
23 obviously, has the right and the opportunity to
24 reflect and perhaps redo it.

25 MS. HELGA VAN IDERSTINE: So one (1)

1 of the other things you speculated -- one (1) of the
2 other matters that you had speculated on in terms of
3 why Manitoba Hydro might've selected that type of
4 contracting model was what -- if they'd had experience
5 with it in a similar project.

6 Do you recall that?

7 MR. DAN CAMPBELL: Yes.

8 MS. HELGA VAN IDERSTINE: And so, were
9 you aware that Manitoba Hydro's experience with
10 Wuskwatim, they had attempted to tender a general
11 civil contract as a unit rate contract and it only
12 received one (1) bid and it was at two (2) times the
13 engineer's estimate?

14 MR. DAN CAMPBELL: Yes.

15 MS. HELGA VAN IDERSTINE: You were
16 aware of that?

17 MR. DAN CAMPBELL: Yes, that was in
18 the documentation that was made available.

19 MS. HELGA VAN IDERSTINE: And was that
20 before or after you had prepared your report?

21 MR. DAN CAMPBELL: It was during the
22 preparation of our report.

23 MS. HELGA VAN IDERSTINE: So it -- was
24 that what you were talking about then when you say
25 that they may have had success with that model in

1 past?

2 MR. DAN CAMPBELL: Yes.

3 MS. HELGA VAN IDERSTINE: And so you
4 were aware then that the Wuskwatim contract was a cost
5 reimbursable target price model?

6 MR. DAN CAMPBELL: Yes.

7 MS. HELGA VAN IDERSTINE: And Manitoba
8 Hydro has given evidence that they started doing their
9 procurement for Keeyask two (2) years prior to signing
10 a contract with BBE.

11 Were you aware of that?

12 MR. DAN CAMPBELL: Yes.

13 MS. HELGA VAN IDERSTINE: And that
14 they had gone out to the market and had done an
15 initial sounding of the market to determine if there
16 was interest?

17 MR. DAN CAMPBELL: Yes, that's
18 typical.

19 MS. HELGA VAN IDERSTINE: And based on
20 that feedback, they had prequalified four (4)
21 contractors who they thought were capable of
22 performing the work?

23 And again, that would be a reasonable
24 thing to do?

25 MR. DAN CAMPBELL: Yes and it's also

1 typical.

2 MS. HELGA VAN IDERSTINE: And in their
3 market sounding they would also had some in --
4 opportunity to determine what type of contracts were
5 likely to be acceptable to bidders in that market?

6 MR. DAN CAMPBELL: It's a question
7 that's often asked and sometimes viewed with a bit of
8 suspicion on occasion by the owner relative to what
9 the contractor says.

10 But yes, it's -- the question would
11 have likely been asked.

12 MS. HELGA VAN IDERSTINE: So in those
13 circumstances, it would not appear that there was any
14 rush to construction, given that they had taken two
15 (2) years to do the -- their diligence in terms of
16 getting the contractors bids together?

17 MR. DAN CAMPBELL: I don't know the --
18 the schedule that they were looking at in terms of
19 ultimately delivering power to wherever they had to do
20 it in terms of other commitments. So, whether or not
21 they were in a rush or not, given the long duration
22 that it takes to design, build and construct and
23 commission a hydroelectric project, I can't comment on
24 that.

25 MS. HELGA VAN IDERSTINE: You are

1 somewhat familiar, though, I understand with the Site
2 C project?

3 MR. DAN CAMPBELL: Somewhat.

4 MS. HELGA VAN IDERSTINE: And I'm not
5 going to ask anything that you consider confidential
6 and I'm -- I'm -- hopefully I've -- my questions will
7 be such that you'll still feel comfortable answering
8 them without being put in a difficult spot, so. If
9 you think so, please, let me know and I'll see if I
10 can answer -- ask them in a different way. And for
11 any of you, quite frankly. I'm not asking anything
12 that's CSI. If you think I'm going there, then please
13 stop me.

14 So, Mr. Campbell, I just wanted to ask
15 you a couple questions about the Site C project and
16 we have a book of documents that you should have. I
17 think your counsel may have or put it forward to you.

18 And one (1) of the things that I just
19 wanted to comment on too is that the documents we've
20 put in here were ones that were -- we got off the
21 internet. So -- or from -- either from Manitoba's --
22 or BC Hydro's website or from the BC Utilities
23 Commission's website. So, they are public documents.

24 And when I'm saying that, I'm referring
25 to the first two (2) items. So first of all, the Site

1 C hydroelectric project is a project of the BC -- BC
2 Hydro; is that right?

3 MR. DAN CAMPBELL: Yes.

4 MS. HELGA VAN IDERSTINE: And it's
5 located in northern BC near Fort St. John?

6 MR. DAN CAMPBELL: Correct.

7 MS. HELGA VAN IDERSTINE: Which is,
8 again, is a remote town, but fairly sizable?

9 MR. DAN CAMPBELL: Depends on your
10 definition of "sizable" but...

11 MS. HELGA VAN IDERSTINE: Bigger than
12 Keeyask?

13 MR. DAN CAMPBELL: Yes, certainly.

14 MS. HELGA VAN IDERSTINE: And when
15 it's completed, it will provide about 1100 megawatts
16 of energy?

17 MR. DAN CAMPBELL: Correct.

18 MS. HELGA VAN IDERSTINE: And if
19 you'll look at the first item in the book of documents
20 that -- which is at page 3 and it starts -- actually
21 it's starting on page 2 is where I'd like to start.

22 This is the Site C main civil works
23 contract, as I understand it, and -- and I also
24 understand that this is just a tiny little portion of
25 what it would be but this is what's on the website.

1 So, if you look at the date of it
2 you'll see that it's dated -- the contract was dated
3 December 8th, 2015; is that correct?

4 MR. DAN CAMPBELL: Yes.

5 THE CHAIRPERSON: Sorry, I believe
6 it's December 18th.

7 MS. HELGA VAN IDERSTINE: Well, thank
8 you for that correction, sir.

9

10 CONTINUED BY MS. HELGA VAN IDERSTINE:

11 MS. HELGA VAN IDERSTINE: The December
12 18th, 2015, so about eighteen (18) months or so or
13 actually twenty (20) months -- or one month after that
14 Manitoba Hydro project was signed with BBE?

15 MR. DAN CAMPBELL: If your math is
16 correct, yes.

17 MS. HELGA VAN IDERSTINE: And that's a
18 dangerous thing, I will warn you. The -- the -- so
19 again, looking back to the market in that period of
20 time, you'll recall that sometime in mid 2014, the
21 market, the oil prices dropped and a lot of the big
22 oil projects that had been planned dropped out of the
23 marketplace.

24 Do you recall that?

25 MR. DAN CAMPBELL: Unfortunately, yes.

1 It affected the engineers as well.

2 MS. HELGA VAN IDERSTINE: I guess.

3 That's why I thought you might actually remember it.

4 So -- so a different market than that
5 this contract was ca -- signed in?

6 MR. DAN CAMPBELL: Yes.

7 MS. HELGA VAN IDERSTINE: And if you
8 look at page 5 of that contract, page 7 of the book of
9 documents, you'll see under Contract Price and then
10 entire compensation and if you look at that, would you
11 agree that that's a unit price contract?

12

13 (BRIEF PAUSE)

14

15 MR. DAN CAMPBELL: Yes, fundamentally.

16 MS. HELGA VAN IDERSTINE: There's
17 always nuances.

18 MR. DAN CAMPBELL: Exactly.

19 MS. HELGA VAN IDERSTINE: And so if we
20 look over then -- so then, as you would also be aware,
21 and I'm -- I'm -- you can confirm, you didn't give
22 evidence before the BC Utilities Commission when the
23 Site C project was being reviewed last summer, did
24 you?

25 MR. DAN CAMPBELL: No.

1 MS. HELGA VAN IDERSTINE: Okay. But
2 you were aware that it was going on.

3 MR. DAN CAMPBELL: Obviously, yes.

4 MS. HELGA VAN IDERSTINE: So if you
5 look over to page 15 of the documentation in our book
6 of authorities and what this is is an excerpt from the
7 BCUC's decision and on this section there -- on page
8 15, they are just -- their reviewing the comments made
9 by Deloitte in a report they provided to PU -- the
10 BCUC.

11 And if you look down at the bottom of
12 the page, you'll note that it says:

13 "Deloitte noted that PRHP plans to
14 submit a claim to BC Hydro for the
15 delay caused by the first tension
16 crack on left bank. Also Deloitte
17 reported that discussions were
18 underway between BC Hydro and the --
19 and PRHP regarding how the delays
20 caused by the second left bank to
21 crack in May 2017 could be
22 mitigated, and that PRHP had
23 suggested that more claims are to
24 come."

25 And PRHP, of course, is the contractor?

1 MR. DAN CAMPBELL: Yes.

2 MS. HELGA VAN IDERSTINE: And as a
3 consequence of delays they appear to be issuing
4 claims?

5 MR. DAN CAMPBELL: In the contract of
6 the nature of that BC Hydro signed with them, the way
7 for the contractor to get additional funding is often
8 through claims. And there's certainly claims have
9 been filed on the project and there's certainly
10 dispute as to whether those claims are a function of
11 the contractor's work, or others.

12 MS. HELGA VAN IDERSTINE: And, no, I
13 wasn't trying to cast aspersions one way or the other
14 --

15 MR. DAN CAMPBELL: No, I'm just
16 commenting.

17 MS. HELGA VAN IDERSTINE: -- and
18 that's -- but I -- I agree. That's one of the
19 troubling problems that results when as soon as the
20 contractor's profit is at risk; is that correct?

21 MR. DAN CAMPBELL: I don't think the
22 contractor's profit necessarily has to be at risk.
23 He's just looking for -- he may just be looking for
24 additional profit.

25 MS. HELGA VAN IDERSTINE: And if we

1 look over to -- and again, in the summer when BCUC was
2 reviewing the Site C budget, it was initially
3 presented as being at 8.3 billion, and was being
4 described at that time as a P50 and if you look over
5 at page -- the top of page 16, you can see where
6 that's being described by Deloitte.

7 Do you see that?

8 MR. DAN CAMPBELL: Yes.

9 MS. HELGA VAN IDERSTINE: And they go
10 on to state that BC Hydro was using up a large part --
11 portion of their contingency, in fact, on page 12 --
12 going back one page, sorry for jumping around a bit,
13 but going back one page. They describe it as having
14 used up 45 percent of their contingency when they were
15 only two (2) years into the project.

16 MR. DAN CAMPBELL: Do you mean total
17 project contingency or just contingency for this
18 contract because this particular contract is only for
19 the earthworks piece, it's not for the concrete work
20 or for the equipment supply?

21 MS. HELGA VAN IDERSTINE: Okay, so I'm
22 -- what I'm referring to is actually the third bullet
23 -- third paragraph from the bottom on page 15 of the
24 book of documents.

25 "Deloitte further noted that

1 contingency at 356 million committed
2 to date represents 45 percent of the
3 budgeted cost contingency of 794
4 million, a percent significantly
5 higher than the 22 percent of the
6 total budget spent to date."

7 So again, the co -- the contingency
8 appeared to be used -- being used up faster than the
9 project was progressing?

10 MR. DAN CAMPBELL: Yes.

11 MS. HELGA VAN IDERSTINE: And then if
12 I can take you to page 18, which is in the BCUC's
13 findings section and it's just above the line where
14 they say "other implications of continuing Site C."

15 "BC Hydro comes to the conclusion
16 [and then they say] however, given
17 the nature of this type of project
18 and what has incurred to date total
19 cost of the project may be in excess
20 of 10 billion and there are
21 significant risks that could lead to
22 further budget overruns."

23 Now the reason -- and you'll be aware,
24 of course, that the initial budget that they were
25 represent -- that BC Hydro was presenting was 8.3

1 billion, is that what -- correct?

2 MR. DAN CAMPBELL: Again, if your math
3 is correct. Sure.

4 MS. HELGA VAN IDERSTINE: So and as I
5 understand it, Site C is behind in its estimated
6 completion dates?

7 MR. DAN CAMPBELL: Yes.

8 MS. HELGA VAN IDERSTINE: And am I
9 right when I say that they're about two (2) years into
10 a nine (9) year project?

11 MR. DAN CAMPBELL: That's I believe
12 approximately correct.

13 MS. HELGA VAN IDERSTINE: Okay and now
14 I'd like to look -- ask you a few questions about
15 Muskrat Falls.

16 Were you involved at all in Muskrat
17 Falls?

18 MR. DAN CAMPBELL: No.

19 MS. HELGA VAN IDERSTINE: So you and I
20 and may be subject then to what we read in the news
21 and so I put forward on -- on tabs -- or pages 19 an
22 article which appeared in the -- in Global News on
23 June 23rd, 2017. And I'm going to ask you -- take you
24 to something on that in a minute, but first of all,
25 you are familiar with Muskrat Falls just generally

1 because of your knowledge of the hydroelectric
2 projects in Canada.

3 MR. DAN CAMPBELL: Yes, I'm aware of
4 that particular project, and that it's overbudget if
5 that's where you're going.

6 MS. HELGA VAN IDERSTINE: Well, I am
7 going there but I was going to say -- start off by
8 saying, again, like Keeyask, it's a remote project?

9 MR. DAN CAMPBELL: Yes.

10 MS. HELGA VAN IDERSTINE: But unlike
11 Keeyask there's a large town -- a larger town nearby
12 being Goose Bay?

13 MR. DAN CAMPBELL: Having been to
14 Goose Bay I wouldn't describe it as large, but okay.

15 MS. HELGA VAN IDERSTINE: I think I
16 said "larger." And do -- do you happen to know what
17 the contract model on that was?

18 MR. DAN CAMPBELL: No.

19 MS. HELGA VAN IDERSTINE: And I don't
20 think Global reported on that either. So, we'll have
21 to leave it at that.

22 And you've ment -- commented that
23 they're overbudget and this budget suggests that the
24 budget from 5 billion to 12 billion.

25 Does that sort of meet with what you

1 understand the magnitude of the overruns to be?

2 MR. DAN CAMPBELL: My understanding is
3 the magnitude of the overruns on Muskrat are
4 significantly more than on Keeyask or what is
5 anticipated for Site C.

6 MS. HELGA VAN IDERSTINE: And so --
7 and one (1) of the current issues and a major dispute
8 right now for Muskrat Falls -- and again, the reason I
9 put this article in was because if you look over at
10 page... Sorry, if you look over to page 26 which is
11 actually the CBC report, there is the headline that
12 the -- about the dispute with their contractor and
13 they say:

14 "Both sides are at odds with a stall
15 demanding hundreds of millions in
16 additional payments from Nalcor."

17 And again, challenges with the con --
18 managing the contractor in this site -- at site -- at
19 Muskrat Falls? That's what appears to be the problem
20 or a problem? I shouldn't say --

21 MR. DAN CAMPBELL: I don't know what
22 the problems are because I haven't looked at it.

23 MS. HELGA VAN IDERSTINE: We'll leave
24 that then. But I think it -- would it be fair to say
25 that contracting strategy alone doesn't define the

1 success or even a guarantee that a project will be on
2 time?

3 MR. DAN CAMPBELL: Yes, I would say
4 that's true. It helps to have a contractor who is
5 responsive to the contracting strategy he's working
6 with.

7 MS. HELGA VAN IDERSTINE: And fair to
8 say that in huge hydroelectric generating projects
9 that regardless of the type of project -- contractor
10 project, that once the contractor seeing its profit
11 eroded, we see those types of claims starting to -- to
12 come forward?

13 MR. DAN CAMPBELL: As I said earlier,
14 all contractors are looking for opportunity to make
15 additional funding and it's been my experience whether
16 or not it's a large contract or a small contract,
17 whether it's domestic or international, the -- the
18 contractor is looking for reasons to claim often, not
19 always, but often.

20 MS. HELGA VAN IDERSTINE: So I'd like
21 to -- to turn to the -- another topic now. And, Mr.
22 Adams, I think I may have some questions for you.

23 First, can we agree that until May of
24 2016, when the contractor fell behind on the permanent
25 earthworks and concrete, that Keeyask was generally on

1 budget and schedule?

2 MR. CAMPBELL ADAMS: I believe it was
3 for the first couple of years, yes.

4 MS. HELGA VAN IDERSTINE: And that
5 when it became apparent that there were problems
6 sometime in the summer of 2016, meaning that when
7 those events occurred that the contractor fell behind
8 and in putting in the concrete, that Manitoba Hydro
9 then acted upon it.

10 And I'm going to ask you some questions
11 about -- about that and specifics about what they did
12 but, is it fair to say that they -- they did act upon
13 it?

14 MR. CAMPBELL ADAMS: Yes, my
15 understanding is that the -- the volume of concrete,
16 I think it was, that was placed in quarter two of 2016
17 was so small that you didn't need really to look at
18 the schedule to understand there was an issue.

19 And I believe a recovery plan was
20 requested by Hydro, which was appropriate in
21 accordance with the contract as I understand.

22 MS. HELGA VAN IDERSTINE: Right. And
23 so some of the things they took over this -- summer,
24 falls -- they took it in a stepwise fashion to get
25 things moving and some of the things they did, as I

1 understand it, was -- and -- they met with the GCC --
2 or GCC to -- to discuss it which would be appropriate.

3 MR. CAMPBELL ADAMS: Yeah.

4 MS. HELGA VAN IDERSTINE: They
5 determined what -- they started working to determine
6 what the root causes of the problem were that the
7 contractor was experiencing and that would be
8 appropriate?

9 MR. CAMPBELL ADAMS: That would be
10 appropriate.

11 MS. HELGA VAN IDERSTINE: And I think
12 you would -- you said earlier that you'd need to
13 identify those roots -- causes before you could
14 successfully plan how to remediate?

15 MR. CAMPBELL ADAMS: Yes.

16 MS. HELGA VAN IDERSTINE: And Manitoba
17 Hydro and the GC then developed a plan for continuing
18 concrete through the winter months?

19 MR. CAMPBELL ADAMS: I believe so.

20 MS. HELGA VAN IDERSTINE: And they
21 initiated activities to reforecast the cost and the
22 schedule for the project?

23 MR. CAMPBELL ADAMS: As part of the
24 negotiation do you mean?

25 MS. HELGA VAN IDERSTINE: Both part of

1 the negot -- prior to the negotiations of the
2 amending contract, they started doing those
3 discussions?

4 MR. CAMPBELL ADAMS: I don't know
5 about that.

6 MS. HELGA VAN IDERSTINE: But that
7 would be something appropriate to do?

8 MR. CAMPBELL ADAMS: If you've got an
9 underperforming contractor, yes, you've got to be
10 engaged.

11 MS. HELGA VAN IDERSTINE: Yeah and
12 that's what you were saying. You've got to be engaged
13 with them?

14 MR. CAMPBELL ADAMS: Yes.

15 MS. HELGA VAN IDERSTINE: And they
16 started looking at the contractor's claims as well as
17 -- another thing just to do as you are moving forward?

18 MR. CAMPBELL ADAMS: Yes.

19 MS. HELGA VAN IDERSTINE: And they
20 supplemented and -- and I think you under -- saw and
21 from the evidence that they supplemented the expertise
22 of the Manitoba Hydro team by retaining KPMG?

23 MR. CAMPBELL ADAMS: I believe so. I
24 don't know -- I don't know the expertise that was
25 provided.

1 MS. HELGA VAN IDERSTINE: They sought
2 legal advice from a large law firm BLG, did you know
3 that?

4 MR. CAMPBELL ADAMS: Yes, I read that.

5 MS. HELGA VAN IDERSTINE: Again, that
6 would be a reasonable thing to do?

7 MR. CAMPBELL ADAMS: Yes.

8 MS. HELGA VAN IDERSTINE: And they
9 sought advice from an estimating -- from validation
10 estimating?

11 MR. CAMPBELL ADAMS: I believe they
12 did, yes.

13 MS. HELGA VAN IDERSTINE: Perhaps to
14 assist with their budgeting process and how this might
15 impact their costs going forward?

16 MR. CAMPBELL ADAMS: At a high level,
17 yes. The actual work they did, I don't know.

18 MS. HELGA VAN IDERSTINE: Okay. They
19 retain --

20 MR. CAMPBELL ADAMS: So, just -- my
21 point is, I don't know the degree to which work was
22 undertaken to get done to the root causes that caused
23 the issues in 2016.

24 MS. HELGA VAN IDERSTINE: Fair enough.
25 They retained a claims company called Revay.

1 Are you familiar with them?

2 MR. CAMPBELL ADAMS: I have heard of
3 Revay, yes.

4 MS. HELGA VAN IDERSTINE: And, of
5 course, we know that there was a review conducted by
6 the Boston Consulting Group around the same time?

7 MR. CAMPBELL ADAMS: Yes, I've heard
8 of that.

9 MS. HELGA VAN IDERSTINE: Then I had a
10 cold eyes review done to give them some advice,
11 generally?

12 MR. CAMPBELL ADAMS: By -- by whom?

13 MS. HELGA VAN IDERSTINE: Does it
14 matter?

15 MR. CAMPBELL ADAMS: It might be
16 depends who it is.

17 MS. HELGA VAN IDERSTINE: Okay.

18 MR. CAMPBELL ADAMS: Like in relation
19 to the issues, if you've got productivity issues and
20 you pick the wrong person to give you advice it's not
21 going to be very helpful.

22 MS. HELGA VAN IDERSTINE: Sorry, I'm -
23 - you said depend on -- on the personnel --

24 MR. CAMPBELL ADAMS: Depends on the
25 nature of the issue you're trying to understand who

1 you would turn to to get that advice. Like KPMG, I
2 didn't think did construction work.

3 MS. HELGA VAN IDERSTINE: Okay, what
4 about --

5 MR. CAMPBELL ADAMS: That might be my
6 ignorance.

7 MS. HELGA VAN IDERSTINE: -- some of -
8 - utilizing people such as retired Manitoba Hydro
9 employees who had construction experience that conn --
10 people with general contracting experience in the
11 area; that sort of --

12 MR. CAMPBELL ADAMS: I think if they
13 drew upon people who had work for contractors and
14 planned activities like concreting, how to place
15 formwork, how to place rebar, how to pour, that would
16 be useful given the productivity issues experienced.

17 MS. HELGA VAN IDERSTINE: And they
18 involved Hatch Engineering to provide them with some
19 further advice and assistance?

20 MR. CAMPBELL ADAMS: They're --
21 they're an engineer --

22 MS. HELGA VAN IDERSTINE: And again --

23 MR. CAMPBELL ADAMS: I don't -- I
24 don't know how that helps.

25 MS. HELGA VAN IDERSTINE: Well, it

1 might -- I'm going to get to that but one (1) of the
2 areas that they might engage an engineer to do and Mr.
3 Campbell might be able to provide us with some
4 assistance on that, would be to help them with some
5 design choices that would help move the project
6 forward in a more efficient manner?

7 MR. CAMPBELL ADAMS: Yes, that would
8 be a worthwhile activity.

9 MS. HELGA VAN IDERSTINE: Mr. -- Mr.
10 Campbell, that would be correct? Since we've got our
11 expert here.

12 MR. DAN CAMPBELL: It's always good to
13 have an engineer on board.

14 MR. CAMPBELL ADAMS: I say the same
15 for quantity surveyors.

16 MS. HELGA VAN IDERSTINE: And as we
17 know, when things didn't resolve over the summer they
18 moved to the next step and the next step was to --
19 looking at the contract and determining whether -- how
20 they would proceed forward with the contract.

21 And in this circumstance, what they did
22 was amended it. You're of aware?

23 MR. CAMPBELL ADAMS: Yes, I'm aware
24 they considered dispensing with the contractor and
25 looking at other options but they ended up deciding to

1 stay with BBE.

2 MS. HELGA VAN IDERSTINE: And again,
3 having that -- doing that kind of analysis and making
4 those kind of decisions would be the appropriate
5 review and decision-making tree that somebody would --
6 that you'd expect an organization to do in those kind
7 of circumstances?

8 MR. CAMPBELL ADAMS: Yes. The -- the
9 thing I haven't seen, and you referred to earlier, is
10 the working on the root causes of what caused the poor
11 productivity.

12 MS. HELGA VAN IDERSTINE: Okay.

13 MR. CAMPBELL ADAMS: But that, to our
14 team, seems to be the root of the evil.

15 MS. HELGA VAN IDERSTINE: Okay. And
16 in terms of amending the contract, I think you'll
17 agree that that can only be done by mutual agreement?

18 MR. CAMPBELL ADAMS: Yes.

19 MS. HELGA VAN IDERSTINE: In fact, I
20 think in response to one (1) of the Coalition
21 questions you actually said:

22 "To attempt to change this would
23 significant change the risk
24 allocation of the contract currently
25 in place, and might be difficult to

1 achieve."

2 MR. CAMPBELL ADAMS: Yeah.

3 MS. HELGA VAN IDERSTINE: And again,
4 if you tried to make unilateral changes to a contract
5 as some had suggested, what would happen is you risk
6 breaching the contract or -- and any other -- and the
7 fallout that might come from that?

8 MR. CAMPBELL ADAMS: You can't amend
9 the contract without the -- the agreement of the other
10 party. So, I don't believe it could be imposed on the
11 other party.

12 MS. HELGA VAN IDERSTINE: And so --

13 MR. CAMPBELL ADAMS: The other --
14 other comment or observation I would make the -- you
15 mentioned about the -- the hot market. I'm not sure
16 the market was that hot at the time this amending
17 agreement was reconsidered, or considered.

18 MS. HELGA VAN IDERSTINE: Okay.

19 MR. CAMPBELL ADAMS: Oil was a lot
20 less. Alberta was pretty quiet.

21 MS. HELGA VAN IDERSTINE: So again,
22 using that as an example, then one (1) of the things
23 that goes into the -- even doing something like the
24 amending agreements or the gives and takes of things
25 like the market conditions and what strength two

1 negotiating parties have with respect to the -- to
2 moving forward?

3 MR. CAMPBELL ADAMS: Yes, and how each
4 party views the risks of where the -- what's happened
5 to get them where they are today and what's it likely
6 to be going forward. And the biggest risk to Hydro
7 was cost.

8 MS. HELGA VAN IDERSTINE: Well and --
9 and -- or not having a complete project?

10 MR. CAMPBELL ADAMS: Why would you say
11 that?

12 MS. HELGA VAN IDERSTINE: Well, if the
13 contractor decides to walk away then there's a --
14 they've got a problem.

15 MR. CAMPBELL ADAMS: Well, you can get
16 another contractor.

17 MS. HELGA VAN IDERSTINE: So let's
18 talk about your recommendations for -- from your
19 report. And if we ignore -- sorry, can we go to IR
20 Manitoba Hydro/MGF-1 -- or round 1, question 2(j).

21

22 (BRIEF PAUSE)

23

24 MS. HELGA VAN IDERSTINE: So -- and
25 just before I ask you some questions on this one, Mr.

1 Adams, I just want to follow-up on the last response
2 you had.

3 In order to get another contractor in
4 place, obviously, the time would -- it would take time
5 to re-tender that?

6 MR. CAMPBELL ADAMS: Yes.

7 MS. HELGA VAN IDERSTINE: And during
8 that time there'd be delay costs associated with all
9 the indirect and directs that have of -- or all the
10 other contracts that -- and contractors that are now
11 not working because that's not pro -- work is not
12 proceeding?

13 MR. CAMPBELL ADAMS: There is normally
14 a provision to suspend work, but there would be cost,
15 for sure, yes.

16 MS. HELGA VAN IDERSTINE: And you've
17 got a -- the camp at Keeyask is about twenty-four
18 hundred (2400) people and those people would not be
19 working?

20 MR. CAMPBELL ADAMS: That's the --
21 that's a capacity if the contractor has left and those
22 people go with him.

23 MS. HELGA VAN IDERSTINE: Yeah. So,
24 those would be some of the problems you'd have if the
25 contractor just walked away?

1 MR. CAMPBELL ADAMS: Those would be
2 part of the switching costs, I agree, yes. It's not
3 an easy decision to make but it's...

4 MS. HELGA VAN IDERSTINE: No, it's not
5 and there'd be other costs of equipment sitting
6 dormant; the -- the work that had been done, possibly
7 deteriorating while that stoppage of work occurs?

8 MR. CAMPBELL ADAMS: Yes. Typically,
9 we would have to protect the work that had been built
10 and if there's other equipment sitting on site that
11 has to be preserved and maintained.

12 MS. HELGA VAN IDERSTINE: And then
13 after you do get a new contract, it would take time to
14 bring onboard the new staff, get them up to speed, get
15 the -- get the site recommissioned and then move
16 forward?

17 MR. CAMPBELL ADAMS: Yes, there is --
18 there's a learning curve for another contractor, yes.

19 MS. HELGA VAN IDERSTINE: And all that
20 would have additional costs?

21 MR. CAMPBELL ADAMS: There would be
22 costs to that, yes.

23 MS. HELGA VAN IDERSTINE: So as -- so
24 if we can look at this IR that I've got right here,
25 the recommendation -- the question was: Can MGF

1 please identify the risks to the Keeyask project that
2 aros -- arr -- would arise by Manitoba Hydro taking on
3 this type of role?

4 And the type of role that was being
5 asked about was -- was the -- was construction
6 manager. And your answer was:

7 "The recommendation is not for
8 Manitoba Hydro to become the
9 construction manager and replace BBE
10 but for Manitoba Hydro to exert more
11 control and hold BBE accountable for
12 its performance."

13 Do you see that?

14 MR. CAMPBELL ADAMS: I do see that.

15 MS. HELGA VAN IDERSTINE: So I take it
16 then with that answer, we can ignore the
17 recommendation that you make on page 81 of your report
18 where you had stated, all:

19 "As all construction decisions
20 affect Manitoba Hydro financially,
21 therefore, they need to move
22 actively into the role of
23 construction manager guiding and
24 instructing the contractor on more
25 efficient crew makeups, work

1 methods, shift lengths and
2 supervision."

3 MR. CAMPBELL ADAMS: Can I see that on
4 the screen, please.

5 MS. HELGA VAN IDERSTINE: Yep, you
6 can. It's the top of the page.

7 MR. CAMPBELL ADAMS: No, I don't think
8 that they're mutually exclusive. The cost
9 reimbursable is the -- if an owner needs to be more
10 engaged on a contract, that is a pricing mechanism on
11 which it has to be engaged because there's no ceiling
12 or lid on it. For every day that is not spent well,
13 that adds to the cost of -- to the -- to the owner.

14 Our -- our view is the -- that BBE has
15 let Hydro down in two (2) consecutive years. Our
16 experience of managing cost reimbursable projects in
17 the past, is you've got to get -- you've got to work
18 side-by-side. You've got to watch what they do
19 because if they get it right, great; if they don't get
20 it right, it's your money that's being wasted.

21 There's a different approach to
22 managing a cost reimbursable priced contract versus
23 that of the lump-sum. And when things are going wrong
24 repeatedly, I don't see how an owner can stand off.
25 You've -- you've got to get involved and getting down

1 to those root causes as we spoke to you earlier.

2 MS. HELGA VAN IDERSTINE: But the term
3 "construction manager" has a specific definition, and
4 you're not suggesting that Manitoba Hydro, as I
5 understood from this IR, step in and replace BBE as
6 the construction manager?

7 MR. CAMPBELL ADAMS: That is correct,
8 we're not saying replace them -- Hydro becomes the
9 construction manager. It's perform the role of a
10 construction manager. It's manage -- it's help manage
11 your own money.

12 MS. HELGA VAN IDERSTINE: Yeah, but I
13 -- I want to be clear, the activities you identify
14 here: crew makeup, work methods, shift length,
15 supervision, those are all the means and methods of a
16 general contractor; aren't they.

17 MR. CAMPBELL ADAMS: Yes, they are and
18 something's not working so I don't -- I can't agree to
19 just letting it go on beca -- if it's not working.
20 They've got to understand how crews are made up; how
21 the work is being planned; understand the resources
22 then watch it happen and if you let me finish.

23 As -- as you're watching it unfold. If
24 it works understand that and repeat that, but if it
25 didn't work as planned, why did it not work as planned

1 How do we learn from this so that subsequent concrete
2 pours, for example, are done better.

3 MS. HELGA VAN IDERSTINE: But you'll
4 agree there's a distinction by -- about learning from
5 something and putting in some changes to the project
6 being distinct and different from taking over managing
7 crew makeup, work methods, shift lengths or
8 supervision, which are all the means and methods of
9 the construction manager, i.e., GC --

10 MR. CAMPBELL ADAMS: Exactly.

11 MS. HELGA VAN IDERSTINE: So that's
12 quite something different. And it would be
13 appropriate -- because if Manitoba Hydro were to step
14 in and take active role over doing those things, it
15 would lead to an allegation that they had -- were then
16 acting as the construction manager or the GC?

17 MR. CAMPBELL ADAMS: Okay.

18 MS. HELGA VAN IDERSTINE: And if they
19 were to do that they would expose themselves to
20 financial risk.

21

22 (BRIEF PAUSE)

23

24 MR. CAMPBELL ADAMS: Again, let me try
25 to clarify this. It is not -- we're not recommending

1 that Hydro replace BBE and Hydro becomes the
2 construction manager.

3 We are recommending that Hydro
4 understands how work is being planned, how the crews
5 are being made, how the -- the work is being
6 sequenced. To understand that it's going to work and
7 if doesn't, why does it not.

8 That typically, in our experience,
9 means that Hydro would have people in the field as
10 work is being planned and work is being executed. I
11 think I heard an example that quality control wasn't
12 working that well originally and that the two (2)
13 quality divisions of the contractor and Hydro were
14 actually merged to make it work more efficiently.

15 MS. HELGA VAN IDERSTINE: So, Mr.
16 Adams yester -- or earlier this morning, you used the
17 two (2) phrases that I noted down to des -- I think to
18 describe what you're talking about now. And one (1)
19 of those you said:

20 "Is that the owner needs to hold the
21 contractor's feet to the fire and
22 you want --

23 Do you remember saying that?

24 MR. DAN CAMPBELL: Yes, I do.

25 MS. HELGA VAN IDERSTINE: And you also

1 used the phrase:

2 "They need to work hand-in-hand with
3 their contractor..."

4 Or words to that effect. Do you recall
5 saying that?

6 MR. CAMPBELL ADAMS: Okay.

7 MS. HELGA VAN IDERSTINE: And so if I
8 understood what you're saying this morning and perhaps
9 this afternoon, is that there's a fine balance that
10 the owner has to work with at that point where they
11 are both trying to move the contractor ahead through
12 perhaps the stick method, but at the same time using
13 the carrot to help to work with them to move things
14 cooperatively and collaboratively ahead?

15 MR. CAMPBELL ADAMS: My experience of
16 cost reimbursable contracts, the -- the owner's team
17 and the contractor's team are typically working side-
18 by-side. They've -- they've got staff in the same
19 place.

20 The comment about holding a
21 contractor's feet to the fire is there is a contract
22 in place that needs to be managed. The contractor
23 needs to perform his -- his obligations. For example,
24 if -- if Hydro has stated in its contract that no
25 activity should have negative float, why do you lie

1 1,030; that to me -- that to me is an opportunity to
2 enforce the contract.

3 If your monthly report should come in
4 at a certain day why accept it ten (10) days later?
5 These -- these are --

6 MS. HELGA VAN IDERSTINE: So I -- and
7 -- so I'll come back to that. I just want to correct
8 you on that --

9 MR. WILLIAM HAIGHT: I -- I think he
10 was -- wasn't finished answering his question there.

11 MR. CAMPBELL ADAMS: The rigour with
12 which -- thank you. The rigour with which you manage
13 a contract I think -- I don't think -- it's -- it's
14 different from a lump-sum to a cost reimbursable
15 priced one. They're -- they're different risks, but
16 you still have to manage the contract.

17

18 CONTINUED BY MS. HELGA VAN IDERSTINE:

19 MS. HELGA VAN IDERSTINE: So -- so
20 let's talk a little bit about what Manitoba Hydro does
21 and -- and I think you used the word this morning or
22 earlier about, you want to embed some of the Hydro
23 staff with BBE or the contractor?

24 MR. CAMPBELL ADAMS: Sorry, could you
25 repeat that please.

1 MS. HELGA VAN IDERSTINE: You used the
2 -- you used the phrase "embedding" -- or maybe that
3 was Mr. Campbell -- the contractor with the -- now,
4 he's shaking his head.

5 MR. CAMPBELL ADAMS: Co-location is --
6 as a normal description of that.

7 MS. HELGA VAN IDERSTINE: Correct.
8 And so were you aware that Manitoba Hydro has a
9 hundred and twenty (120) to a hundred and fifty (150)
10 staff working on site at Keeyask on the project
11 helping to address issues as they arise on a day-to-
12 day basis?

13 MR. CAMPBELL ADAMS: I'll take you at
14 their word. I'm only looking at the output of the
15 performance.

16 MS. HELGA VAN IDERSTINE: But that's
17 the sort of thing that you would expect Manitoba Hydro
18 to just now put in place just to monitor that cost
19 reimbursable contract?

20 MR. CAMPBELL ADAMS: Yes.

21 MS. HELGA VAN IDERSTINE: And that
22 when the problems occurred in 2016, one (1) of the
23 things that Manitoba Hydro did was they matched up
24 approximately thirty (30) of their area lead staff who
25 were tasked then with keeping a very close interface

1 with their co -- counterparts at BBE.

2 And that, again, would be the type of
3 thing that you would want them to do to make sure that
4 they were working closely with BBE to move things
5 forward?

6 MR. CAMPBELL ADAMS: I guess it
7 depends on the next level down of what those work
8 activities are and how decisions are made. I say that
9 because the -- the performance didn't improve in 2017.
10 So colocation is one (1) thing, whether it's effective
11 is another.

12 MS. HELGA VAN IDERSTINE: Well, let's
13 -- I can't leave that. That's not where I was going
14 right now, but you've used that phrase that it didn't
15 improve in 2017 and the fact is that in 2016 things
16 were behind. 2017, things did improve. They may not
17 have improved as much as they would've liked, but they
18 certainly improve.

19 MR. CAMPBELL ADAMS: My comment is
20 based on the contractor promise to do X and the
21 contractor did less than X.

22 MS. HELGA VAN IDERSTINE: But they
23 improved?

24 MR. CAMPBELL ADAMS: Productivity
25 didn't, it got worse.

1 (BRIEF PAUSE)

2

3 MS. HELGA VAN IDERSTINE: And at that
4 point in the contract, again, -- or in the project,
5 the complexity of those items that were being
6 installed in 2017 were more complex?

7 MR. CAMPBELL ADAMS: I believe they
8 were but the contractor's plan should have taken note
9 of that.

10 MS. HELGA VAN IDERSTINE: And that
11 with that complexity of the first unit, you'd expect
12 productivity to improve as they moved along repeating
13 those tasks?

14 MR. CAMPBELL ADAMS: That's what you'd
15 expect.

16 MS. HELGA VAN IDERSTINE: Yeah. And
17 so as they put the -- some of the concrete -- the more
18 complicated concrete in this summer, as they move
19 forward on those tasks over the next year or so you
20 would expect the productivities to start to improve?

21 MR. CAMPBELL ADAMS: Possibly if it's
22 the same people doing the work.

23 MS. HELGA VAN IDERSTINE: Were you
24 aware -- we talked about some of the things that
25 Manitoba Hydro's done and does to stay closely aligned

1 with its contractor, and were you aware that one (1)
2 of the things that they've done is they've got -- a
3 cost control team led by a Mr. Strongman who monitors
4 budget and expenses and performance on a day-to-day
5 basis? Are you aware of that?

6 MR. CAMPBELL ADAMS: Yes.

7 MS. HELGA VAN IDERSTINE: And that
8 would, again, be something that would be a reasonable
9 thing to be doing?

10 MR. CAMPBELL ADAMS: Yes, it's a cost
11 reimbursable contract. You keep a score of the costs
12 and then you pay them.

13 MS. HELGA VAN IDERSTINE: One of the
14 things you -- I think -- and again, maybe I do have
15 this one right, Mr. Campbell had raised this morning
16 was a concern that delays may have -- might occur as
17 scheduling moves forward.

18 And one (1) of the things you mentioned
19 was the -- the competition for the crane by various --
20 by the two (2) contractors? Or was that you, Mr.
21 Adams?

22 MR. DAN CAMPBELL: That was me and
23 yes.

24 MS. HELGA VAN IDERSTINE: And so were
25 you aware and perhaps you wouldn't be, that Manitoba

1 Hydro has hired a crane coordinator to make -- to deal
2 with just that type of problem?

3 MR. DAN CAMPBELL: I was not aware of
4 that but it does make sense.

5 MS. HELGA VAN IDERSTINE: And again
6 that would -- again help address these potential
7 problems of scheduling that might occur.

8 MR. DAN CAMPBELL: Hopefully.

9 MS. HELGA VAN IDERSTINE: And, Ms.
10 Musfelt, I think earlier today you mentioned something
11 about concern about BBE not having their schedule in.

12 MS. VALERIE MUSFELT: I don't remember
13 making that statement about them not having a schedule
14 in.

15 MS. HELGA VAN IDERSTINE: Sorry, the
16 schedule was negative float that they were to address?

17 MS. VALERIE MUSFELT: Yes, basically
18 the schedule that I was looking at which was dated the
19 6th of October, 2017, the BBE contract or BBE schedule
20 was showing one thousand and thirty (1,030) activities
21 that were showing negative float.

22 And those were a direct result of
23 fifteen (15) constraints that were within the
24 schedule. So that -- those fifteen (15) constraints
25 were causing the one thousand and thirty (1030)

1 negative float items.

2 MS. HELGA VAN IDERSTINE: And if that
3 -- if I were to tell you that by November of 2017 that
4 schedule had been addressed and there was no longer a
5 negative float would that --

6 MS. VALERIE MUSFELT: I never seen
7 that schedule so I can't comment as to that.

8 MS. HELGA VAN IDERSTINE: Okay but
9 that's sort of thing you'd expect them to be moving
10 forward with and doing and that would help resolve
11 some of the concerns you have?

12 MS. VALERIE MUSFELT: That is correct.

13 MS. HELGA VAN IDERSTINE: And, Ms.
14 Musfelt, in your -- on -- if I could get you to go to
15 slide 12 of your presentation. And in -- and this is
16 a presentation you have a graph that provides a
17 different timelines for the completion of Keeyask?

18 MS. VALERIE MUSFELT: Yes, this is the
19 Unit 7 turbine generator.

20 MS. HELGA VAN IDERSTINE: And in those
21 slides you have October 21st as the plan completion
22 date?

23 MS. VALERIE MUSFELT: Yes.

24 MS. HELGA VAN IDERSTINE: And January
25 20 -- 2022 as the BBE forecast completion date?

1 MS. VALERIE MUSFELT: I think that's
2 on the previous slide, the date. So there's two (2)
3 different things that this -- this particular slide
4 here is referring to just really the BBE schedule.
5 This one here is referring to the integrated master
6 schedule.

7 So what you're basically seeing here is
8 that as a result of BBE's slippage, it's ca -- when
9 they integrate the -- the Voith schedule into the
10 integrated master, their -- Voith is forecasting an
11 additional delay on Units 5 through 7 which is pushing
12 it out to the 28th of May as opposed to BBE's date of
13 January.

14 MS. HELGA VAN IDERSTINE: So if we go
15 back to the previous slide. Using that January 22nd -
16 - or January 2022 date that -- what you're suggesting
17 is that BBE is forecasting a delay --

18 MS. VALERIE MUSFELT: Of a hundred and
19 three (103) days, yes. So as of 6th of October, their
20 progress or their forecast schedule, which is the
21 schedule that shows progress on the project, they're
22 forecasting that they are now going to put Unit 7 in-
23 service on the 23rd of January, 2022.

24 MS. HELGA VAN IDERSTINE: And again,
25 appreciating that you don't have -- haven't seen their

1 updated schedule that may -- may change the
2 information that you would have?

3 MS. VALERIE MUSFELT: Absolutely.
4 Every -- every single progress update made to a
5 schedule is going to change the impact.

6 MS. HELGA VAN IDERSTINE: And if that
7 was the case then there'd be no negative floats and we
8 wouldn't have to worry about the -- the delay date
9 that you've identified?

10 MS. VALERIE MUSFELT: It's very -- I
11 can't comment without seeing what the schedule looks
12 like.

13

14 (BRIEF PAUSE)

15

16 MS. HELGA VAN IDERSTINE: And in
17 preparing those kind of -- that schedule, it would be
18 important and I think -- and if -- to include and --
19 and I'd think you'd agree, that the work being planned
20 use actual production rates for concrete and
21 earthworks to be achieved by BBE in 2016 and 2017?

22 MS. VALERIE MUSFELT: Yes. So it was
23 a -- a document provided by Manitoba Hydro, which
24 showed the actual productivity of BBE from the period
25 October 2016 to September 2017.

1 MS. HELGA VAN IDERSTINE: And then
2 using the -- the updated materials and information
3 that Manitoba Hydro has and BBE had, they would then
4 submit monthly targets for concrete and earthworks
5 consistent with the information they have going
6 forward?

7 MS. VALERIE MUSFELT: That is correct.

8 MS. HELGA VAN IDERSTINE: And that
9 could, again, rollback that -- that date closer to the
10 planned-in service dates?

11 MS. VALERIE MUSFELT: Well, there
12 again, a forecast date is exactly that, a forecast so
13 it's going to be based on them correctly forecasting
14 their productivity.

15 So if they're forecasting a higher
16 level of productivity than what they're actually
17 achieving then I -- I can't verify what the dates
18 would be.

19 MS. HELGA VAN IDERSTINE: And if they
20 included more time and -- for winter concrete work and
21 winter work on the south dike, for example, that would
22 tend to improve the forecasts?

23 MS. VALERIE MUSFELT: The -- the
24 winter concrete is -- is -- is an option to help bring
25 the schedule back in line. But winter concrete number

1 1 is typically less productive, and number 2, it's
2 extremely expensive.

3 MS. HELGA VAN IDERSTINE: Okay. And
4 if -- and if they were getting better productivity
5 rates using the -- as they move forward that too would
6 impact the schedule?

7 MS. VALERIE MUSFELT: I'm sorry, could
8 you repeat the question?

9 MS. HELGA VAN IDERSTINE: So if
10 they're getting better production rates that too would
11 impact the schedule?

12 MS. VALERIE MUSFELT: Definitely.

13 MS. HELGA VAN IDERSTINE: Again, some
14 of the other things that might help improve the
15 schedule and would be things like design changes that
16 Manitoba Hydro took on to improve cost and
17 performance; things such as investing in new forms
18 which are easier to use and then thus will shorten the
19 time required to install portions of the draft tube on
20 the remaining five (5) units.

21 MS. VALERIE MUSFELT: I think I would
22 defer that question to a subject matter expert.

23 MS. HELGA VAN IDERSTINE: Okay, Mr.
24 Campbell perhaps.

25 MR. DAN CAMPBELL: Making the draft

1 tubes easier to build is definitely going to improve
2 the schedule.

3 MS. HELGA VAN IDERSTINE: And how
4 about you -- they're going to use column extenders in
5 the powerhouse and intake to allow structural steel to
6 be installed at lower elevations; would that improve -
7 - that's an anticipated improvement on the schedule?

8 MR. DAN CAMPBELL: I can't comment on
9 that specifically. A general comment would be that
10 the schedule has to fundamentally make sense and the
11 integration of it together with the -- with the other
12 contractors and, particularly, Voith and in
13 specifically looking at the powerhouse, because
14 without referring back to the schedule, I'm suspecting
15 that the powerhouse is the critical path object and
16 that the dikes and the spillway are I presume --
17 there's hope that they'll be done on time, right.

18 MS. HELGA VAN IDERSTINE: So if I --
19 if I added to that comment and said that the reason
20 that -- by using the column extenders they're going to
21 have an opportunity to enclose the powerhouse and
22 service bay earlier and thereby improve the schedule
23 by a year on that item, that would obviously be
24 something that would improve and lead to better
25 outcomes?

1 MR. DAN CAMPBELL: The sooner you get
2 the powerhouse enclosed the better off you're going to
3 be.

4 MS. HELGA VAN IDERSTINE: And you
5 mentioned this dike work that was being -- needed to
6 be done. As I understand, they've had some supporting
7 design changes to -- on that to get the south dike
8 work done in 2018 so that it doesn't delay any project
9 -- any further -- the project any further.

10 Would that also assist in the final
11 scheduling and the costs?

12 MR. DAN CAMPBELL: It may or may not
13 impact the cost. I suspect the cost might go up but
14 that's my cynical view. The -- it -- it may improve
15 the schedule for that item which, if it's on the
16 critical path, would be of -- advantageous.

17 MS. HELGA VAN IDERSTINE: In any
18 event, these types of initiatives, this sort of
19 thought process that Manitoba Hydro has gone through
20 and the steps they're taking, are all the sort of
21 things that you would expect to improve the chances
22 for their having -- coming in on budget and on
23 schedule?

24 MR. DAN CAMPBELL: Is that a question
25 for me or for Campbell?

1 MS. HELGA VAN IDERSTINE: You'll do.

2 MR. DAN CAMPBELL: It's better than
3 some people say. Yes, all of the things that you've
4 mentioned are reasonable -- are proper things that
5 should be done.

6 MS. HELGA VAN IDERSTINE: So, Mr.
7 Adams, I am going to move on to another topic and what
8 I wanted to talk to you about is the 9.5 to 10.5
9 billion --

10 THE CHAIRPERSON: Ms. Van Iderstine,
11 I'm just wondering if it's appropriate to take a short
12 break at this time?

13 MS. HELGA VAN IDERSTINE: Perfect.

14 THE CHAIRPERSON: Great.

15 MS. HELGA VAN IDERSTINE: Thank you.

16 THE CHAIRPERSON: As soon as she said
17 "new topic" I -- fifteen (15) minutes.

18

19 --- Upon recessing at 2:42 p.m.

20 --- Upon resuming at 3:03 p.m.

21

22 THE CHAIRPERSON: Before we start, Ms.
23 Kapitany had a question.

24 THE VICE-CHAIRPERSON: So my question
25 is on this issue of negative float and I did read

1 about it in your report at page 43. And I must
2 confess, before that I didn't know what negative float
3 was, and I'm still not totally sure I know what it is.

4 But what I heard the discussion between
5 Ms. Van Iderstine and you was that in your report in
6 October you talked about a number of incidents of
7 negative float and some constraints that had caused
8 that. And that that was a real bottleneck or real
9 problem for the schedule.

10 MS. VALERIE MUSFELT: Yes.

11 THE VICE-CHAIRPERSON: Could you
12 expand on that a bit?

13 MS. VALERIE MUSFELT: Okay, the
14 definition of negative float is activities that are
15 extremely critical, but when you're looking at a P6
16 schedule, what causes negative float are constraints
17 on the schedule. So if you're putting constraints
18 into the schedule and those dates then aren't met,
19 now, you start getting into a negative float
20 situation.

21 So what it's really highlighting are
22 activities that -- that either have not met their -- a
23 scheduled or constrained dates or that will not in
24 future meet those scheduled or constrained dates.

25 So that's really what it's telling you.

1 So, it just means that these are all activities that
2 have missed the dates, the hard dates that have been
3 put into the schedule. So they're activities that
4 have slipped.

5 THE VICE-CHAIRPERSON: Okay. And so
6 you said when you reviewed the schedule in October,
7 October of 2017, there were these incidents of
8 negative float?

9 MS. VALERIE MUSFELT: That is correct.

10 THE VICE-CHAIRPERSON: And, Ms. Van
11 Iderstine, you said that in November of 2017 they were
12 gone but I didn't see that in either the Manitoba
13 Hydro rebuttal evidence. I didn't see it in the
14 direct evidence. So I'm just wondering where that has
15 come on the public record and what we should be making
16 of that.

17 MS. VALERIE MUSFELT: I've -- having
18 not seen the schedule, the last schedule that I seen
19 was stated 6th of October, so it is possible that in
20 their next update that they may have removed some of
21 the constraints that might have caused some of that
22 negative float, but I -- I can't really speak to it
23 because I haven't seen the schedule.

24 THE VICE-CHAIRPERSON: That would be a
25 good thing if that had happened.

1 MS. VALERIE MUSFELT: Yes, that would
2 be a good thing.

3 MS. HELGA VAN IDERSTINE: Yeah and I'm
4 informed, just to give some clarity to that, that an
5 undertaking was given with respect to the schedule and
6 when that schedule is like fully completed in terms of
7 ... in a form that can be provided, it will be
8 provided as part of the undertaking.

9 THE VICE-CHAIRPERSON: Okay. So then
10 that evidence will be on the --

11 MS. HELGA VAN IDERSTINE: Sorry, I've
12 switched microphones. It's a further away than I --
13 then the previous one, so. How's that?

14 So what I -- so what I just said was
15 that there was an undertaking given to produce the
16 schedule and it is just being completed now and is put
17 into a form that can be produced as the undertaking
18 and when that's done, it will be evidence in the
19 proceeding.

20 THE VICE-CHAIRPERSON: Okay, thank
21 you.

22 THE CHAIRPERSON: Thank you. Ms. Van
23 Iderstine, do you want to -- would you like to
24 continue? Yes, thank you.

25 MS. HELGA VAN IDERSTINE: So let me

1 know if I'm too close or too far to the microphone.

2 MS. VALERIE MUSFELT: One (1) of the -
3 - the things that I seen on the -- the integrated
4 master schedule is it's very hard the way it sits
5 right now because of the constraints, you can't see a
6 true critical path on the schedule.

7 So, for example, the integrated master
8 schedule is showing of -- I think it was -- the date
9 was the 23rd of May for unit 7 to come in service, but
10 the actual -- there's an activity that isn't happening
11 till September 1st, 2022. So what that means is
12 there's constraints in the schedule that you do not
13 allow you to see the correct critical path to start
14 with, and that's been -- you know, that's part of the
15 problem and then the negative float, all you're really
16 saying is that there are activities that have missed
17 the date that they -- when they were supposed to
18 happen.

19 THE VICE-CHAIRPERSON: Okay, I didn't
20 really get that so apologies, but you are talking then
21 about a schedule item for 2022, that could impact
22 something that's going to happen before that or after
23 that. And so, how does that relate to the whole
24 concept of negative float?

25 MS. VALERIE MUSFELT: Okay. I -- I've

1 been told it's called schedule mumbo-jumbo. Okay,
2 what causes negative float on a schedule are when
3 people put hard dates in. So rather than letting the
4 logic dictate when an activity is going to start and
5 finish, you're basically putting a date in and saying,
6 this is when it's going to happen.

7 So on the integrated master schedule
8 there are such dates in there. So, for example, the
9 unit 7 would go into service in May, but the last
10 activity on the schedule is not until September 2022,
11 which means there are several months in there that --
12 afloat. So you can't really tell what the finished --
13 or what the critical path is because as long as
14 there's float on the schedule, there is no critical
15 path.

16 And that's part of the problem when
17 you're talking about constraints is they lead to
18 negative float because if any of those dates are
19 missed. So if I say that I'm going to have an
20 activity that supposed to finish by, let's say, March,
21 2018, March 31st, 2018, if it does not finish on time
22 now it will have negative float.

23 So that's really what you're saying and
24 when you're working with a critical path method, which
25 is the scheduling method used by Manitoba Hydro, every

1 single activity really should be dictated by the
2 logic. So what has to happen before this activity and
3 what can't happen until this activity is finished.
4 When you put a whole bunch of fixed dates in their,
5 you're not seeing the true logic of the schedule, and
6 that's really what the negative float is pointing to
7 is that there's a lot of dates that have been put into
8 the schedule that are not necessarily being driven by
9 logic. They're just dates that have been put in
10 there. Does that help?

11 THE VICE-CHAIRPERSON: That's very
12 helpful. Thank you. And then I'm hoping when we see
13 the answer to this IR that that will provide the --
14 the other part of the picture. Thank you very much.

15 Sorry, an undertaking not an IR,
16 apologies.

17

18 CONTINUED BY MS. HELGA VAN IDERSTINE:

19 MS. HELGA VAN IDERSTINE: So, Mr. Adam
20 -- Mr. Adams, so I am going to just turn now I think I
21 had said to you before the break to your estimate of
22 9.5 to \$10.5 billion into -- as the Keeyask final
23 budget estimate.

24 And I understand from your evidence
25 this morning that that is something that is neither

1 fixed nor firm and not precise.

2 MR. CAMPBELL ADAMS: It's an order of
3 magnitude estimate.

4 MS. HELGA VAN IDERSTINE: Meaning what
5 I just referred to; not fixed, not firm, not precise?

6 MR. CAMPBELL ADAMS: If we were
7 building an estimate based on anticipated quantities
8 against fixed price unit rates then there would be
9 certainly more -- more precision in a cost
10 reimbursable price contract with the contractor who
11 has not performed as they have promised for two (2)
12 consecutive years, then there is a -- there's a wide
13 ban.

14 MS. HELGA VAN IDERSTINE: And those
15 numbers could go up and they could go down?

16 MR. CAMPBELL ADAMS: I -- I believe so
17 depending what actions are taken.

18 MS. HELGA VAN IDERSTINE: And looking
19 at your report -- and again, because you've used this
20 order of magnitude, is that why there's nothing in
21 your report that identifies any of the data or
22 analysis behind that 9.5 to 10.5 billion?

23 MR. CAMPBELL ADAMS: What are you
24 looking for by way of data?

25 MS. HELGA VAN IDERSTINE: Some

1 supporting information that would support the numbers
2 9.5 or 10.5?

3 MR. CAMPBELL ADAMS: The -- the
4 numbers are taken from the final report and then
5 summarize there to come up with the 9.9 billion and
6 then the range is either side of that.

7 MS. HELGA VAN IDERSTINE: And when you
8 say the 9.9 billion, that's the -- that's the Exhibit
9 4.1 from MGF that we put up this morning?

10 MR. CAMPBELL ADAMS: Correct.

11 MS. HELGA VAN IDERSTINE: And I'm
12 going to go through some of those components, but the
13 -- the data behind some of the information in those
14 components is that all in your report?

15 MR. CAMPBELL ADAMS: The methodology
16 is.

17 MS. HELGA VAN IDERSTINE: Well, we'll
18 go through that in a moment then. So you'd agree that
19 in order for Manitoba Hydro or the PUB to go forward
20 and understand these calculations and act on them, it
21 is important that they understand how those estimates
22 were achieved at?

23 MR. CAMPBELL ADAMS: Yes.

24 MS. HELGA VAN IDERSTINE: And then
25 again, understanding the methodology behind those

1 numbers that you're presenting?

2 MR. CAMPBELL ADAMS: Yes.

3 MS. HELGA VAN IDERSTINE: Now, you
4 understand that Manitoba Hydro has presented an 8.75 -
5 - or \$8.7 billion number, which they described as P50
6 and there's now on the record that a P90 number of
7 \$9.6 billion has been presented.

8 When you presented your 9.5 to 10.5,
9 are you using a P50 or a P90 number?

10 MR. CAMPBELL ADAMS: No. As I
11 mentioned earlier, we did not build up the estimate on
12 that basis.

13 MS. HELGA VAN IDERSTINE: And as I
14 understand it that what you would typically do -- or -
15 - in building up an estimate is you'd start at the
16 ground up and work your numbers up to a point?

17 MR. CAMPBELL ADAMS: Yes.

18 MS. HELGA VAN IDERSTINE: And that, as
19 you understand it, I would expect from the thousands
20 of documents you received from Manitoba Hydro is how
21 they developed their estimate?

22

23 (BRIEF PAUSE)

24

25 MR. CAMPBELL ADAMS: The way we built

1 up our -- our cost, our estimated project value was
2 based on information we received from Hydro.

3 I think that the difference is we
4 probably take a different view on the impact of the
5 poor productivity in contra to date.

6 MS. HELGA VAN IDERSTINE: But just in
7 terms of the way that one builds an estimate, you'd
8 agree that if Manitoba Hydro built it from the ground
9 up to getting a number and then they test that number
10 against probabilities, that would be a way of
11 identifying whether that number that they have is
12 accurate and reasonable?

13 MR. CAMPBELL ADAMS: The method
14 doesn't always result in an accurate and reasonable
15 estimate. The method you speak to, I can agree to but
16 it's how it's worked may come up -- may result in
17 different figures.

18 MS. HELGA VAN IDERSTINE: And after
19 Manitoba Hydro reaches their estimate, were you aware
20 that they both used their in-house expertise and then
21 they go to Validation Estimating to assist with the
22 contingency analysis?

23 MR. CAMPBELL ADAMS: We believe so.

24 MS. HELGA VAN IDERSTINE: And are you
25 familiar with the Validation Estimating and Mr. John

1 Holman?

2 MR. CAMPBELL ADAMS: MGF is, yes.

3 MS. HELGA VAN IDERSTINE: And I
4 noticed that it was Mr. Devereux who was nodding so is
5 that because your -- of your background with having
6 your AACE designation or certification, membership?

7 MR. RYAN DEVEREUX: Yes, and he is
8 very common in providing publications.

9 MS. HELGA VAN IDERSTINE: That's what
10 I was going to say, he's a very -- he's published
11 extensively.

12 MR. RYAN DEVEREUX: Correct.

13 MS. HELGA VAN IDERSTINE: An expert in
14 his field?

15 MR. RYAN DEVEREUX: Correct.

16 MS. HELGA VAN IDERSTINE: And as we've
17 heard evidence on this hearing, that P50 and P90 is a
18 way of expressing the likelihood of the budget as
19 presented being met.

20 Is that an accurate description of what
21 the P50 or P90 is?

22 MR. CAMPBELL ADAMS: Yes.

23 MS. HELGA VAN IDERSTINE: And it's
24 created by doing a Monte Carlo analysis meaning the
25 budget and the probability -- addressing the budget

1 and the probabilities of reaching that budget?

2 MR. CAMPBELL ADAMS: Yes. We're not
3 clear on the work that this fellow did. I don't know
4 if he build up the estimate or whether he was given
5 data and then just ran the Monte Carlo simulation.

6 MS. HELGA VAN IDERSTINE: But
7 certainly -- running the Monte Carlo simulation as
8 part of establishing the P50 or P90 bud -- budget
9 numbers?

10 MR. CAMPBELL ADAMS: As a -- as a
11 method, yes. As guaranteeing what the outcome will
12 be, no.

13 MS. HELGA VAN IDERSTINE: And as I
14 understand it, it's quite a complicated mathematical
15 analysis in which the probability of a number of
16 different scenarios are run against one another to
17 come up with an outcome?

18 MR. CAMPBELL ADAMS: That's the
19 definition.

20 MS. HELGA VAN IDERSTINE: And the
21 primary purpose is often to provide risk-based
22 confidence forecasts for the achievement of key
23 milestones, including the budget end milestone?

24 MR. CAMPBELL ADAMS: In my experience
25 it's to give a degree of confidence around what the

1 party team has developed as their estimate for a
2 contract or for a project.

3 MS. HELGA VAN IDERSTINE: And that's -
4 - as you said this morning, you did not do the Monte
5 Carlo analysis on your numbers?

6 MR. CAMPBELL ADAMS: Correct, we did
7 not.

8 MS. HELGA VAN IDERSTINE: So, looking
9 at the slide that's on the -- up on the monitors and
10 that's MGF-4.1. Is it fair to say that what you've
11 done is you've taken Manitoba Hydro's number for, as
12 you say, spent to December 2016, that's a path number
13 you got from Manitoba Hydro and then you've added what
14 their estimate is excluding contingency as the second
15 big number?

16

17 (BRIEF PAUSE)

18

19 MR. CAMPBELL ADAMS: What was your
20 question, sorry?

21 MS. HELGA VAN IDERSTINE: So you've
22 taken information that Manitoba Hydro has given you
23 and the first being what their costs to date or to
24 December 31st was, together with their estimate and
25 that's the first two (2) numbers in that chart that

1 you've presented.

2 MR. CAMPBELL ADAMS: Correct, yes.

3 MS. HELGA VAN IDERSTINE: And after
4 that the items from the -- are the -- between craft to
5 foreman down to interest and escalation, you've done
6 your own calculations on of some sort.

7 MR. CAMPBELL ADAMS: Yes, if you want
8 to go to our report we can discuss those.

9 MS. HELGA VAN IDERSTINE: Yep, well
10 come to that in a minute. And then you've added just
11 a 10 percent contingency to come up with the 9.85?

12 MR. CAMPBELL ADAMS: Yes.

13 MS. HELGA VAN IDERSTINE: And one (1_
14 of the areas that -- that you have in your report that
15 you talked about was GA&O.

16 Do you recall that?

17 MR. CAMPBELL ADAMS: Yes.

18 MS. HELGA VAN IDERSTINE: And GA&O is
19 included on a number of MGS finding within the Keeyask
20 section of your report, including, as I understand it,
21 craft to foreman ratio, the MR. LESLIE BRAND: -- the
22 trade and -- sorry, the increased use of overtime
23 hours, net BBE indirects, earthwork productivity, et
24 cetera; is that fair?

25 MR. CAMPBELL ADAMS: Yes.

1 MS. HELGA VAN IDERSTINE: And I think
2 you received and have reviewed the Amending Agreement
3 Number 7, that Manitoba Hydro has with BBE?

4 MR. CAMPBELL ADAMS: Yes.

5 MS. HELGA VAN IDERSTINE: And as part
6 of the incentive for BBE to perform the contract, the
7 GA&O is capped at their target price, meaning that
8 they'll not receive GA&O overpayments on costs beyond
9 their target price.

10 Do you recall that?

11 MR. CAMPBELL ADAMS: Yes.

12 MS. HELGA VAN IDERSTINE: And so what
13 that would mean is that GA&O would not be applied on
14 costs beyond the target price?

15 MR. CAMPBELL ADAMS: Sorry, could you
16 repeat that, please.

17 MS. HELGA VAN IDERSTINE: The GA&O
18 would not then be applied on costs that exceeded the
19 target price?

20 MR. CAMPBELL ADAMS: That is correct
21 and Hydro would just pay those costs above that
22 figure.

23 MS. HELGA VAN IDERSTINE: Yeah, just
24 to clarify, it's -- Hydro would just pay the actual
25 costs but not the GA&O above that number?

1 MR. CAMPBELL ADAMS: Correct, yes.

2 MS. HELGA VAN IDERSTINE: And so if we
3 look at the estimate that you've got here: craft to
4 foreman ratio, BBE indirects, earthworks, scaffolding
5 and crane costs, concrete productivity.

6 You'd already included the GA&O in the
7 numbers you presented?

8 MR. WILLIAM HAIGHT: I'm going to just
9 jump in here now and remind, Ms. Van Iderstine, what I
10 said about this document when it was introduced as --
11 as 4.1, and that was, was that it was the
12 understanding, Mr. Adams that he would be addressing
13 this in the CSI. He wasn't fully prepared to be
14 addressing it today. If there's going to be any
15 reference to this document, it should be to the
16 specific portions of the report from which this
17 document summarizes those portions.

18

19 CONTINUED BY MS. HELGA VAN IDERSTINE:

20 MS. HELGA VAN IDERSTINE: Okay. So --
21 but let's look at page -- if we can go to the MGF
22 report. That's MGF-2 at page 58 of the report or page
23 65 of -- on the PDF person.

24 And if you look there, just below the
25 order of magnitude of 91.6 million. Just roll it up

1 just a little bit further so we can see it.

2 Note the above figures include GA&O and
3 indirect costs.

4 MR. CAMPBELL ADAMS: Yes, we see that.

5 MS. HELGA VAN IDERSTINE: So when you
6 look back at your budget number of 91 mill -- sorry,
7 budget number for craft to foreman, you'd alr -- it
8 appears to us that you included -- had already
9 included the GA&O on that number on the 91 million, so
10 that once you -- once you exceed the target price,
11 GA&O should be deducted from it.

12 MR. CAMPBELL ADAMS: That is correct.
13 We -- we kept that figure in out of an abundance of
14 caution in case that didn't happen.

15 MS. HELGA VAN IDERSTINE: And you did
16 that the same with each of the other items on that
17 chart being, sorry, the indirect costs, earthworks,
18 productivity, scaffolding and crane and concrete
19 productivity direct costs?

20 MR. CAMPBELL ADAMS: Yes. So that --
21 that to us sets out the -- like the maximum exposure.
22 If you wanted to remove that, that figure, then that
23 would refine the 9.9, assuming there's no amending
24 agreement number something else in the future.

25 MS. HELGA VAN IDERSTINE: So it would

1 bring that 9.87 down further?

2 MR. CAMPBELL ADAMS: It would bring
3 the 9.8 down, yes.

4 MS. HELGA VAN IDERSTINE: Okay. Now
5 one (1) of the other items you've identified as cash,
6 the trade in cash discounts.

7 And I have to confess I don't quite
8 understand if -- from the way you've described trade
9 and cash discounts if Manitoba Hydro did what you're
10 suggesting shouldn't that be a negative number?

11 MR. KIERAN FLANAGAN: No, from the
12 point of that estimates are price on trade discount,
13 they're not priced on this price. So it's actually an
14 addition. Any competent contractor would do a
15 competitive tender based on trade a price -- sorry.

16 Any -- generally a contractor would do
17 his estimates based on trade price not list price. So
18 it would be after discounts. So this is actually an
19 additional cost to Manitoba Hydro.

20 MS. HELGA VAN IDERSTINE: Okay, I'm
21 sorry, I'm still not following. If Manitoba Hydro did
22 what you're suggesting and took the approximate 12
23 percent discount on trade.

24 MR. KIERAN FLANAGAN: Yes. But I'm
25 doing an estimate it's based on trade prices, not list

1 prices. So if you were paying at list price, you're
2 paying above what you should be on the estimate.

3 MS. HELGA VAN IDERSTINE: So this is
4 what you're saying that they're paying above by virtue
5 of the 12 percent additional that you're suggesting
6 they're paying?

7 MR. KIERAN FLANAGAN: Yeah, it would
8 be trade price in an estimate.

9 MS. HELGA VAN IDERSTINE: So just to
10 be clear, what you're talking about is that you are
11 suggesting that MGF -- that Manitoba Hydro could
12 negotiate with BBE that BBE should seek a 10 percent
13 trade discount with its suppliers and pass that on to
14 Manitoba Hydro?

15 MR. KIERAN FLANAGAN: I -- any
16 contractor would be getting trade prices. They
17 wouldn't be working off list prices.

18 MS. HELGA VAN IDERSTINE: Okay, fair
19 enough.

20 MR. KIERAN FLANAGAN: So it should
21 pass on to the client.

22 MS. HELGA VAN IDERSTINE: So it should
23 already be passed on to the client. And furt -- and
24 which if it's being done, then the additional 10
25 percent would be meaningless?

1 MR. KIERAN FLANAGAN: From the
2 hundreds of invoices we looked at we found one trade
3 discount.

4 MS. HELGA VAN IDERSTINE: Okay. So if
5 you look -- and if -- and are you aware that in the
6 contract that BBE has with Manitoba Hydro, they have
7 to solicit three (3) competitive bids for all
8 purchases over \$500,000?

9 MR. KIERAN FLANAGAN: Yes.

10 MS. HELGA VAN IDERSTINE: And so on
11 those items, after getting a competitive bid and low
12 bidder having been selected, what incentive would the
13 low bidder have to further discount their prices by 10
14 percent?

15 MR. KIERAN FLANAGAN: If that is done
16 most of the items that -- when we randomly checked the
17 invoices, 99 percent of them were under 500,000, even
18 more than 99 percentage.

19 MS. HELGA VAN IDERSTINE: Okay. The
20 number of -- the percentages of the invoices might be
21 under 500,000 but the total value of those is not?

22 MR. KIERAN FLANAGAN: Just to confirm
23 that this has been an issue with Manitoba Hydro as
24 well and you've been looking into it?

25 MS. HELGA VAN IDERSTINE: Pardon me?

1 MR. KIERAN FLANAGAN: Manitoba Hydro
2 have been looking into this issue as well and are
3 concerned about it.

4 MS. HELGA VAN IDERSTINE: And
5 appropriately addressing it?

6 MR. KIERAN FLANAGAN: I don't know
7 about that. They only recently started looking into
8 it and I think that was kickstarted by MGF.

9 MS. HELGA VAN IDERSTINE: So if we --
10 but if we left out the 12 percent or the 10 or 12
11 percent that you've now included for the -- for all
12 contracts, but we left it out -- left out the tendered
13 contracts, your number here of 74 million would drop?

14 MR. KIERAN FLANAGAN: In relation to
15 the discounts, is it?

16 MS. HELGA VAN IDERSTINE: Yes.

17 MR. KIERAN FLANAGAN: And I don't see
18 why it should drop because we haven't seen any
19 evidence of the discounts being past on to Manitoba
20 Hydro. And to be honest, we're being very
21 conservative. If you look at steel, it could be up to
22 30 percent discount.

23 MS. HELGA VAN IDERSTINE: And do you
24 have some data on that, Mr. Flanagan?

25 MR. KIERAN FLANAGAN: Experience.

1 I've -- electric work can go up to 50 percent
2 discount.

3 MS. HELGA VAN IDERSTINE: And you've
4 got --

5 MR. KIERAN FLANAGAN: It -- it depends
6 on if it's cable, if it's junction boxes, it depends.

7 MS. HELGA VAN IDERSTINE: And that was
8 built into your estimate how?

9 MR. KIERAN FLANAGAN: That was built
10 in -- we were being conservative at 10 percent.

11 MS. HELGA VAN IDERSTINE: Using your
12 experience, but no data?

13 MR. KIERAN FLANAGAN: Experience,
14 well, I think all of MGF's data is based on
15 experience.

16 MS. HELGA VAN IDERSTINE: So looking
17 at the craft-to-foreman ratio, you have estimated --
18 you've looked at and come to the conclusion that it's
19 essentially four (4) workers for every one (1)
20 foreman; is that correct?

21 MR. KIERAN FLANAGAN: Four (4) craft
22 for one (1) foreman, yes.

23 MS. HELGA VAN IDERSTINE: The other
24 way around, thanks. And what you seem to be
25 suggesting is that Keeyask has too many foreman for

1 the number of craft labourers?

2 MR. KIERAN FLANAGAN: Correct.

3 MS. HELGA VAN IDERSTINE: And this
4 would be something that would be appropriate for
5 Manitoba Hydro and desirable for them to be addressing
6 with the GC?

7 MR. KIERAN FLANAGAN: Once again it's
8 back to a good estimate. Would not be including. If
9 it was a unit price estimate or a lump sum, they'd be
10 far more craft to foreman. So, it's an overspend
11 that's being passed on to Hydro in relation to the
12 estimate.

13 MS. HELGA VAN IDERSTINE: Did you
14 review the Hatch report, Mr. Flanagan? That's the one
15 at the back of Manitoba Hydro -- which I think is 117,
16 the rebuttal?

17 MR. KIERAN FLANAGAN: Yes.

18 MS. HELGA VAN IDERSTINE: Did you have
19 a chance to review that?

20 MR. KIERAN FLANAGAN: I personally
21 didn't but the team have.

22 MS. HELGA VAN IDERSTINE: And did you
23 -- do you note this concern that if the con -- the
24 issue -- and if the issue is that supervision -- more
25 supervision was required in order to get better

1 productivity, that going to a lower foreman to craft
2 might be a detriment?

3 MR. KIERAN FLANAGAN: Sorry, could you
4 repeat that again, just we'll get it the right way
5 around.

6 MS. HELGA VAN IDERSTINE: If the root
7 cause turned out to be -- officially, you don't know
8 what the root cause of the productivity issue is, do
9 you?

10 MR. KIERAN FLANAGAN: It's obviously
11 being badly managed if the productivity isn't being
12 met.

13 MS. HELGA VAN IDERSTINE: So if the
14 root cause was that there needed to be more
15 supervision to the craft to foreman then reducing the
16 number of foreman is not going to --

17 MR. KIERAN FLANAGAN: I -- I disagree
18 because the -- under -- the directs the foreman,
19 foreman, by their nature, and especially in the
20 northern territories or northern sections of the
21 provinces and if they're call -- if they're being
22 called a foreman, they're not allowed to work the
23 tools and that's on the majority of jobs.

24 So your productivity is down by having
25 more foreman to craft than less foreman to craft.

1 MS. HELGA VAN IDERSTINE: And in --
2 we've talked about this before, as the site progresses
3 and as the concrete is being installed, you would
4 expect that there will be increases in productivity as
5 they -- the workers start to repeat activities.

6 MR. KIERAN FLANAGAN: That hasn't been
7 the case to date, though.

8 MS. HELGA VAN IDERSTINE: But as you
9 know, they are just moving from one type of -- of --
10 they're just in -- having just installed the initial
11 units now, and they're going to start completing the
12 further units from now on.

13 So that would be a repeatable task,
14 wouldn't it be?

15 MR. KIERAN FLANAGAN: Yeah, and you
16 would to see that there would be lessons learnt; if
17 the same crews were following through, if the same
18 supervision was following through but I'm -- we can
19 only base it on the trend today.

20 MS. HELGA VAN IDERSTINE: Okay and the
21 trend to date --

22 MR. KIERAN FLANAGAN: And sorry,
23 excuse me, we didn't into account in the -- in the
24 productivity the more intricate are coming -- are
25 coming up so we're being conservative on that as well.

1 MS. HELGA VAN IDERSTINE: And the
2 trend to date, as we've talked about, is that the --
3 there is going to be some repeatability of these units
4 as we move forward?

5 MR. KIERAN FLANAGAN: Correct, but
6 there's only seven (7) units on an unusual contract.

7 MS. HELGA VAN IDERSTINE: And if, in
8 fact, they obtain those increases in productivity,
9 that number would decrease?

10 MR. KIERAN FLANAGAN: We haven't taken
11 into account the more intricate work to be honest. I
12 think we've been conservative on it. We've been
13 conservative on the foreman where we've used 6:1 in
14 our adjustment where documents we've referred to would
15 be over 10:1.

16 MS. HELGA VAN IDERSTINE: And the
17 documents you referred to that would be?

18 MR. KIERAN FLANAGAN: That would be
19 Burntwood national agreement and the Alberta oper --
20 operating engineers. The operating engineers is 1:18.

21

22 (BRIEF PAUSE)

23

24 MS. HELGA VAN IDERSTINE: But if
25 Manitoba Hydro is able to mitigate that, that would

1 decrease that number?

2 MR. KIERAN FLANAGAN: I -- I -- to be
3 honest, I don't think so. It's going to -- it's going
4 to improve things for you, but it's -- this is what's
5 been happening to date.

6 I don't -- 6:1 is being conservative, I
7 suppose that's what I'm trying to say.

8 MS. HELGA VAN IDERSTINE: So if you
9 look over at the indirect costs.

10 MR. KIERAN FLANAGAN: Yes.

11 MS. HELGA VAN IDERSTINE: And you've
12 calculated a -- an increase in that, I take it --

13 MR. KIERAN FLANAGAN: Yeah, but I have
14 --

15 MS. HELGA VAN IDERSTINE: -- I
16 understand that to be?

17 MR. KIERAN FLANAGAN: If we go back to
18 the exhibit today.

19

20 (BRIEF PAUSE)

21

22 MR. KIERAN FLANAGAN: And yes, but
23 it's not a double up. We done a line item for indir -
24 - indirect costs, which, off the cuff, I think was
25 around the 300 million, then we allowed for the

1 indirect to be included in all of them items and
2 offset it, so that's the net increase on indirects.

3 MS. HELGA VAN IDERSTINE: And -- and
4 do I understand with indirects that those cost --
5 those are costs that are required to support the
6 direct work at the site, so including things like
7 temporary buildings, small tools, worker
8 transportation, that kind of thing?

9 MR. KIERAN FLANAGAN: Supervision as
10 well, yes.

11 MS. HELGA VAN IDERSTINE: Supervision,
12 yeah. And so for things like the temporary buildings,
13 like a carpentry shed that's been built, that kind of
14 thing, you build it once and you're not building it
15 another time?

16 MR. KIERAN FLANAGAN: Correct, but if
17 you look at it, it says from amendment 7, so they
18 would have been in place prior to amendment 7.

19 MS. HELGA VAN IDERSTINE: And so
20 having been in place, as I said, you're not repeating
21 some of those items?

22 MR. KIERAN FLANAGAN: But we haven't
23 taken them into account, things prior to amendment 7.

24 MS. HELGA VAN IDERSTINE: And as you
25 move forward on the contract, one (1) of the concerns

1 you've expressed, Mr. Adams, and a number of times is
2 the -- the importance of Manitoba Hydro having
3 appropriate supervision on these things?

4 MR. CAMPBELL ADAMS: Yes.

5 MS. HELGA VAN IDERSTINE: And were you
6 aware that in -- in 2017, Manitoba Hydro had an
7 indirect lead at -- at the site of -- who has almost
8 twenty (20) years of experience of project controls
9 and construction experience?

10 MR. CAMPBELL ADAMS: I -- I wasn't
11 personally aware of that.

12 MS. HELGA VAN IDERSTINE: And --

13 MR. CAMPBELL ADAMS: As I said
14 earlier, we're -- having a person doesn't guarantee
15 you're going to be successful. We can only react to
16 the -- to the contractor who has not promised --
17 hasn't delivered to the promises he's given Hydro.

18 MS. HELGA VAN IDERSTINE: And -- but
19 having somebody like that on site would be the sort of
20 positive steps that Manitoba Hydro could take to try
21 and ensure that they are addressing some of the costs
22 on site?

23 MR. CAMPBELL ADAMS: I believe if role
24 that person is to challenge the costs that are being
25 generated in indirect space, then yes. So if the

1 contractor's telling you, This is what I'm going to
2 do, these are indirect costs I will incur, if there's
3 a conversation around the -- the cost benefit of that,
4 or the need of that, then that -- that would be
5 appropriate.

6 MS. HELGA VAN IDERSTINE: And then
7 looking at scaffolding concrete earthworks project,
8 did they -- did you use a straight-line escalation for
9 calculating those numbers?

10 MR. KIERAN FLANAGAN: We done three
11 (3) exercise in working it out from three (3) kind of
12 industry standards, and then we put a tapering off
13 factor as the job would slow down, and to include for
14 upfront costs, but it's from amendment 7 as well.

15 MS. HELGA VAN IDERSTINE: I appreciate
16 --

17 MR. KIERAN FLANAGAN: And just --
18 sorry, just in relation to it, the majority costs, if
19 you look at -- I don't have the -- I think it was
20 October, we can check, 90 percent of the costs were
21 labour, not equipment.

22 MS. HELGA VAN IDERSTINE: Was that
23 scaffolding?

24 MR. KIERAN FLANAGAN: Scaffold and
25 crane.

1 MS. HELGA VAN IDERSTINE: And crane,
2 but about earthworks and concrete productivity?

3 MR. KIERAN FLANAGAN: Concrete
4 productivity? That's -- that's from amendment seven
5 as well.

6 MS. HELGA VAN IDERSTINE: And again,
7 did you use that number just to use a straight line,
8 continuing outwards?

9 MR. KIERAN FLANAGAN: We basically
10 used the information that we got from Manitoba Hydro,
11 which showed the accumulative to date. We didn't take
12 into account the further intricate work. We didn't
13 take into account the winter work that was planned
14 just before we produced the report. So as I say
15 again, in our opinion, that's probably conservative
16 too.

17 MS. HELGA VAN IDERSTINE: And if you
18 look at your report, can you show me where you address
19 the mitigation strategies that Manitoba Hydro has been
20 utilizing to try and bring these costs down?

21 MR. KIERAN FLANAGAN: I -- unless --
22 from recollection, I have -- I don't know if the
23 mitigative strategies are talked about it.

24 MR. CAMPBELL ADAMS: What are they?

25 MS. HELGA VAN IDERSTINE: No, I'm just

1 asking you if you addressed any mitigation strategies.

2 MR. WILLIAM HAIGHT: I think in
3 fairness to the witnesses -- in fairness to the
4 witnesses, this report was prepared in December. The
5 mitigation strategies that this Board has heard about
6 came out through the direct panel -- or through the
7 panel presentation by Manitoba Hydro's capital
8 project. The first we heard of that was last week, so
9 they've seen it in the transcripts, but that's it.

10

11 (BRIEF PAUSE)

12

13 CONTINUED BY MS. HELGA VAN IDERSTINE:

14 MS. HELGA VAN IDERSTINE: So I'm just
15 -- I appreciate that last comment by your counsel. So
16 as you know, Manitoba Hydro did give evidence this
17 past week, or a week or so ago, provided rebuttal
18 evidence in which they do describe some mitigation
19 strategies that they're implementing, and you have not
20 amended your report subsequently?

21 MR. WILLIAM HAIGHT: I -- I --

22

23 (BRIEF PAUSE)

24

25 MR. WILLIAM HAIGHT: Okay. I don't

1 think that's a fair question.

2

3 CONTINUED BY MS. HELGA VAN IDERSTINE:

4 MS. HELGA VAN IDERSTINE: So the
5 contingency that you've addressed in your report, now
6 that's based on -- you -- you've attributed a 10
7 percent number to that, and attributed it as 896
8 million.

9 Now, can you tell us why you chose 10
10 percent rather than, say, 5 percent, or 2 percent, or
11 12 percent?

12 MR. CAMPBELL ADAMS: Probably the best
13 guess that we have is we don't see the point -- I
14 don't know -- why we would lower it when we've got
15 such an unstable base upon which to predict the
16 future. We considered what those issues might be in
17 going forward, worsening productivity, more intricate
18 concrete to do, expensive interworking, possibly,
19 further claims by contractors who are delayed.

20 There could be re-work to be paid for.
21 Like Hydro, we don't know what the geotech will be
22 like under the site dam. So that -- that was the --
23 the sort of thought process we went through, and we --
24 we landed on 10 percent.

25

1 (BRIEF PAUSE)

2

3 MS. HELGA VAN IDERSTINE: So just to
4 understand that, the numbers that you've presented,
5 nine point eight-five (9.85), that number is, I think
6 in your words earlier, sort of an order of magnitude
7 number. You've picked nine point eight (9.8). And as
8 we've talked about, there are -- you've also included
9 in that contingency some issues surrounding
10 productivity. So if that contingency includes both
11 productivity there, and you've identified productivity
12 earlier, is that double counting that productivity?

13 MR. KIERAN FLANAGAN: It includes a
14 worsening productivity. We've taken the accumulative
15 to date. We haven't taken into productivity for
16 winter work. We haven't taken into productivity for
17 the more intricate -- the work that's going on is more
18 intricate, so obviously, there's a good chance
19 productivity will worsen. We've taken the
20 accumulative date, given the benefit of the doubt that
21 it won't worsen, but obviously in a contingency, we
22 have to take into account that it may worsen.

23 MR. CAMPBELL ADAMS: The other comment
24 I would make is -- was we're trying to come up with
25 the -- the best advice that we could. We -- we

1 shouldn't lose sight of the fact there's four (4)
2 years of this to run. There's plenty of opportunity
3 for other things to go awry, here. You're not within
4 the finish line. You're building a project in the
5 lower Nelson River in Northern Manitoba. That's not
6 easy. That's a fantastic undertaking. There's still
7 plenty of risks to -- to be managed and avoided,
8 hopefully.

9

10 (BRIEF PAUSE)

11

12 MS. HELGA VAN IDERSTINE: If you just
13 give me a second, I'm just going to look through my
14 notes for a moment, if I may.

15

16 (BRIEF PAUSE)

17

18 MS. HELGA VAN IDERSTINE: So just a --
19 a couple more questions if I may. Mr. -- Mr.
20 Campbell, you were asked by one (1) of my colleagues,
21 who is no longer here, about reporting back to the PUB
22 on progress. Do you recall that line of questioning?

23 MR. DAN CAMPBELL: Somewhat.

24 MS. HELGA VAN IDERSTINE: And you had
25 suggested that, I think, that Manitoba Hydro would be

1 the pers -- best situated to say what schedule points
2 it was appropriate to report on, because they would
3 know when they're getting to a -- a point which had a
4 valid report. I think that's the --

5 MR. DAN CAMPBELL: I think my -- my
6 intent was that the integrated schedule where it shows
7 some of the contractual dates between the civil
8 contractor in Voith, for example, or the spillway
9 gates contractor, plus the information or the -- the
10 start of the fills after the excavations of the --
11 have been completed, and the geotechnical issues, if
12 there are any, have been identified, are points where
13 it is easier to predict the future.

14 MS. HELGA VAN IDERSTINE: So using
15 that so it -- those -- that's those sort of examples,
16 and -- and thinking about the amount of work that is
17 required for you and all of your colleagues at the
18 table to put together sort of the information that
19 they've provided here, you would appreciate the amount
20 of interface and time that Manitoba Hydro employees
21 put into helping answer those questions to you. Is
22 that a fair -- there was a lot of -- a lot of
23 interface providing that answers and information to
24 you?

25 MR. CAMPBELL ADAMS: Yes.

1 MS. HELGA VAN IDERSTINE: A lot of
2 time that -- and effort by senior staff to try and
3 answer your questions?

4 MR. CAMPBELL ADAMS: Yes.

5 MS. HELGA VAN IDERSTINE: And staff
6 who were otherwise engaged at the time, trying to
7 monitor and continue the Keeyask build?

8 MR. CAMPBELL ADAMS: Correct, I agree
9 with that.

10 MS. HELGA VAN IDERSTINE: And so would
11 it be fair when you talk about that sched -- that Mr.
12 Campbell back -- the reporting, that what you're
13 talking about is not the type of hearing that we're
14 talking about here, but something that would be a
15 little bit more focused?

16 MR. DAN CAMPBELL: What I'm talking
17 about is that the integrated master schedule for the
18 whole project should be established or if it -- or
19 reestablished, I guess, and may it had -- maybe it has
20 been, or is being, right, and that some key points be
21 identified and a plan be put forward whereby those --
22 those are points where Manitoba Hydro and the
23 contractors sit down, and they go around and they make
24 sure that they -- everybody agrees what's going to
25 happen is reasonable and -- and coherent.

1 Now, whether that involves this group
2 of people, as a reviewer of the results of that, I'm
3 not at a point to -- I can't comment on it.

4 MS. HELGA VAN IDERSTINE: Thank you.
5 Oops, I may have pushed that a little further onto
6 than I intended just by the way I described it, but
7 what I was trying to get was that you weren't looking
8 at having -- suggesting that they should be having a
9 hearing every --

10 MR. DAN CAMPBELL: I believe the
11 proper response would be: God, no.

12 MS. HELGA VAN IDERSTINE: So just a --
13 it -- if I can finish off, we had talked about some of
14 the things that Manitoba Hydro's been doing to address
15 some of the issues, and it can be either of you, I
16 think, and fair to say that I think Manitoba Hydro
17 having meetings with the leads between Manitoba Hydro
18 and BBE to identify efficiencies and improvements
19 would be a good step to take?

20 MR. CAMPBELL ADAMS: Yeah -- yes --
21 the answer is yes to that. I -- I would have thought
22 in the -- this cost reimbursable price contract, that
23 should be an ongoing activity.

24 MS. HELGA VAN IDERSTINE: And the --
25 the more they can push that, and the better those --

1 that relationship is, then the chances are that they
2 can mitigate some of the expected costs?

3 MR. CAMPBELL ADAMS: Yes, I believe
4 that to be true.

5 MS. HELGA VAN IDERSTINE: Thank you.
6 Those are my questions.

7 THE CHAIRPERSON: Thank you. Mr.
8 Peters...?

9

10 CROSS-EXAMINATION BY MR. BOB PETERS:

11 MR. BOB PETERS: Yes. Thank you.

12 Let's stay with the exhibit MGF-4-1 that's on the
13 screen, please. And I'm going to start with one (1)
14 that -- that My Friend Ms. Van Iderstine dealt with,
15 and I -- I want to make sure the panel understands the
16 position of MGF.

17 We see on the second line item,
18 Manitoba Hydro's estimated cost to completion, there's
19 a \$3.5 billion number, correct?

20 MR. CAMPBELL ADAMS: Yes.

21 MR. BOB PETERS: Leave your microphone
22 on. Pull it close. We're -- we're good. That 3.5
23 billion includes the actual costs that Manitoba Hydro
24 is forecasting it's going to have to spend not just on
25 labour, but on equipment, materials, trucks, vehicles,

1 all of that?

2 MR. CAMPBELL ADAMS: That's our
3 understanding, yes.

4 MR. BOB PETERS: And then when I drop
5 down two (2) line items for trade and cash discounts,
6 I'm understanding MGF to be saying that Manitoba Hydro
7 has been leaving money on the table when it's buying -
8 - when BBE is buying the goods and services that it's
9 buying?

10 MR. KIERAN FLANAGAN: From the
11 evidence we've seen, it's not apparent that they're
12 getting trade discounts, because they're not shown on
13 invoices.

14 MR. BOB PETERS: Okay, your answer
15 was, you don't see the trade discounts on the
16 invoices?

17 MR. KIERAN FLANAGAN: So that -- that
18 would only lead us, I believe, on your average
19 invoice, it would be normal to see the trade discount
20 on the invoice, so.

21 MR. BOB PETERS: So -- so what's
22 included in the \$3.5 billion number doesn't contain --

23 MR. KIERAN FLANAGAN: Not --

24 MR. BOB PETERS: -- a trade discount,
25 is what you're suggesting?

1 MR. KIERAN FLANAGAN: No. Normally
2 when you do estimates, the difference between a list
3 price, which the average person off the street, if you
4 went into a builder provider, so you get the list
5 price. A contractor goes into a builder provider so
6 he'll get a trade price.

7 Sorry. The average person going to a
8 builder providers, you get a list price. If the -- a
9 contractor that has an ongoing relationship with them,
10 or a big project ahead, he'll get a trade price. That
11 could range from 10 percent up to 50 percent. And
12 when you're doing a competitive tender, you will
13 always inch -- include a trade price, not the list
14 price, otherwise it wouldn't be competitive.

15 MR. BOB PETERS: Do you know if BBE is
16 getting the trade discount?

17 MR. KIERAN FLANAGAN: I -- I've never
18 heard of a of a contractor not to.

19 MR. BOB PETERS: All right. So then
20 the suggestion is that if BBE is getting the trade
21 discount, it's not being passed on to Manitoba Hydro?

22 MR. KIERAN FLANAGAN: From the
23 evidence we've seen.

24 MR. BOB PETERS: And under the
25 agreement that's between Manitoba Hydro and BBE, who

1 was supposed to get the --

2 MR. KIERAN FLANAGAN: Trade discount --

3 MR. BOB PETERS: Trade discount?

4 MR. KIERAN FLANAGAN: Sorry. Sorry.

5 Apologies. Trade discounts, industry practice, it's
6 always passed on to the client. Cash discounts is
7 another thing. It's prompt payment. So if the
8 contractor pays a supplier within thirty (30) days, he
9 gets, on average, around a 2 percent discount. But
10 because in this scenario the contractor is getting
11 paid two (2) months in advance, it's being financed by
12 Manitoba Hydro, the cash discount should all be --
13 should also be passed on, because it's actual cost.

14 MR. BOB PETERS: So, Mr. Flanagan, if
15 those trade discounts are not included in the \$3.5
16 billion number, why should they be added in below
17 that?

18 MR. KIERAN FLANAGAN: No, what I'm
19 saying is that the three point five (3.5), if it's
20 estimated correctly, would allow for the discount, but
21 Manitoba Hydro is paying actual costs based on
22 invoices without trade discounts, so that means
23 they're overpaying over and above what the budget
24 would have been based on.

25 MR. BOB PETERS: All right. So you're

1 telling this Board that that \$3.5 billion number
2 should be lower by \$74 million?

3 MR. KIERAN FLANAGAN: No, no. I'm --
4 sorry, correct. Correct.

5 MR. BOB PETERS: While we're on this
6 exhibit MGF-4-1, and gentlemen, I -- I jumped right
7 in. In my excitement, I should have said at the
8 outset, as we've done, this is a public hearing today,
9 and so none of my questions are to elicit answers that
10 may contain confidential information. You're aware of
11 that?

12 MR. KIERAN FLANAGAN: Yes.

13 MR. BOB PETERS: And Ms. Musfelt,
14 likewise? And for Mr. Potter, Mr. Phillips, and Mr.
15 Brand on the phone, if at any time they believe that
16 they can answer and bring some additional information
17 to the Board's attention, they are certainly to
18 interrupt at any time. I'm hoping they're listening.

19 MR. KIERAN FLANAGAN: Mr. Peters, just
20 one (1) thing --

21 MR. LESLIE BRAND: Yes.

22 MR. JIM POTTER: Understood.

23 MR. DWAYNE PHILLIPS: We understand as
24 well, thank you.

25 MR. BOB PETERS: All right, and thank

1 you.

2

3 (BRIEF PAUSE)

4

5 MR. BOB PETERS: Mr. Brand, Mr.

6 Potter, and Mr. Phillips, in that order.

7 MR. KIERAN FLANAGAN: Mr. Peters, just

8 one (1) thing, if I can go back on, in relation to the

9 MH spent to date, that doesn't include -- the seventy-

10 four (74) isn't included in that, so there's probably

11 recovery money that could be got in the three point

12 zero-five (3.05) as well for trade and cash discounts.

13 MR. BOB PETERS: All right. In answer

14 to My Friend, you mentioned that this was something

15 that Manitoba Hydro was now investigating.

16 Did I hear that correctly?

17 MR. KIERAN FLANAGAN: That's what

18 we've been advised through meetings in Manitoba Hydro.

19 MR. BOB PETERS: So is it your

20 understanding that until MGF raised this, Manitoba

21 Hydro wasn't aware of this situation?

22 MR. KIERAN FLANAGAN: I can't say

23 that, to be honest. I'm -- it was through a

24 discussion that they were looking at it.

25 MR. BOB PETERS: So after you brought

1 it to Manitoba Hydro's attention, they're now looking
2 at it?

3 MR. KIERAN FLANAGAN: I couldn't say
4 that. They could have been looking at it prior.

5 MR. BOB PETERS: And as a result of
6 Manitoba Hydro's looking at it, have they reported to
7 MGF what, if anything, has happened?

8 MR. KIERAN FLANAGAN: No, just that
9 they were looking at those.

10 MR. BOB PETERS: All right. I want to
11 turn to the earthwork productivity line item, and that
12 brings in an additional \$88 million of projected costs
13 according to MGF, correct?

14 MR. KIERAN FLANAGAN: Correct.

15 MR. BOB PETERS: Help the panel -- the
16 Board understand that number that's 88 million over
17 and above what amending agreement number 7 would call
18 for, correct?

19 MR. KIERAN FLANAGAN: Correct, based
20 on the accumulative to date.

21 MR. BOB PETERS: So MGF has taken the
22 productivity of BBE on the earthworks, their actual
23 productivity, and determined that they're -- they're
24 going to be \$88 million over the budget that was set
25 out in amending agreement 7?

1 MR. KIERAN FLANAGAN: Correct.

2 MR. BOB PETERS: If Manitoba Hydro
3 take steps to -- to improve the earthwork
4 productivity, MGF will acknowledge that that \$88
5 million number will be less?

6 MR. KIERAN FLANAGAN: It's difficult
7 to say, because we believe because of winter programs
8 and more intricate work, it could rise, but we haven't
9 taken that into account. We've taken into account the
10 accumulative to date, and there's certainly mitigation
11 measures that could reduce it, but that eighty-eight
12 (88) could be a hundred. It could be seventy (70).

13 MR. BOB PETERS: All right. I think
14 you've answered my question in that answer, Mr.
15 Flanagan, but we're talking here earthworks, not
16 concrete, correct?

17 MR. KIERAN FLANAGAN: Sorry. Yes,
18 earthworks.

19 MR. BOB PETERS: All right. Is there
20 intricacies coming up on the earthwork schedule that -
21 - that'll give rise to greater risk?

22 MR. KIERAN FLANAGAN: Not that I'm
23 aware of, but that's -- the accumulative to date and
24 the trend is that it's been rising, not reducing.

25 MR. BOB PETERS: All right. And --

1 and that's probably a matter best left for our
2 discussions tomorrow?

3 MR. KIERAN FLANAGAN: Yeah, because
4 obviously, I can't get into the man hours and so on.

5 MR. BOB PETERS: That's -- that's
6 fair.

7 MR. DAN CAMPBELL: Excuse me. I made
8 -- I made some comments --

9 MR. BOB PETERS: Mr. Campbell --

10 MR. DAN CAMPBELL: -- sorry -- sorry
11 to interrupt. I made some comments earlier about the
12 earthworks, and how, as you got closer to the top, you
13 got to narrow zones, which were -- I'll use the word
14 more intricate. And so yes, there are some
15 intricacies as you reach the top of things. It's not
16 very much, as I said in my presentation earlier, but
17 there is -- there is opportunity to be less productive
18 coming forward.

19 MR. BOB PETERS: And, Mr. Campbell,
20 you attached a percentage number to that, did you not?

21 MR. DAN CAMPBELL: No, I did -- I
22 don't believe I did.

23 MR. BOB PETERS: All right.

24 MR. DAN CAMPBELL: I'd have to go back
25 and look in that, because it was done by Garry.

1 MR. BOB PETERS: The essence of that
2 comment, Mr. Campbell, was as you get to the top of
3 the earthen dike, or the earthen dam, it narrows at
4 the top. And I think it was 500 -- was it 500
5 millimetres wide at the top? Is that -- is that what
6 I recall?

7 MR. DAN CAMPBELL: Yes, some portions
8 of it. You can imagine that the -- the way the dams
9 are built, that there's a clay core in the middle, and
10 that there's different zones of filter of different
11 sizes of rock on each side. And as -- and there's --
12 obviously, it's wide at the bottom, because it's a
13 tapered structure.

14 And when you get to the top that taper
15 eventually goes to zero, more or less, it goes to 500
16 millimetres at the top for, I think, the core, so.
17 That's the -- intent of that. As you get up to how --
18 and becomes more difficult, because your trucks cannot
19 pass each other. You have to you -- there's -- so you
20 may have to use batter boards, or formwork,
21 effectively, to place the materials.

22 So there's the -- it does become more
23 intricate as you get closer to the top.

24 MR. BOB PETERS: But Mr. Campbell --

25 MR. DAN CAMPBELL: That was -- that

1 was only my -- that was my only point.

2 MR. BOB PETERS: No, you answered, so
3 let's stay -- let's keep talking. The contractor
4 knows of those intricacies that are forthcoming on the
5 earthworks, correct?

6 MR. DAN CAMPBELL: Yes.

7 MR. BOB PETERS: And so would you
8 expect the contractor would build that intricacy into
9 the contractor's productivity numbers?

10 MR. DAN CAMPBELL: He should build
11 that into his plan, yes.

12 MR. BOB PETERS: It's not a surprise
13 that comes out of the --

14 MR. DAN CAMPBELL: No.

15 MR. BOB PETERS: All right. Then I
16 want to turn with our friends from MGF and anybody
17 else who wants to offer comments, the concrete
18 productivity line item. You're telling the Board here
19 that based on what MGF has seen from the concrete
20 productivity, the actual productivity, it's going to
21 exceed the amending agreement number 7 by \$137
22 million?

23 MR. KIERAN FLANAGAN: Correct, based
24 on the accumulative to date, which is not a figure we
25 invented. It's -- it's reported.

1 MR. BOB PETERS: It's mathematically
2 derived based on actual performance --

3 MR. KIERAN FLANAGAN: Yeah, it's --
4 it's reported --

5 MR. BOB PETERS: -- today?

6 MR. KIERAN FLANAGAN: -- it's an
7 actual reported on the job.

8 MR. BOB PETERS: Reported by whom?

9 MR. KIERAN FLANAGAN: Reported by BBE
10 through Manitoba Hydro.

11 MR. BOB PETERS: And so what -- what
12 you're telling this Board is that if that concrete
13 productivity is exactly the same as what it has been
14 up until December 31st of 2017, it's going to add an
15 extra \$137 million of costs?

16 MR. KIERAN FLANAGAN: Yeah. I'd have
17 to go to the page in the report, but that was either
18 October or November of the report.

19 MR. BOB PETERS: Okay. Well, and that
20 was a question I actually had of you. When the Vice
21 Chair was asking questions of Ms. Musfelt, at what
22 point in time did Mani -- did MGF have to put down the
23 Manitoba Hydro information and start drafting the
24 report? You know, what -- what's the vintage of the
25 information that's in the MGF report?

1 MS. VAL MUSFELT: From a scheduling
2 perspective, the last set of schedules I had for
3 Keeyask was 6th of October, 2017.

4 MR. BOB PETERS: That's only part of
5 the answer. And so gentlemen, for the rest of the
6 report --

7 MR. KIERAN FLANAGAN: Yeah, the --

8 MR. BOB PETERS: Sorry, at what --
9 what day did -- did you stop adding new information
10 for Manitoba Hydro?

11 MR. KIERAN FLANAGAN: I suppose it's
12 not as simple as that, that a lot of the reports come
13 out between a month to a month and half after the
14 date, let's say. The -- so if you're working in -- on
15 a the report in November, you might be dealing with
16 information from October or prior, depending on when
17 the information was reported.

18 MR. BOB PETERS: And that's what I'm
19 trying to get at, is your report was in December, so
20 is it current to the 1st of December? Is it current
21 to the 15th of November?

22 MR. KIERAN FLANAGAN: It would be
23 closer to October.

24 MR. CAMPBELL ADAMS: Yeah, it -- we've
25 referenced in the final report that some data comes

1 from the -- a construction weekly report dated the 6th
2 of October, and also the construction reports for the
3 month of September, which were probably received, I
4 don't know, towards the -- the end of -- of October.
5 But by that time, you would had a -- pretty much a
6 full season of the amending agreement, going back over
7 the past twelve (12) months, so that -- that's a
8 source of the -- the data that we've used.

9 MR. BOB PETERS: You're telling the
10 Board, Mr. Adams, that you've used the data generated
11 under the amending agreement number 7 to forecast the
12 additional costs that are shown on MGF-4-1? On
13 Exhibit MGF-4-1, there's a -- there's a line item for
14 Voith and service contracts, and that's, I believe 46
15 additional million dol -- million dollars, correct?

16 MR. KIERAN FLANAGAN: Correct.

17 MR. BOB PETERS: And is it correct to
18 understand that these contracts haven't yet been
19 called into -- into play? They're not -- they're not
20 due to be performed yet?

21 MR. KIERAN FLANAGAN: They're not due
22 to be performed, but there's some claim and other
23 issues with Voith. I don't have the details in front
24 of me. And then because of extensions of time, the
25 likes of camp services for roads and so on will be

1 impacted, so that's the makeup of the 46 million.

2 MR. BOB PETERS: So the 46 million
3 reflects the delay that is being -- the delay claims
4 that are expected as a result of the general civil
5 contractor's being late on delivery of his project?

6 MR. KIERAN FLANAGAN: From...

7

8 (BRIEF PAUSE)

9

10 MR. KIERAN FLANAGAN: Yeah, the Voith
11 is based on a trend delay, and the -- the services are
12 based on an extension of time on the overall project.

13 MR. BOB PETERS: And if we can turn to
14 MGF-4 and look at the -- the scheduling history, this
15 \$46 million of delay claims on page -- unnumbered
16 slide 12, this \$46 million delay claim by Voith in the
17 service contracts is from which of these dates to
18 which of these dates on -- on the screen in front of
19 you?

20 MR. KIERAN FLANAGAN: The delay claim
21 with Voith, and I don't have the background here to --
22 but that's something that's documented. It's not in
23 relation to that schedule.

24 MR. BOB PETERS: But it's in relation
25 to Manitoba Hydro requiring the services of Voith at a

1 later point in time than initially planned?

2 MR. KIERAN FLANAGAN: Correct.

3 MR. BOB PETERS: And so how -- my --
4 my question -- and maybe it's not very well asked is:
5 What's the delay to Voith? How many months? How many
6 years?

7 MR. KIERAN FLANAGAN: I don't have the
8 data in front of me, to be honest, to answer that
9 question, but it's not in relation to them schedules.
10 That was a claim between Manitoba Hydro and Voith
11 themselves.

12

13 (BRIEF PAUSE)

14

15 MR. BOB PETERS: Manitoba Hydro has
16 suggested in their questioning to MGF that MGF is
17 starting to take, or has -- is taking steps to
18 mitigate the impact of the lack of productivity and
19 additional costs to Amending Agreement 7.

20 Are you generally aware of that?

21 MR. KIERAN FLANAGAN: We've been made
22 aware of it I think more so today than -- well, today.

23 MR. BOB PETERS: MGF hasn't assessed
24 the impact of those mitigation steps, have they?

25 MR. KIERAN FLANAGAN: We weren't aware

1 of it until today.

2 MR. DAN CAMPBELL: Excuse me again.

3 MR. BOB PETERS: Yes, Mr. Campbell...?

4 MR. DAN CAMPBELL: I don't know if I'm
5 allowed to actually say the number but I --

6 MR. BOB PETERS: Well, presume you're
7 not.

8 MR. DAN CAMPBELL: Okay.

9 MR. BOB PETERS: Presume you're not
10 and -- and maybe --

11 MR. DAN CAMPBELL: For the -- for the
12 --

13 MR. BOB PETERS: -- we can chat about
14 this in -- in the confidential in-camera session
15 tomorrow, if that's important --

16 MR. DAN CAMPBELL: Okay, my only point
17 --

18 MR. LESLIE BRAND: -- to you providing
19 information to the Board.

20 MR. DAN CAMPBELL: -- my only point
21 would be that a substantial number of the 49 million
22 that was being discussed a moment ago is a Voith
23 number which is directly related to the delay claim,
24 delay issue.

25 MR. BOB PETERS: All right and it's 46

1 million --

2 MR. DAN CAMPBELL: Sorry.

3 MR. BOB PETERS: -- if we go back to
4 Exhibit MGF-4-1?

5

6 (BRIEF PAUSE)

7

8 MR. BOB PETERS: Mr. Campbell, it's
9 the \$46 million number?

10 MR. DAN CAMPBELL: Yes.

11 MR. BOB PETERS: And the delay claim,
12 you're saying it's mostly related to the Voith
13 contract as opposed to the service contracts.

14 Is that what I'm supposed to
15 understand.

16 MR. KIERAN FLANAGAN: There's exposure
17 on a larger claim from them Voith but we -- that
18 figure is made up of approximately Voith 50 percent
19 and approximately services 50 percent.

20 MR. BOB PETERS: And can you remind
21 us, Mr. Campbell or Mr. Flanagan, what Voith were
22 doing or what services they were providing?

23 MR. DAN CAMPBELL: Voith is providing
24 the unit, so they're building the turbines and they're
25 also purchasing the generators and doing other

1 associated items, which actually generate the
2 electricity when it's all said and done.

3 MR. BOB PETERS: And, Mr. Campbell,
4 your understanding of their delay claim is that
5 they're charging Manitoba Hydro more money on account
6 of delivering the product -- the products later?

7 MR. DAN CAMPBELL: Yes.

8 MR. BOB PETERS: And does that take
9 into account then the -- the interest costs that Voith
10 may have had to incur to build these -- these
11 generators?

12 MR. DAN CAMPBELL: I don't know the
13 makeup -- of their of their claim, but I'm presuming
14 that some of it is cost of materials, some of it is
15 interest. Who knows. But they -- they asked for and
16 were given a substantial amount of money.

17 MR. BOB PETERS: Before I leave this
18 slide, just one (1) last question. Do you need a
19 minute, Mr. Flanagan?

20 MR. KIERAN FLANAGAN: No.

21 MR. BOB PETERS: We talked about the
22 concrete and the earthworks productivity. And related
23 to that, it's my understanding, from the evidence of
24 Manitoba Hydro, that after 2017, BBE is 20 percent
25 behind in concrete and 25 percent behind on the

1 earthworks.

2 Do you agree with those numbers?

3 MR. CAMPBELL ADAMS: Yes, that's
4 what's been -- that's what we've read in reports. Or
5 been advised.

6 MR. BOB PETERS: Has your
7 investigation been able to confirm that?

8

9 (BRIEF PAUSE)

10

11 MR. CAMPBELL ADAMS: We believe we
12 have because of the -- the productivity calculations
13 we've done.

14 MR. BOB PETERS: All right. And we're
15 also -- if you can accept that this hearing's been
16 told that BBE's productivity in 2018 will have to
17 improve in order for the Amending Agreement 7 targets
18 to be met on productivity and costs, correct?

19 MR. CAMPBELL ADAMS: I would agree,
20 yes.

21 MR. BOB PETERS: And I'm hearing from
22 MGF that, while that's the stated position, that the
23 productivity will have to perform, you've approached
24 it with your project estimated value that's on the
25 screen in front of us, on the assumption that

1 productivity does not improve?

2 MR. KIERAN FLANAGAN: No, we've based
3 it on a cumulative to date, so that it won't improve
4 from the cumulative to date, bef -- to be honest, we
5 believe there's a good chance that it may worsen.

6 MR. BOB PETERS: Okay. Well, let's --
7 let's jump to that then, Mr. Flanagan. Why does MGF
8 think that the productivity may worsen.

9 MR. KIERAN FLANAGAN: Because on the
10 concrete, for example, we have not taken into the
11 winter work coming up, because that was only planned
12 in late -- or sorry, I think it was past. I don't
13 know the exact date in late November.

14 So it wasn't something we could take
15 into account. And then more intricate work -- if it's
16 an cumulative to date, and the work is getting more
17 intricate, you would assume that the productivity is
18 going to worsen. And we can only base it on the trend
19 to date.

20 MR. BOB PETERS: But you acknowledge
21 that Manitoba Hydro is suggesting that some of this
22 intricate work that you've identified may be
23 efficiencies because it's repeatable, and that we're
24 going to have to do it more than once?

25 MR. KIERAN FLANAGAN: I cor -- I

1 agree. And there may be some offset, but we have to
2 understand there's only seven (7) units. It's not --
3 it's not you're doing a hundred story building and he
4 drywaller gets better as he goes up.

5 MR. DAN CAMPBELL: There's also been
6 some opportunities for efficiency gains in the less
7 intricate work to date, which may or may not have
8 occurred.

9 MR. BOB PETERS: Mr. Campbell, of what
10 -- what are you ref -- referencing?

11 MR. DAN CAMPBELL: If you look at the
12 -- at the mass concrete work to date, much of it is
13 repeatable. So presumably some of the efficiencies in
14 the crews, et cetera, have been noticed to date, so
15 then I don't -- I have -- should have occurred to
16 date. And I don't know if that's been reflected in
17 the productivity numbers that are being used to date
18 because I didn't analyze those. So, Mr. Flanagan,
19 might have a better answer on that.

20 MR. KIERAN FLANAGAN: Obviously, we
21 can't get into the -- the man-hours per cube, but the
22 figures we've used are accumulative to date, so they
23 would have taken into simpler concrete pours. What --
24 sorry, "simple" is probably the -- the wrong word, but
25 less complex.

1 MR. BOB PETERS: All right. Let's
2 turn to Manitoba Hydro's rebuttal evidence, page 2 of
3 Appendix A. And I'm sorry, I don't have the page of
4 the PDF. I believe it's the KPMG document.

5

6 (BRIEF PAUSE)

7

8 MR. BOB PETERS: And if we scroll to
9 the bottom of the page, the second last paragraph, in
10 the middle of that. The consulting firm of KPMG came
11 in -- and this is dated January 11th of 2018 -- had
12 given advice to Manitoba Hydro in response to the MGF
13 report, that, in respect of what's happened in the
14 past with BBE, there were essentially three (3)
15 options that Manitoba Hydro had, in terms of dealing
16 with BBE when the productivity wasn't met.

17 Are you aware that?

18

19 (BRIEF PAUSE)

20

21 MR. BOB PETERS: All right. And so --

22 MR. CAMPBELL ADAMS: Sorry, say it
23 again. Sorry.

24 MR. BOB PETERS: One (1) of the
25 options that Manitoba Hydro's consultant is giving

1 advice on, is that Manitoba Hydro could have the
2 descoped the work from BBE, which would mean, I
3 understand, to limit the amount of work that BBE does
4 going forward.

5 Is that what descoping means?

6 MR. CAMPBELL ADAMS: Yes, it's to
7 remove -- sorr -- sorry.

8

9 (BRIEF PAUSE)

10

11 MR. CAMPBELL ADAMS: Can I just
12 clarify. You're asking about the options that Hydro
13 considered in the quar -- end of Quarter 3/Quarter 4,
14 2016?

15 MR. BOB PETERS: You're correct.

16 MR. CAMPBELL ADAMS: Thank you. Yeah.

17 MR. BOB PETERS: And -- and this was -
18 - this was at a point in time when Manitoba Hydro
19 realized the productivity was a problem, correct?

20 MR. CAMPBELL ADAMS: Absolutely, yeah.

21 MR. BOB PETERS: And they'd actually
22 recognized that --

23 MR. CAMPBELL ADAMS: Well --

24 MR. BOB PETERS: -- long before that?

25 MR. CAMPBELL ADAMS: Yes.

1 MR. BOB PETERS: And at -- at this
2 time, one (1) of the options was to descope it, Mr.
3 Adams, and that was essentially to take portions of
4 the work away from BBE and give them to some other
5 contractor?

6 MR. CAMPBELL ADAMS: Yes.

7 MR. BOB PETERS: The other option --
8 or another option would have been to continue with BBE
9 under some form of a new arrangement?

10 MR. CAMPBELL ADAMS: Yes.

11 MR. BOB PETERS: And of course, that's
12 the option that has come to pass?

13 MR. CAMPBELL ADAMS: Yes.

14 MR. BOB PETERS: And a third option
15 would be to terminate the arrangement with BBE,
16 correct?

17 MR. CAMPBELL ADAMS: Yes.

18 MR. BOB PETERS: If we go to...

19

20 (BRIEF PAUSE)

21

22 MR. BOB PETERS: I suppose, slide 23
23 from MGF Exhibit 4 the -- of this morning...

24

25 (BRIEF PAUSE)

1 MR. BOB PETERS: And we look to see
2 whether the options to terminate BBE were seriously
3 examined by Manitoba Hydro.

4 First of all, maybe we could put up Tab
5 2 of Manitoba Hydro's application, page 45, and scroll
6 down to line 14.

7 This is Manitoba Hydro's application,
8 and they're telling the Board that BBE Hydro
9 Contractors LP -- I'm sorry, I've read it wrong again
10 -- BBE Hydro Constructors LP, or Limited Partnership,
11 was the successful general civil contractor, correct?

12 MR. CAMPBELL ADAMS: Yes.

13 MR. BOB PETERS: And you understand
14 that this limited partnership is a consortium between
15 Bechtel Canada, Barnard Canada, and EllisDon Civil
16 Limited?

17 MR. CAMPBELL ADAMS: Yes.

18 MR. BOB PETERS: Can you explain, and
19 perhaps, Mr. Campbell, you can provide some help to
20 the Board here, as to why do these construction
21 companies form a consortium to come in on a project
22 like Keeyask? You can answer too, Mr. Campbell -- or,
23 Mr. Adams, sorry.

24 MR. CAMPBELL ADAMS: Joint ventures
25 tend to come together because of the respective

1 strengths of the -- the parties to the joint venture,
2 or the skills that they have. That can be prior
3 working experience in that industrial sector. It
4 could be experience with the owner. Joint ventures
5 tend to be stronger when they've worked together
6 before and they're not doing it for the first time.

7 Each company has its own culture, ways
8 of doing things. I've seen some successful JVs. I've
9 also seen some that are quite difficult to -- to
10 manage.

11 MR. BOB PETERS: When you say "JVs"
12 you're -- you're saying that short form for joint
13 ventures, correct?

14 MR. CAMPBELL ADAMS: Yes, sorry, joint
15 --

16 MR. BOB PETERS: When --

17 MR. CAMPBELL ADAMS: -- ventures.

18 MR. BOB PETERS: When I say limited
19 partnerships, does that mean the same thing to you, or
20 do you know?

21 MR. CAMPBELL ADAMS: That's my
22 understanding, although we have not -- I don't we
23 reviewed the joint venture or the -- the agreement
24 between those three (3) parties making up BBE Hydro
25 Constructors LP.

1 MR. BOB PETERS: So you're not aware
2 that BBE Hydro Constructors GP Incorporated is the
3 general partner in the limited partnership? You --
4 you didn't go back to look at that?

5 MR. CAMPBELL ADAMS: Can you repeat
6 the question, please, Mr. Peter?

7 MR. BOB PETERS: Do you know who the -
8 - the general partner was in this limited partnership?

9 MR. CAMPBELL ADAMS: I don't believe I
10 do.

11 MR. BOB PETERS: Do you know whether
12 or not a performance bond was posted by BBE, in terms
13 of this contract with Manitoba Hydro?

14 MR. CAMPBELL ADAMS: I don't know the
15 answer to that.

16 MR. BOB PETERS: You're not aware of
17 any surety that was posted by BBE --

18 MR. CAMPBELL ADAMS: I don't believe -
19 - I don't believe we have reviewed that.

20 MR. BOB PETERS: In an earlier part of
21 the presentation, I believe it was MGF's view that if
22 the contractor wasn't delivering on its promises, one
23 (1) of the remedies was to sue the contractor

24 MR. CAMPBELL ADAMS: I think it was in
25 response from Mr. Grant and the panel, that if a

1 contractor, in a lump-sum price doesn't perform, what
2 do you do? Certainly being held to ransom, I don't
3 think is the appropriate way. You've a contract
4 between the parties, and that's what governs their
5 relationship, including performance, and remedies in
6 the event of nonperformance.

7 MR. BOB PETERS: Does that same answer
8 apply when it's a limited partnership like BBE Hydro
9 Constructors Limited Partnership?

10 MR. WILLIAM HAIGHT: I think you're
11 asking for a legal opinion, Mr. Peters. It's beyond
12 the scope of the MGF panel. While they have
13 experience in negotiating and viewing contracts,
14 that's a legal question and I don't think it's fair
15 for this panel.

16 MR. BOB PETERS: You're at a depth on
17 that, Mr. Haight, that I wasn't intending to go. So
18 let's -- let's not ask you for a -- we're not asking
19 for a legal opinion.

20

21 CONTINUED BY MR. BOB PETERS:

22 MR. BOB PETERS: But have you been
23 involved in situations under a limited partnership,
24 where the owner has terminated the arrangement and
25 sued the limited partner?

1 MR. CAMPBELL ADAMS: Not of a limited
2 partnership, no.

3

4 (BRIEF PAUSE)

5

6 MR. CAMPBELL ADAMS: If -- if I can
7 just add. The -- this partnership is the contracting
8 entity in the -- with -- with BBE and with Hydro.
9 They -- they share the risk of this nonperformance.
10 They -- they have to stand up to be accounted -- be
11 accountable for that.

12 MR. BOB PETERS: And I have your
13 point. And -- and Mr. Haight's going to put his hand
14 close to the microphone because even though BBE has to
15 stand up for the contract, Mr. Adams, do you know what
16 Limited Partnership?

17 MR. WILLIAM HAIGHT: I got -- you're
18 right, Mr. Peters. My hand is close to the mic. And
19 that's well beyond the scope of the work that MGF or
20 KCB.

21

22 (BRIEF PAUSE)

23

24 CONTINUED BY MR. BOB PETERS:

25 MR. BOB PETERS: At Board counsels'

1 book of documents, Volume VI, on page 43, I want to
2 turn to the -- the MGF response. And the part that's
3 not highlighted is where I want to go.

4 And it relates to a matter that you
5 were in discussion with Ms. Van Iderstine on. And one
6 (1) of the answers here is:

7 "MGF believes that a more hands-on
8 construction management approach is
9 required to improve BBE's
10 performance."

11 Do you see that?

12 MR. CAMPBELL ADAMS: Yes.

13 MR. BOB PETERS: And I want to -- I
14 just want to make sure this panel understands the
15 depth to which you say Manitoba Hydro should be more
16 hands-on on this particular project. Is it more than
17 just having these meetings with the leads for BBE on
18 the various projects?

19 MR. CAMPBELL ADAMS: Yes, I believe it
20 is.

21 MR. BOB PETERS: So -- so how --

22 MR. CAMPBELL ADAMS: You -- sorry, you
23 -- you can have meeting and you -- you work at a
24 certain altitude that you -- you hear but you don't
25 see, and you're not involved in finding better ways of

1 working. I don't know how long you sit back watching
2 a contractor underperform for you before you've got to
3 take some action.

4 MR. BOB PETERS: Well, when you say
5 that, Mr. Adams, what does that look like on the job
6 site? So does that mean that there's a Manitoba Hydro
7 worker with -- with a foreman from BBE as the craft
8 labour is performing its job?

9 MR. CAMPBELL ADAMS: I -- I think, to
10 me, it -- it looks like: We've been doing this for
11 however long, you consistently don't deliver your
12 promises. That might suggest that there's issues
13 around how you plan, manage, and execute the works.
14 It's cost reimbursable. You're spending my money.
15 What do we need to do to address this? Help us
16 understand what are you struggling with. If you're
17 planning to do it this way, but you end up doing it
18 this way and it's not working, and it's costing more
19 time, more money, why is it? Is this the best that's
20 going to be achieved? And if that's the case, then we
21 need to re-look at schedule and cost. Are there ways
22 that we can get you back to where you want to be as
23 our contractor and perform as promised?

24 MR. BOB PETERS: What I hear you
25 telling the Board is that Hydro should be giving more

1 guidance and instruction.

2 If it -- is that what I hear?

3 MR. CAMPBELL ADAMS: I wouldn't say it
4 like that. It's -- it's about the cost reimbursable
5 pricing mechanism. You have a contractor spending
6 your money, it's not going well, that needs to be
7 arrested. So let's get involved in understanding why
8 you're not performing to how you promised.

9 There -- there was a -- I got to be
10 careful what I say -- but that there was an assumption
11 in the -- I wouldn't call it even a tender -- but the
12 -- the original target price of what productivity was.
13 That was over -- overly optimistic.

14 You run into 2016, and it's not
15 working. And Hydro stepped in, did the amending
16 agreement. Let's restart, let's rethink. You go into
17 2017, and we find that -- that's not being met.

18 I wouldn't say it's about telling the
19 contractor what to do. It's about understanding what
20 are their challenges and how can we help them get it
21 better. They've got to perform it.

22 MR. BOB PETERS: And what's the
23 contractor's motivation for even listening to Manitoba
24 Hydro provide that advice?

25 MR. CAMPBELL ADAMS: Well, I don't

1 know: reputation, loss of their profit. They're not
2 at risk for cost, that's, in our view, a weakness.

3 MR. BOB PETERS: Yeah. From a cost
4 perspective, their actual costs are going to be
5 reimbursed by Manitoba Hydro?

6 MR. CAMPBELL ADAMS: Yeah.

7 MR. BOB PETERS: And only when
8 Manitoba Hydro encroaches on the target price is the
9 profit at risk for -- the for the contractor, correct?

10 MR. CAMPBELL ADAMS: Correct.

11 MR. BOB PETERS: So -- so back to my
12 question. Is it the contractor's reputation that's
13 what's -- what -- what is motivating the contractor to
14 pay attention to advice for Manitoba Hydro?

15 MR. CAMPBELL ADAMS: I think that most
16 contractors are aware of their reputation in the
17 marketplace. I'm sure they -- they want to do a good
18 job. But reputations take long years to build and a
19 few years to lose.

20 MR. BOB PETERS: But BBE Hydro
21 Constructors Limited Partnership hasn't done previous
22 Hydro projects, has it?

23 MR. CAMPBELL ADAMS: I would -- I
24 would be referring to the constituent members of that
25 limited partnership who would take pride in what they

1 do.

2 MR. BOB PETERS: All right. On page
3 48 of Board counsels' book of documents, Volume VI, we
4 see in the paragraph underneath the bullets at the
5 top:

6 "Unless and until Manitoba Hydro
7 adopts a hands-on role of
8 construction manager for the general
9 civil contract, the time for
10 completion of this contract and the
11 Keeyask Generating Station Project
12 generally will take longer."

13 That's in your report?

14 MR. CAMPBELL ADAMS: Yeah.

15 MR. BOB PETERS: We're back to the
16 hands-on comment again. But here it's "hands-on role
17 of construction manager."

18 Is it construction manager or is it
19 contract manager that we're -- we're focusing on?

20 MR. KIERAN FLANAGAN: What we're
21 inferring there is not for them to be the contract
22 construction manager that -- which is the role of the
23 GCC. We're saying they need to act more like a
24 construction manager, collaborate and get involved
25 with the GCC, and come up with ways to improve.

1 And get people on site -- and I'm --
2 I'm not saying they don't have people on site, but
3 maybe get more people on site that come from a craft
4 background, that they work methods. And if the GCC is
5 doing it one (1) way, suggest another way that may
6 improve. And there's no reason why you shouldn't buy
7 into another way, if it can improve productivity.

8 MR. BOB PETERS: Did MGF see any
9 evidence that Manitoba Hydro was doing that in 2016?

10 MR. KIERAN FLANAGAN: Yes.

11 MR. BOB PETERS: Did MGF see any
12 results from those efforts by Manitoba Hydro in 2016?

13 MR. KIERAN FLANAGAN: We weren't on
14 the job in 2016.

15 MR. BOB PETERS: Then my -- my second
16 last question to you, Mr. Flanagan, was -- I asked
17 whether you -- MGF had seen Manitoba Hydro trying to
18 do those hands-on approaches that you've talked about
19 in 2016?

20 MR. KIERAN FLANAGAN: We believe, from
21 our site visit and discussions with people, that
22 issues still exist.

23 MR. BOB PETERS: Okay. You're going
24 to have to help this Board understand a bit more.

25 You're saying that whatever efforts

1 Manitoba Hydro had made, they weren't bearing the
2 fruit that was expected?

3 MR. KIERAN FLANAGAN: Well, It's all
4 in the -- it's all in the figures. Since the amending
5 agreement, the new man-hours per cube of earthworks or
6 concrete, it's dis-improving; it's not improving. So
7 while we use an example in the report, it's -- it's
8 all in the matter. It's still ongoing.

9 So you get -- productivity is based on
10 methods of doing work, and if -- if it's still isn't
11 proving, well, I don't know what to say. It's the --
12 the interaction isn't -- if -- if there isn't improved
13 interaction, it's not helping.

14 MR. BOB PETERS: All right. So, MGF
15 is saying that you -- you accept that Manitoba Hydro
16 is intent -- is attempting to take steps to motivate
17 the contractor to be more productive? Does --

18 MR. KIERAN FLANAGAN: We've heard --
19 we've heard there's mitigation factors today. I can
20 only take that on board as true.

21 MR. BOB PETERS: And then what you say
22 in response is that the numbers don't bear that
23 there's been an increase in improvement in
24 productivity?

25 MR. KIERAN FLANAGAN: Correct.

1 MR. BOB PETERS: On page 49 of Board
2 counsels' document, MGF introduces a different word in
3 the paragraph. It says:

4 "Unless Manitoba Hydro is prepared
5 to make a step-change in the
6 management of the general civil
7 contract, then it will continue to
8 limp along, and it could result in a
9 range of 9.5 to 10.5 billion."

10 Correct? Did I --

11 MR. CAMPBELL ADAMS: Yes, that's,
12 correct.

13 MR. BOB PETERS: And when you say "a
14 step-change," is that anything different than what
15 you've told me about the hands-on comment?

16 MR. CAMPBELL ADAMS: I think that's a
17 component of it, Mr. Peters. If things continue the
18 way they are, then this is going to cost more than 8.7
19 billion. Year after year of not meeting targets is
20 not going to end up in a good place.

21 MR. BOB PETERS: Does Manitoba Hydro
22 expose itself to risk by doing what you're suggesting,
23 in terms of trying to assist BBE in doing its job?

24 MR. KIERAN FLANAGAN: I don't believe
25 so if it's collaborative, and whatever suggestions

1 made are -- well, whatever suggestion is made, that
2 they buy into it.

3 MR. BOB PETERS: All right. On
4 Manitoba Hydro's rebuttal, page -- sorry, Manitoba
5 Hydro Exhibit 117, and this is on page 4 of the KPMG
6 letter, which is Appendix A to the evidence, and at
7 the -- below the bullets, there's a paragraph that
8 starts -- and I'll just let you read that paragraph,
9 if you could.

10 MR. CAMPBELL ADAMS: Is it the one,
11 "commencing ongoing monitoring"?

12 MR. BOB PETERS: Correct.

13 MR. CAMPBELL ADAMS: Thank you.

14

15 (BRIEF PAUSE)

16

17 MR. BOB PETERS: You've had a chance
18 to read it?

19 MR. KIERAN FLANAGAN: Yes, but it
20 needs to be weighed up, that's -- it's trending that
21 it's going to cost a lot more than the amended
22 agreement. It -- so much needs to be take -- taken.
23 You can't just stand back and let it trend the way
24 it's going.

25 MR. BOB PETERS: No, but the -- the

1 essence of this -- I'm going to assure Mr. Haight for
2 the third time that I'm not seeking a legal opinion --
3 but the suggestion here, from Manitoba Hydro's
4 consultant, is that if Manitoba Hydro gets aggressive
5 in the direct construction management, it could be
6 opening itself up to legal claims from BBE?

7 Do you, first of all, see that's --

8 MR. CAMPBELL ADAMS: On -- on what
9 grounds?

10 MR. BOB PETERS: Do you see that's
11 being said?

12 MR. CAMPBELL ADAMS: Yes, but what are
13 the grounds for that?

14 MR. BOB PETERS: Well, I can tell you
15 what -- what's written here, is they say that that may
16 be frustrating the contract as between Manitoba Hydro
17 and BBE.

18

19 (BRIEF PAUSE)

20

21 MR. BOB PETERS: Do you accept that's
22 -- that's a risk Manitoba Hydro has to be aware of?

23 MR. CAMPBELL ADAMS: Yes, I think that
24 is a risk they need to be aware of. It's an extreme
25 one, but I think it's a risk, yes.

1 MR. BOB PETERS: And so how does
2 Manitoba Hydro ensure they don't cross that line?

3 MR. CAMPBELL ADAMS: I think that's
4 part of the collaboration with BBE that needs to be
5 had to help them raise their game. If -- if the works
6 were slowed done, I guess I'd have to figure out what
7 are those activities or decisions that would frustrate
8 the BBE consortium.

9 But the flipside is, if you don't do
10 anything, and you continue down the path that they've
11 been on for the last two (2) years, then where will
12 that take you?

13 MR. BOB PETERS: On page -- sorry, on
14 Board -- sorry, on MGF -- Exhibit MGF 2-1 -- or
15 maybe even 2(r). It's the report. On page 70, the
16 last paragraph...

17

18 (BRIEF PAUSE)

19

20 MR. BOB PETERS: BBE -- sorry, MGF is
21 telling this Board that Manitoba Hydro should not
22 accept inconsistent, inaccurate, and unreliable
23 reporting from BBE, correct? So how does -- how does
24 Manitoba Hydro change that?

25 Did -- did you follow where I am, Mr.

1 Adams?

2 MR. CAMPBELL ADAMS: Yes, Mr. Peters.

3 It -- if -- if your contractor is not complying with
4 the contract that you have signed with them, you have
5 the -- the right to have that correct. If there's
6 inaccuracies in the information they provide, that
7 should be corrected.

8 Owners needs solid information with
9 which to understand where they stand today, and to
10 make decisions going forward. I -- I don't think it's
11 too much to ask that contractors get their reporting
12 accurate.

13 MR. BOB PETERS: So that's a voluntary
14 compliance then by BBE to meet that standard?

15 MR. CAMPBELL ADAMS: No, I think it
16 would be a contractual one.

17 MR. BOB PETERS: And how does Manitoba
18 Hydro enforce that?

19 MR. BOB PETERS: They point to the
20 contract and say, You've got a report -- there's a
21 section in the contract about monthly reporting, what
22 must be in there?

23 If they're not getting that, you
24 politely say, Here's the -- the section in the
25 contract, this is not in compliance with that, can you

1 kindly please redo it.

2 MR. BOB PETERS: Okay. And take it a
3 step further and BBE doesn't redo it, what happens
4 next?

5 MR. CAMPBELL ADAMS: I wouldn't pay
6 them for their people. It's cost reimbursable. We're
7 paying for a team of 'X' to give me something you
8 don't want.

9 MR. BOB PETERS: Is it MGF's view that
10 Manitoba Hydro is not taking advantage of all of its
11 powers under the Amending Agreement 7?

12 MR. CAMPBELL ADAMS: I think that we
13 have seen instances where BBE is not complying with
14 the requirements, its obligations under the contract,
15 and that -- that continues or has continued for a
16 period of time. Negative float is one. The other one
17 that was shared with us was the monthly report always
18 coming in at least seven (7) days after the due date
19 in the contract.

20 They're -- they're small examples, but
21 I would say they're symptomatic of a bit bigger issue.

22 MR. BOB PETERS: All right. Let's
23 turn to contract types for a few minutes.

24 Maybe, Mr. Chair, we could to take a
25 short break.

1 THE CHAIRPERSON: We'll take -- we'll
2 take a break until ten (10) to 5:00. Thank you.

3 MR. BOB PETERS: Thank you.

4

5 --- Upon recessing at 4:38 p.m.

6 --- Upon resuming at 4:53 p.m.

7

8 THE CHAIRPERSON: Mr. Peters...?

9

10 CONTINUED BY MR. BOB PETERS:

11 MR. BOB PETERS: Yes, thank you. I'd
12 like to start at page 54 of Board counsels' book of
13 documents, volume 6, Exhibit 42-6 and on page 54, I'm
14 going to the off-cited quote:

15 "In construction time is money; in
16 traditional fixed contracts time is
17 the contractor's money; and in cost
18 reimbursable contracts time is the
19 owner's money."

20 That's a long-standing saying in the
21 construction industry, is it?

22 MR. CAMPBELL ADAMS: Yeah, pretty
23 much.

24 MR. BOB PETERS: Mr. Campbell, you're
25 aware of that?

1 MR. DAN CAMPBELL: I'm going to agree
2 with him pretty much.

3 MR. BOB PETERS: And, Mr. Adams, we've
4 had a little discussion about cost reimbursable
5 contracts and is it correct that the essence of that
6 is, whatever cost is incurred by the contractor is
7 paid to the contractor?

8 MR. CAMPBELL ADAMS: Correct.

9 MR. BOB PETERS: Now Manitoba Hydro
10 has said that theirs is not a pure cost reimbursable
11 contract because they have introduced a target price
12 component.

13 Are you aware of that?

14 MR. CAMPBELL ADAMS: I am.

15 MR. BOB PETERS: Does the target price
16 component change the essence of the contract to
17 something other than a cost reimbursable contract?

18 MR. CAMPBELL ADAMS: No.

19 MR. BOB PETERS: Can you explain why
20 you say that?

21 MR. CAMPBELL ADAMS: A cost
22 reimbursable component, as you've said, the contractor
23 gets paid for its cost of performing the work; that is
24 not necessarily coupled with a target price. A target
25 price is a -- it's a target. It's a goal. It's

1 something to attempt to achieve. But it does -- it
2 does not put a cap on the costs that the owner would
3 pay to the contractor in a cost reimbursable basis.

4 MR. BOB PETERS: So the target price
5 is introduced by Manitoba Hydro to incent the
6 contractor not to exceed the target price?

7 MR. CAMPBELL ADAMS: I believe that's
8 the intent because if the contractor exceeds the
9 target price, then it loses its profit and the GN&O as
10 opposed to other targets where some owners insist that
11 if the contractor who typically represents and
12 warrants that its estimated price is sufficient for
13 the work, if they go above that ceiling, then the
14 contractor can bear some of that cost overrun.

15 MR. BOB PETERS: I'm sorry, I didn't -
16 - I didn't follow that last answer, Mr. Adams.

17 MR. CAMPBELL ADAMS: On some cost
18 reimbursable price contracts, the owners introduce of
19 where you've got the target or the -- the -- the
20 target price. If the actual cost goes above that, the
21 contractor will share in the cost overrun.

22 So if the contract -- if the target
23 price is 100 and the eventual cost is 110, the owner
24 and the contractor will share in the paying of the \$10
25 in whatever proportion they decide.

1 MR. BOB PETERS: And you understand,
2 in this arrangement, there is some sharing of the pain
3 up until a certain level?

4 MR. CAMPBELL ADAMS: Not -- not on
5 cost, there isn't. But on losing profit, yes, and in
6 losing the GN&O, yes.

7 MR. BOB PETERS: Let's turn to --

8 THE CHAIRPERSON: Sorry, Mr. Peters,
9 can I just --

10 MR. BOB PETERS: Yes.

11 THE CHAIRPERSON: -- can I ask a
12 question?

13 MR. BOB PETERS: Please.

14 THE CHAIRPERSON: Mr. Adams, these are
15 categories of contracts, correct? The fixed-price,
16 lump-sum, unit price and cost reimbursable, these --
17 these are just broad descriptions for contracts.

18 MR. CAMPBELL ADAMS: These are pricing
19 mechanisms, Mr. Gabor.

20 THE CHAIRPERSON: Right but in terms
21 of the contract and you can have varieties within the
22 contract, you actually have to look at the specific
23 terms in the contract?

24 MR. CAMPBELL ADAMS: Yes because they
25 will vary from contract to contract from owner to

1 owner and from contractor to contractor.

2 THE CHAIRPERSON: Right. So the
3 rights and obligations, while you may have a unit
4 price contractor it's described that way, going from
5 contract to contract, you need to look exactly at what
6 the terms are in that contract because somebody may
7 call a contract a unit price contract and another
8 contract, may call it a units price contract, but
9 depending on what the specific terms are in the
10 contract may actually be different --

11 MR. CAMPBELL ADAMS: That's -- that's
12 correct.

13 THE CHAIRPERSON: -- concepts. Thank
14 you.

15

16 CONTINUED BY MR. BOB PETERS:

17 MR. BOB PETERS: I'm going to ask that
18 Manitoba Hydro's Exhibit 120, which was the slidedeck
19 from Manitoba Hydro's witnesses and slide 31 be
20 brought up, if it could.

21 Mr. Adams, in your discussions just a
22 minute ago with the Chairman, you talked about the
23 different types of contracts. This slide from
24 Manitoba Hydro suggests that different types of
25 contracts were used for different contractors on the

1 job site at Keeyask?

2 Are you aware of that?

3 MR. CAMPBELL ADAMS: I see it, yes.

4 MR. BOB PETERS: In some of these
5 situations, and I'm going to take camp operations
6 services as an example. Was it your evidence today
7 that that's appropriate that that be a cost
8 reimbursable contract?

9 MR. CAMPBELL ADAMS: That's correct.

10 MR. BOB PETERS: Why is that
11 appropriate for that to be a cost reimbursable
12 contract?

13 MR. CAMPBELL ADAMS: One (1) of the
14 defining conditions about -- around pricing is the
15 level of definition or finalization of -- of what the
16 contract is intended to procure. If you have a house
17 and it's fully designed, you can get that in a lump-
18 sum because it's fully designed. The camp operations
19 would be -- would have variability in the number of
20 people, for example, staying on the camp. So you
21 wouldn't get that as a lump-sum because you don't know
22 who is staying when.

23 So it's more appropriate to have that
24 either as a cost reimbursable pricing mechanism or
25 like in a hotel, a rate per bed per night.

1 MR. BOB PETERS: Under your example,
2 Manitoba Hydro carries all the risk for the camp,
3 then, is that correct?

4 MR. CAMPBELL ADAMS: Yes.

5 MR. BOB PETERS: Why is that
6 appropriate?

7

8 (BRIEF PAUSE)

9

10 MR. CAMPBELL ADAMS: We -- we have
11 seen this done in two (2) ways, one is cost
12 reimbursable and the other is on a like a hotel rate
13 per night per bed.

14 And on the -- on the rate per night
15 per bed, which is unit rate, then the kind of menus
16 and the services is fixed and firm. With cost
17 reimbursable there's more -- there's more scope for
18 flexibility.

19 A lump-sum, as I've said, would be
20 inappropriate because you don't know. No contractor
21 can predict exactly what kind of occupancy level they
22 would have.

23 MR. BOB PETERS: We've heard evidence
24 in these -- in this proceeding, that Manitoba Hydro
25 still has to do some work, I think it's been called,

1 the south channel.

2 Do you know what that is?

3 MR. CAMPBELL ADAMS: The south dam?

4 MR. BOB PETERS: Yes.

5 MR. CAMPBELL ADAMS: Yep.

6 MR. BOB PETERS: Manitoba Hydro has to
7 put a -- a dam on the south side of the generating
8 station.

9 Is that your understanding?

10 MR. CAMPBELL ADAMS: Yes.

11 MR. BOB PETERS: And is it your
12 understanding that that hasn't yet been done because
13 the river is still running?

14 MR. CAMPBELL ADAMS: Yes.

15 MR. BOB PETERS: And because the river
16 is still running Manitoba Hydro is not in a position
17 to understand the geotechnical issues under the river?

18 MR. CAMPBELL ADAMS: Yes.

19 MR. BOB PETERS: And, Mr. Campbell,
20 you spoke to this also today so -- so -- so don't sit
21 too far back but -- and Mr. Campbell, your evidence
22 that I remember was to the effect that Manitoba Hydro
23 drilled, was it one (1) hole on that south dam area to
24 test the geotech?

25 MR. DAN CAMPBELL: No.

1 MR. BOB PETERS: What was your
2 evidence?

3 MR. DAN CAMPBELL: My evidence was
4 that the area which I think it's in the river if we're
5 speaking about the same issue that -- and I'm not the
6 geotechnical engineer, is that that fault which
7 they're concerned about extends, according to the
8 information presented, on to land and that the
9 investigations and information there was less or -- or
10 perhaps enabled them to investigate it, right.

11 So consequently we und -- we -- we
12 agree and understand why they didn't go and play in
13 the river, but we believe that they had the
14 opportunity to do the investigation or do enough
15 investigation to get a reasonable idea about what is
16 under the river.

17 MR. BOB PETERS: And that reasonable
18 exploration, to your evidence, has -- has generally
19 been done?

20 MR. DAN CAMPBELL: That -- it was an
21 area where we thought there -- there could have been
22 more work done. I believe that's what -- what I
23 indicated earlier.

24 MR. BOB PETERS: All right, so -- so
25 why should --

1 MR. DAN CAMPBELL: There's always a
2 risk.

3 MR. BOB PETERS: Why should BBE carry
4 the risk for what happens with the geotechnical issues
5 under the river when it comes time to putting in those
6 south dams?

7 MR. CAMPBELL ADAMS: They -- they
8 shouldn't carry that risk.

9 MR. BOB PETERS: And they shouldn't
10 carry that risk, Mr. Adams, because they don't know
11 any better than you and I know what's underneath
12 there; correct?

13 MR. CAMPBELL ADAMS: Exactly.

14 MR. BOB PETERS: And -- all right. If
15 Manitoba Hydro -- then Manitoba Hydro should carry
16 that risk?

17 MR. CAMPBELL ADAMS: Manitoba Hydro
18 carries that risk because it's their project, and they
19 -- they don't know either.

20 MR. BOB PETERS: And so as between BBE
21 and Manitoba Hydro, it is more appropriate that
22 Manitoba Hydro bear 100 percent of that risk?

23 MR. CAMPBELL ADAMS: That would be
24 correct, yes.

25 MR. BOB PETERS: And to bear 100

1 percent of that risk it would be a cost reimbursable
2 contract that would be used?

3 MR. CAMPBELL ADAMS: Not necessarily.
4 There is -- if you know what the -- the design is and
5 you don't know what the geotech conditions precisely
6 are, you can get rates for concrete rates for
7 excavation, rates for formwork and if you've got to go
8 deeper, for example, than what you put into your
9 tender document, then you would measure more
10 quantities and reimburse your contractor on a unit
11 rate basis.

12 MR. KIERAN FLANAGAN: Just
13 alternatively, you could have a hybrid contract as
14 well which would be unit rate for everything
15 aboveground, including provision and sums for
16 everything below ground, which will be cost
17 reimbursable belowground and then once you get out of
18 the ground, where you know the design to make it a
19 unit rate or a lump sum.

20 MR. BOB PETERS: Mr. Campbell, you are
21 in agreement with Mr. Flanagan on that latter point of
22 the hybrid contract?

23 MR. DAN CAMPBELL: Yes.

24 MR. BOB PETERS: Have you se --

25 MR. DAN CAMPBELL: It's quite common

1 to actually have multiple -- multiple pieces inside a
2 contract where some are unit rates and some are
3 reimbursable based on what you don't know yet.

4 MR. BOB PETERS: And that's to the
5 same general civil contractor?

6 MR. DAN CAMPBELL: Yes.

7 MR. BOB PETERS: So is it one (1)
8 contractor has more than one (1) con -- sorry.

9 Is it such then that the general civil
10 contractor has more than one (1) contract with
11 Manitoba Hydro?

12 MR. DAN CAMPBELL: No.

13 MR. BOB PETERS: It's one (1) contract
14 with many subcomponents?

15 MR. DAN CAMPBELL: Yes. There'll be a
16 different payment item for excavation, for example,
17 for the south down. Might be paid on -- in a
18 different manner much the same as the table you have
19 on the screen right now, right, where that would be a
20 cost reimbursable piece but another piece like the
21 construction of the -- of all the fills, et cetera, is
22 paid on the unit rate basis, for example.

23 MR. BOB PETERS: All right. And your
24 point, Mr. Flanagan, is that if it was belowground
25 Manitoba Hydro should carry a hundred percent of the

1 risk; but if it's aboveground, the contractor should
2 carry the risk in accordance with what Manitoba Hydro
3 has designed?

4 MR. KIERAN FLANAGAN: Where there
5 isn't a full geotech study, and the contractor can't
6 properly price the work ahead to fix it, yes,
7 generally the risk will be taken by the client.

8 MR. BOB PETERS: All right. Let's --
9 let's transfer that answer to the Keeyask generating
10 station. The -- the geotech work or the work below
11 the ground, MGF is saying is properly in a cost
12 reimbursable contract as one example?

13 MR. KIERAN FLANAGAN: Due to the
14 geotech knowledge at the time of the work, yeah.

15 MR. BOB PETERS: And, Mr. Adams, you
16 gave us an alternative view that you could use
17 different contracts for the same unknown work.

18 MR. CAMPBELL ADAMS: You can use
19 different pricing mechanisms that would be contained
20 within the one (1) contract.

21 MR. BOB PETERS: All right, so --

22 MR. CAMPBELL ADAMS: Not different
23 contracts.

24 MR. BOB PETERS: You've corrected me.
25 It's still one (1) contract but it's the pricing

1 mechanism under the contract could be cost
2 reimbursable if it's underground or it could be unit
3 price or fixed price and --

4 MR. CAMPBELL ADAMS: Yes, and
5 generally, what we do we -- we stratify the scope of
6 work and the scope of work that is, say, cost
7 reimbursable would point to a that section in the
8 pricing schedule that would set out how that scope
9 would be valued and paid to the -- to the contractor.

10 MR. BOB PETERS: And, Mr. Campbell,
11 you're saying that in major hydro-generating station
12 constructions, the hybrid contract is used regularly?

13 MR. DAN CAMPBELL: Yes. And not only
14 is the -- is it used that way to price it, but the
15 contingency when you figure out your contingencies on
16 it may be applied differently to the different pieces.
17 Because you're trying to mitigate the risks and if the
18 risks are high, you have -- obviously have a higher
19 contingency.

20 So if you're -- if you're -- if you
21 know exactly what you're going to build, presumably
22 the contingency would be lower than if you're doing
23 excavation to an unspecified depth.

24 MR. BOB PETERS: I'm not sure I
25 follow, Mr. Campbell. Does that suggest that the

1 contingency then isn't just a percentage of the
2 overall contract but --

3 MR. DAN CAMPBELL: Correct.

4 MR. BOB PETERS: -- it's based on the
5 stratification of the components of the contract?

6 MR. DAN CAMPBELL: Often, if you have
7 multiple types of -- of payment in there the
8 contingency for the different payment items might be
9 dependent on the payment item or what you're doing.

10 MR. BOB PETERS: Okay. I think I have
11 your point. So if we rewind the clock and, witnesses,
12 you heard earlier today some of the steps that
13 Manitoba Hydro took dating back to 2012 when they were
14 investigating going to market. I believe the evidence
15 suggests that Manitoba Hydro held meetings with
16 various contractors. And that's what you would expect
17 before they go to -- go to market for a project of
18 this size?

19 MR. CAMPBELL ADAMS: Yes.

20 MR. BOB PETERS: And when they met
21 with various contractors, would you expect those
22 contractors to indicate a preference as to what type
23 of contract they would like to -- or what pricing
24 mechanism under the contract they'd like to work to?

25 MR. CAMPBELL ADAMS: It -- it's

1 possible. Typically, when owners go to market they
2 have their preferred contracting strategy and they're
3 trying to test the doability, achievability of that
4 rather than go out and say, well, what would you like?

5 MR. KIERAN FLANAGAN: I believe the
6 contractors were asked -- or given an opportunity for
7 their opinions what they'd like to see in the
8 contract.

9 MR. BOB PETERS: Is that right or
10 wrong?

11 MR. KIERAN FLANAGAN: That's what I
12 bel -- that's what we were advised.

13 MR. BOB PETERS: No, I'm sorry, but is
14 that -- is that a good thing to do, or a bad thing to
15 do?

16 MR. KIERAN FLANAGAN: Personally, I
17 haven't come across it before.

18 MR. BOB PETERS: So the owner doesn't
19 ask the contractors what kind of a contract they'd
20 like?

21 MR. KIERAN FLANAGAN: No, it was
22 elements what they'd like to see in the contract and
23 then each contractor put forward what they'd like to
24 see and, from my recollection, Manitoba Hydro then
25 took on board what they -- what they agreed was

1 reasonable to see in the contract. So I'm not saying
2 it's wrong or right, I just haven't experienced it
3 before.

4 MR. BOB PETERS: My understanding of
5 the evidence is that back in 2013 there was an
6 indication to Manitoba Hydro that contractors weren't
7 interested in hard money contracts.

8 Do you have the same understanding?

9 MR. KIERAN FLANAGAN: I don't think we
10 can speak to that. We weren't involved in the project
11 in 2013.

12 MR. BOB PETERS: You were involved in
13 the Alberta market in 2013, were you?

14 MR. CAMPBELL ADAMS: Yes.

15 MR. BOB PETERS: Was it a hot market
16 in the oil sands?

17 MR. CAMPBELL ADAMS: Yes, it was busy.

18 MR. BOB PETERS: Can you indicate to
19 this Board how the contracts in the oil sands projects
20 are structured for payment?

21 MR. CAMPBELL ADAMS: They -- they use
22 all of the above depending on scope, depending on
23 risk, depending on whether there's a design for the
24 facility, but if there's no design and you want to get
25 out tomorrow and start digging and building then it's

1 cost reimbursable.

2 If you've got an idea of what your
3 design is, you can take off estimated quantities and
4 tender it unit rates.

5 MR. BOB PETERS: In your review of the
6 Manitoba Hydro documents, did you go back to the
7 tender documents that applied to the original contract
8 with BBE?

9 MR. CAMPBELL ADAMS: Yes, I believe.

10 MR. BOB PETERS: And I'm not asking
11 you to get into any depth or any numbers in respect of
12 these questions, but you're aware that Manitoba Hydro
13 received multiple bids for the work that they were
14 tendering?

15 MR. CAMPBELL ADAMS: Do you mean bids
16 or responses to prequalification?

17 MR. BOB PETERS: To me they mean the
18 sa -- oh, sorry, not -- not prequalification, I'm
19 talking about bids in response to the tender for the
20 Keeyask general civil contract?

21

22 (BRIEF PAUSE)

23

24 MR. CAMPBELL ADAMS: There was more
25 than one (1) and less than six (6). I'm not sure if

1 it's commercially sensitive, so I'm...

2 MR. BOB PETERS: You know what, I -- I
3 think we'll stick with that answer because I don't
4 think it is CSI, but I'm not the purveyor of all of
5 that knowledge.

6 So, you're aware that Manitoba Hydro
7 had a number of contractors that responded to its
8 tender?

9 MR. CAMPBELL ADAMS: Yes.

10 MR. BOB PETERS: And as a result,
11 Manitoba Hydro selected one (1) of those contractors
12 that submitted a response, correct?

13 MR. CAMPBELL ADAMS: Yes.

14 MR. BOB PETERS: Maybe on the screen
15 if we could just go to Manitoba Hydro's Exhibit 120 to
16 slide 34. Yes.

17 In 2013, there were four (4) proponents
18 prequalified?

19 MR. CAMPBELL ADAMS: Yep.

20 MR. BOB PETERS: All right that tells
21 me that it's not necessarily a CSI number.

22 You had an opportunity to look at the
23 proposals and -- and that -- that were submitted in
24 response to Manitoba Hydro's issuing a tender?

25 MR. CAMPBELL ADAMS: We looked at the

1 -- the -- the tabulation of that, the evaluation of
2 what figures were given by each proponent.

3 MR. BOB PETERS: And did you look at
4 the productivities; is that which you're telling the
5 Board?

6 MR. CAMPBELL ADAMS: No, I am telling
7 you that the -- each -- if you call it a bid because
8 this is a cost reimbursable contract that they -- they
9 give an assessment of what they thought direct costs
10 would be; what their indirects would be; I believe
11 what their profit was; what -- what contingency they
12 would -- they had included in their -- their target
13 price. They were -- they -- they were very -- they
14 were very different in terms of value and percentage.
15 I'm not sure how else to characterize that without
16 going too far.

17 MR. BOB PETERS: All right.

18

19 (BRIEF PAUSE)

20

21 MR. BOB PETERS: In volume 6 on page -
22 - of Board counsels' book of documents, page 44 at the
23 bottom, you make -- MGF makes a finding with respect
24 to Keeyask board recommendation; correct?

25 MR. CAMPBELL ADAMS: Correct.

1 MR. BOB PETERS: And when you say
2 "board recommendation," you're meaning the Manitoba
3 Hydro Electric Board of Directors?

4 MR. CAMPBELL ADAMS: I believe so.

5 MR. BOB PETERS: And in this
6 particular case reference is shown as to -- the
7 information that you were provided from the -- the
8 minutes of those board meetings?

9 MR. CAMPBELL ADAMS: Correct.

10 MR. BOB PETERS: And in it, Manitoba
11 Hydro was advised that Bechtel was a self-performing
12 contractor on the Limestone project in Manitoba,
13 correct?

14 MR. CAMPBELL ADAMS: Correct.

15 MR. BOB PETERS: Is it also MGF's view
16 that -- that in and of itself shouldn't have been
17 accepted at face value? Well, first of all, what is a
18 self-performing contractor?

19 MR. CAMPBELL ADAMS: A self-performing
20 contractor in our world is a contractor who -- who
21 directly employs within their organization the -- the
22 construction disciplines with which -- with which to
23 build a project as opposed to a contractor who
24 predominantly would outsource or subcontract to others
25 or opposed to a construction manager who directs many

1 smaller companies in performing the work.

2 MR. BOB PETERS: So that suggests that
3 when Bechtel was working on the Limestone project, it
4 had its own employees under the various disciplines
5 needed?

6 MR. CAMPBELL ADAMS: That is our
7 understanding, yes.

8 MR. BOB PETERS: And on this project,
9 did BBE have its own employees under the various
10 disciplines or did it go out and hire the sub-trades?

11 MR. CAMPBELL ADAMS: BBE or Bechtel?

12 MR. BOB PETERS: BBE.

13 MR. CAMPBELL ADAMS: I believe the
14 majority are -- are directly employed in accordance
15 with the -- the Burntwood Nelson agreement.

16 But the -- but the -- I think the
17 difference is, up until they started working for BBE
18 they weren't with BBE; whereas a self-performing
19 contractor moves their direct employees from one
20 contract to the next. So they understand who their
21 supervisors are. They understand the language. They
22 understand the systems of that organization.

23 In -- in this construct, you've got a
24 joint venture limited partner with three (3) parties,
25 and I don't know the degree to which they've actually

1 worked together before.

2 MR. BOB PETERS: But you're saying
3 that BBE was not a self-performing contractor then.

4 MR. CAMPBELL ADAMS: I wouldn't
5 describe BBE as a self-performing contractor. Sorry.

6

7 (BRIEF PAUSE)

8

9 MR. BOB PETERS: Any comments to add,
10 Mr. Campbell?

11 MR. DAN CAMPBELL: Both Barnard and
12 EllisDon are self-performing contractors, as far as
13 I'm aware.

14 MR. BOB PETERS: And do you know if
15 they brought their own resources to the Keeyask site?

16 MR. DAN CAMPBELL: I believe that they
17 brought some of their own resources to the Keeyask
18 site.

19 MR. BOB PETERS: Do you have any
20 different information on MGF side?

21 MR. CAMPBELL ADAMS: No, we're not
22 aware of that.

23 MR. BOB PETERS: On the top of page 45
24 there is a -- an observation and a finding by MGF
25 related to the lowest cost and offer best value to the

1 project in description of BBE.

2 Do you see that?

3 MR. CAMPBELL ADAMS: Yes.

4 MR. BOB PETERS: And MGF doesn't agree
5 that that's accurate?

6 MR. CAMPBELL ADAMS: Correct.

7 MR. BOB PETERS: And can you explain
8 why not?

9 MR. CAMPBELL ADAMS: We don't believe
10 that the offer was -- was cost. It was an estimate.
11 There were -- I believe there were -- I think there
12 were -- I think quantities put into the tender
13 documents. The proponents put in unit rates to come
14 up with their initial target price. But that's not
15 the basis upon which the contractors would be
16 compensated.

17 So to have a -- to -- so four (4)
18 proponents, four (4) very differing initial target
19 price -- prices, they're not firm and fixed. It's a -
20 - it's a -- it's a target. It's a goal. What is
21 clear, that they get compensated on whatever their
22 actual costs will eventually be.

23 MR. BOB PETERS: So the information
24 that -- that the Board of Directors is referring to
25 wasn't fully fleshed out in the information --

1 MR. CAMPBELL ADAMS: That's -- that's
2 my view. Mr. Flanagan...?

3 MR. KIERAN FLANAGAN: And the lowest
4 cost wasn't realistic, as we all know today.

5 MR. BOB PETERS: All right. But --
6 but, let's say, we don't have the rearview mirror, Mr.
7 Flanagan, and we're -- we're back in -- in the day
8 when this contract had to be considered.

9 Are you saying that it was too good to
10 be true?

11 MR. KIERAN FLANAGAN: Put it this way,
12 I was shocked to see that the labour norms used for
13 concrete were based on a contract twenty-five (25)
14 years ago.

15 MR. BOB PETERS: And you're shocked
16 because you would've expected there to be something
17 against which that could be checked in a more -- a
18 more recent past?

19 MR. KIERAN FLANAGAN: Old fashion way,
20 people worked twenty-five (25) years ago.

21 MR. BOB PETERS: I'm sorry?

22 MR. KIERAN FLANAGAN: People worked
23 twenty-five (25) years ago. They were more
24 productive.

25 MR. BOB PETERS: And I suppose there's

1 reasons for -- for that; perhaps attributed to safety
2 standards --

3 MR. KIERAN FLANAGAN: Of course
4 there's safety standards. There's different work
5 methods but one (1) of the main things is when the
6 craft people were working, they worked hard all day.
7 A fifteen (15) minute break was a fifteen (15) minute
8 break.

9 MR. BOB PETERS: And you're saying you
10 saw different standards apply on the Keeyask site?

11 MR. KIERAN FLANAGAN: I'm not saying
12 the Keeyask site. I -- throughout the whole industry.
13 So it's not -- there's an element that people worked
14 harder, there's an element at the fifteen (15) minute
15 break you had to eat your lunch in the fifteen (15)
16 minute break. The same with lunchtime.

17 But there's also an element with safety
18 and other elements, that should've been taken into
19 account; that a project twenty-five (25) years ago is
20 not achievable today. On productivity, sorry.

21 MR. CAMPBELL ADAMS: There's also some
22 assumptions arou -- around the productivity, not to
23 get into the numbers, but that they're much, much
24 better than what was achieved on the last -- the last
25 project. That -- that to us seems somewhat

1 optimistic, somewhat unrealistic, and I think that
2 history, sadly, has borne that to be true.

3 MR. BOB PETERS: So when you say that
4 the productivity was better than the last project,
5 you're referring to Manitoba Hydro's Wuskwatim
6 project?

7 MR. CAMPBELL ADAMS: Yes.

8 MR. BOB PETERS: And then your answer
9 is that because of Manitoba Hydro's relatively recent
10 experience with Wuskwatim, that should have let
11 Manitoba Hydro know that the productivity being
12 forecast by at least one (1) of the bidders wasn't
13 likely to materialize?

14 MR. CAMPBELL ADAMS: I think it
15 should've raised the question as to why did to the --
16 why did that proponent think that they could do that,
17 and also compare that to what the other proponents
18 were offering, and a take -- take a realistic view as
19 to how achievable this is, because that underpins what
20 was a -- a low, as it turned out to be, initial target
21 price.

22 MR. BOB PETERS: And if Manitoba Hydro
23 then meets with the contractor and discusses the --
24 the relative size of the productivity forecast and is
25 given assurances that can be met, what is Manitoba

1 Hydro supposed to do differently?

2 MR. CAMPBELL ADAMS: Well, convert
3 your price to a lump sum. If you think you can do for
4 that, you can stand over. And you're competent
5 contractor and you're warranting that your price is
6 sufficient for doing the work, well stand over them.
7 And then watch their face lose its blood.

8 MR. BOB PETERS: I want to turn in the
9 few minutes that I have remaining to one (1) other
10 area. On Volume VI, page 25, of Board counsels' book
11 of documents, in one (1) of the answers that Manitoba
12 Hydro has provided to the Public Utilities Board, and
13 it's at the bottom of the page, the main contributing
14 factors to the underperformance of BBE were set out,
15 and there were three (3) of them.

16 And you're familiar with those?

17 MR. CAMPBELL ADAMS: Yes.

18 MR. BOB PETERS: First of all, without
19 indicating any dollar amounts, are you able to rank
20 them based on the highest contributor to cost overruns
21 to the lowest contributor of cost overruns, from what
22 you've seen?

23

24 (BRIEF PAUSE)

25

1 MR. CAMPBELL ADAMS: We -- we could
2 accept the -- the bullets in the order in which
3 they're given.

4 MR. BOB PETERS: And, Mr. Campbell,
5 because one (1) of them deals with geotechnical
6 issues, and you have a colleague that specializes in
7 that, have you looked at it from that perspective as
8 well?

9 MR. DAN CAMPBELL: We didn't look at
10 bullet 2, but certainly the order between 1 and 3 is
11 correct.

12 MR. BOB PETERS: Thank you. Mr.
13 Campbell, can you explain to this Board why geotech
14 caused a problem, when KCB finds that the quantities
15 estimated by Manitoba Hydro were very accurate?

16 MR. DAN CAMPBELL: No, I don't believe
17 I -- I can.

18 MR. BOB PETERS: That's not something
19 that KCB investigated?

20 MR. DAN CAMPBELL: When we looked at
21 them, as I -- as we said in our report, we found some
22 issues which -- would it -- change the costs a bit,
23 but we were not able to come up with anything that
24 would make such a dramatic change, as has -- has
25 actually occurred.

1 MR. BOB PETERS: And that -- and
2 that's specifically tied to the geotechnical issues?

3 MR. DAN CAMPBELL: Yes.

4 MR. BOB PETERS: And, Mr. Adams, is
5 the impact of geotechnical issues found in the
6 contingency? Is that where it -- it -- where it lies?

7

8 (BRIEF PAUSE)

9

10 MR. CAMPBELL ADAMS: Could you please
11 rephrase your question, so I can better understand
12 what you're seeking from me?

13 MR. BOB PETERS: I'll ask it better,
14 or I try -- I'll try.

15 MR. CAMPBELL ADAMS: Thank you.

16 MR. BOB PETERS: If there are
17 additional costs related to the actual experience with
18 geotechnical and geological conditions, where's the
19 money to pay for that in Amending Agreement Number 7?

20 MR. CAMPBELL ADAMS: I'm not sure --
21 I'm not sure where that -- where that is. I believe
22 Amending Agreement Number 7...

23

24 (BRIEF PAUSE)

25

1 MR. BOB PETERS: Gentlemen, it may
2 have been asked poorly, or maybe it's late in the day,
3 or both, but --

4 MR. CAMPBELL ADAMS: Sorry, is -- is
5 your question to determine whether the -- the cost of
6 geotech was included in the -- the target price that
7 is included in Amending Agreement Number 7, or how was
8 it paid for eventually?

9 MR. BOB PETERS: No, we're talking
10 about the construction year 2016, and that there were
11 a number of problems, and three (3) of them are listed
12 here on the screen. One (1) of them is the
13 productivity, the other --

14 MR. CAMPBELL ADAMS: Okay.

15 MR. BOB PETERS: -- is the slow ramp-
16 up, and the third is the geotechnical issues.

17 And is it correct that the geotechnical
18 issues and the additional cost that that drives is
19 born a hundred percent by Manitoba Hydro?

20 MR. CAMPBELL ADAMS: That is correct,
21 yes.

22 MR. BOB PETERS: And so for Manitoba
23 Hydro to cover that expense, it would have to be
24 included in the -- in the contingency account?

25 MR. CAMPBELL ADAMS: It -- it might

1 come from there, yes.

2 MR. BOB PETERS: All right. A last
3 area is on the -- well, the same area, but Exhibit
4 117, page 2, of the Appendix A. Again, we're back to
5 that KPMG report. And the very last -- sorry, the
6 second last paragraph, it indicates that, in talking
7 about MGF and the analysis -- I'm sorry, I've given
8 you the wrong reference.

9 It's Appendix B, on page 2. And this
10 is in the Hatch Report. And it is on page 2. It is
11 in the last paragraph. And it's a comment about MGF.

12 Have you had a chance to see this
13 report before? This was attached to Manitoba Hydro's
14 rebuttal evidence?

15 MR. CAMPBELL ADAMS: Yes.

16 MR. BOB PETERS: In this report, the
17 last part of the paragraph, the last paragraph on page
18 2, indicates that the MGF report fails to identify
19 reasons behind BBE's poor productivity performance.

20 Do you agree with that?

21

22 (BRIEF PAUSE)

23

24 MR. CAMPBELL ADAMS: We -- we have not
25 identified the reasons behind the poor productivity.

1 We have taken the -- the actuals provided from BBE via
2 Hydro into -- into consideration.

3

4 (BRIEF PAUSE)

5

6 MR. BOB PETERS: Mr. Chair, I'd
7 suggest this is a good time today to adjourn. I was
8 just a -- I just want talk about -- to Keeyask
9 scheduling tomorrow, as well as some remaining risks,
10 and then I wanted to shift over to Bipole III, and the
11 transmission lines, and the converter stations. I'm
12 expecting I can finish that within an hour in the
13 morning.

14 And after I am complete, and subject to
15 any re-examination, the public evidence would be
16 finished, and we would be in a position to move right
17 into the in camera session.

18 In terms of a direct presentation from
19 the witnesses in camera, I'm expecting it would be
20 approximately a third as long as it was today, but Mr.
21 Haight might have a better time estimate than I.

22 MR. WILLIAM HAIGHT: I -- I think
23 that's reasonable. Perhaps, even less than a third.

24 MR. BOB PETERS: And My Friend
25 opposite, Ms. Van Iderstine, hasn't suggested a lot of

1 time would be needed for Manitoba Hydro's view in
2 camera. I don't know if that -- that view has
3 changed. And she can speak for herself.

4 MS. HELGA VAN IDERSTINE: No, we're
5 not anticipating a lengthy cross-examination.
6 Probably -- much less than we -- I think -- I'm not
7 sure how much we had anticipated. I say an hour.
8 I'll be well --- I'll be down -- if -- if I'm a half
9 hour I would be very surprised.

10 MR. BOB PETERS: All right. What
11 you're hearing, Mr. Chairman, is an indication that I
12 think the parties in this room would like to finish
13 before the Board adjourns for lunch tomorrow, even if
14 it means we slip a little bit into the lunch hour.
15 But the promise, or the carrot, we can hold out as the
16 afternoon would -- would be -- would be yours.

17 So until tomorrow morning at nine
18 o'clock, I have no further questions.

19 THE CHAIRPERSON: I don't know what to
20 do with all that freedom. Thank you, we'll adjourn
21 till nine o'clock tomorrow morning.

22

23 (PANEL RETIRES)

24

25 --- Upon adjourning at 5:33 p.m.

1 Certified Correct,

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5 _____

6 Cheryl Lavigne, Ms.

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