



“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 31st, 2018  
Pages 7461 to 7567

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1	TABLE OF CONTENTS	
2		Page No.
3	List of Exhibits	7465
4	List of Undertakings	7466
5		
6	Discussion	7467
7		
8	INDEPENDENT WITNESS PANEL - MFG, KCB and Amplitude	
9	RYAN DEVEREUX, Previously Sworn	
10	CAMPBELL ADAMS, Previously Sworn	
11	KIERANN FLANAGAN, Previously Sworn	
12	VAL MUSFELT, Previously Sworn	
13	DAN CAMPBELL, Previously Sworn	
14	LESLIE BRAND, Previously Affirmed (by phone)	
15	JIM POTTER, Previously Affirmed (by phone)	
16	DUANE PHILLIPS, Previously Affirmed (by phone)	
17		
18	Continued Cross-examination by Mr. Bob Peters	7478
19	Re-Direct Examination by Mr. William Haight	7545
20		
21	Discussion	7548
22	Ruling	7555
23		
24	Certificate of Transcript	7567
25		

1	LIST OF EXHIBITS	
2	EXHIBIT NO.	PAGE NO.
3	MH-131	Response to Undertaking No. 55 7550
4	MH-132	Manitoba Hydro Undertaking
5		transcript page 2640 response. 7565
6	MH-133	Manitoba Hydro provides the Board
7		with an indication of payments
8		to KPMG since May the 2nd 7565
9	MH-134	A comparison of First Nation and
10		Indigenous persons to the other
11		populations comprising the skilled
12		trades at Keeyask. 7566
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

1	LIST OF UNDERTAKINGS		
2	NO.	DESCRIPTION	PAGE NO.
3	73	MGF undertake to tell this Board whether according to the schedule that MGF has from 6th of October, 2017 shows that the enclosure of the powerhouse units to allow for the start of the turbine and generator work was on track to be completed in February of 2018.	
11	73 (ADDITION):	MGF to provide Board with written advice as to whether the October 6th schedule showed that Manitoba Hydro and their contractor were on track for river diversion as indicated in July and August of 2018.	
18	74	MGF to advise as to whether the cost estimate on which MGF has given an opinion was calculated before or after Manitoba Hydro had increased its Bipole III cost estimates	7522
23			
24			
25			

1 --- Upon commencing at 9:03 a.m.

2

3 THE CHAIRPERSON: Good morning,  
4 everyone. Before we begin with Mr. Peters, Dr.  
5 Williams, I understand you've got a matter to bring  
6 forward?

7 DR. BYRON WILLIAMS: Yes, I actually  
8 have two (2) matters; one is just a couple of  
9 transcript corrections. Perhaps if Kristen can pull  
10 up page 507 of the transcript line 1. I've got the  
11 wrong page here just -- sorry, 5007, 5,007. And you  
12 see at the top of this page that Mr. Peters is  
13 reported as generously responding to the question of  
14 Mr. Ghikas and we -- we --

15 THE CHAIRPERSON: Completely, that  
16 would require correction.

17 DR. BYRON WILLIAMS: -- and would  
18 require correction and -- and, frankly, given Mr.  
19 Peters performance in these proceedings over the last  
20 twenty-five (25) or so years, we would give very  
21 little weight to his -- so we would suggest that we  
22 replace Mr. Peters with Mr. Colaiacovo.

23 And then at page 5111, near the top  
24 again, on line 6 Mr. Colaiacovo is quoted as saying  
25 "ratepayers haven't been covering their proper share"

1 and Mr. Colaiacovo upon review of that line says it  
2 should be "ratepayers have." So deleting the end  
3 "'t".

4                   The other matter and -- and thank you  
5 to the Board for that. The other matter is just our -  
6 - our -- My Learned Friend Ms. Ramage yesterday  
7 indicated Manitoba Hydro would be proposing to  
8 introduce rebuttal evidence with regard to another  
9 matter; that's reported at transcript page 780 (sic)  
10 and 781 (sic) and I'd just like to respond.

11                   My -- I'd like to respond and then if  
12 Mr. Hacault wishes to add anything, he certainly --

13                   THE CHAIRPERSON:    Sorry, just occur  
14 correct, I believe you said 780 and 781 and it's --

15                   DR. BYRON WILLIAMS:    7280 and 7281.

16                   THE CHAIRPERSON:    Okay. I just want  
17 to make sure that the transcript is --

18                   DR. BYRON WILLIAMS:    I apologize.

19                   THE CHAIRPERSON:    Yes.

20                   DR. BYRON WILLIAMS:    And just to --  
21 and let's go to 7281 where you -- you see the  
22 allegation that -- at line 1 that Morrison Park  
23 introduced new information for the first time which  
24 was a Moody's report titled US Public Power Utilities  
25 With Generation Ownership. So just to remind the



1 Panel its own test for rebuttal evidence is that it is  
2 limited to new issues raised in the evidence, and that  
3 it should not be used and cannot be used in the guise  
4 of replying to confirm or reinforce the case which the  
5 applicant was required to make out in the first  
6 instance.

7                   So, our client's submission -- the  
8 Coalition in this case and MIPUG -- would be that this  
9 is not an effort to rebut new evidence but an effort  
10 to remedy a cross-examination that did not go well.

11                   And if we -- Manitoba Hydro makes  
12 reference to slide 33 of Ms. -- Morrison Park's  
13 evidence. The transcript page that was brought to our  
14 attention by Manitoba Hydro off-line was page 4919.  
15 And starting at line 9 you see, first of all, that  
16 Morrison Park in this particular slide is actually  
17 been fairly supportive of Manitoba Hydro's EBITDA  
18 interest target coverage ratio. So, in effect, it's  
19 supporting the target at this point in time which is  
20 consistent with Morrison Park's evidence. We don't  
21 need to go there but you can look at -- to page 9 or  
22 to page 42 and you'll see support for that. And then  
23 there's the refer -- reference to Moody's in the  
24 United States.

25                   And, again, to remind you Manitoba

1 Hydro is alleging that the reference to US Public  
2 Power Utilities With Generation Ownership was put on  
3 the record for the first time in -- in -- in Morrison  
4 Park's oral evidence. And just to assist the Board  
5 we'd asked Kristen to pull up from Morrison Park's  
6 written evidence. We can go to -- to page 132.

7                   And as the Board will recall, Mr.  
8 Colaiacovo and Morrison Park made heavy reliance upon  
9 US bond rating reports in its -- in its information  
10 and was kind enough to assist all parties in this  
11 hearing by attaching references related to Moody's on  
12 Bonneville Power, Moody's on Tennessee Valley  
13 Authority.

14                   And what you see on page 132, as we  
15 scroll towards the bottom, Kristen, under Other --  
16 Other Considerations is an excerpt from the Bonneville  
17 Power. You'll see here expressly reference to the US  
18 Public Power Electric Utilities With Generation  
19 exposure methodology on this particular page as -- as  
20 well as reference to going down a couple more lines  
21 another methodology relating to Municipal Joint  
22 Action.

23                   If we go to page 133 of this document,  
24 again, you'll see a broader consideration consistent  
25 with Morrison Park's evidence on page 4919 of the

1 transcript of an approach to credit profiles for the  
2 power industry in general, as well as, again, an  
3 expressed reference to US Public Power Electric  
4 Utilities With Generation Ownership Exposure, as well  
5 as the Municipal Joint Action Agency methodology.

6                   On page 135, again, this is in Morrison  
7 Park's written evidence, the appen -- under  
8 Methodology, you'll see an expressed reference again  
9 to the allegedly new information put on the record, as  
10 well as a link to the Morrison -- or to the Moody's  
11 website. And again, at page 139, towards the bottom  
12 of that page, now we're moving to Moody's looking at  
13 Tennessee Valley Authority, to the second last  
14 paragraph. And again, you see reference to the  
15 allegedly new information put on the record.

16                   It took me less than fifteen (15)  
17 minutes, members of the Panel, to -- to find this  
18 information. I'm confident that we could -- could do  
19 much more but that would just give you a sense of the  
20 number of times that this information was put on the  
21 record and it's part of a sophisticated analysis by  
22 Morrison Park of financial market plat -- places  
23 pointing out the distinctions between US and Canada,  
24 as well as distinctions in the credit rating reports  
25 and there was ample opportunity for Manitoba Hydro to

1 apprise itself of this information.

2                   The Board might recall actually in the  
3 first week of the hearing when we put to Manitoba  
4 Hydro the Bonneville Power Report and the witness for  
5 Manitoba Hydro was not familiar with it and that --  
6 but that's not our client's fault, Mr. Chairman. This  
7 information was before Manitoba Hydro.

8                   And subject to any comments by My  
9 Friend Mr. Hacault, our clients would submit that this  
10 is, clearly, not new information. What happened was  
11 when -- and, in fact, it's ironic that the point that  
12 Manitoba Hydro was seeking to test Morrison Park on  
13 was actually supportive of one (1) of their financial  
14 targets.

15                   Mr. Hacault, do you anything to add?

16                   MR. ANTOINE HACAULT:     Just to point  
17 out that in Hydro's own evidence at appendix 4.1. So I  
18 don't know if you can bring that up, Ms. Schubert.

19                   At page 100 of that -- sorry, I have  
20 page 100 of 156 in the PDF. It's page 94 in the  
21 document itself. This -- no, we're not -- I'm not  
22 seeing the same page on my computer. Yeah, Bonneville  
23 Power right there.

24                   Dr. Williams was referring to our  
25 witness referencing Bonneville Power administration in

1 its evidence. This wasn't the first time that that  
2 Utility was referenced. It was also referenced in  
3 Hydro's own evidence under the KPMG analysis. And if  
4 you see the note that's quoted in Hydro's own evidence  
5 it says:

6 "Moody's noted  
7 quote] the implicit and explicit  
8 support features represent the key  
9 factor for one of the notch  
10 difference between..."

11 And it talks about the ratings. But  
12 again, referencing the same document which Hydro says  
13 was introduced in our evidence. We say, no, it was  
14 already there. It was already in discussions of  
15 Bonneville Power. Our witness spoke of Bonneville  
16 Power further amplified on that. If there were any  
17 issues with that and targets in the discussion it,  
18 clearly, isn't something new. That standard is -- is  
19 -- is there and, again, I'll have something in  
20 submissions to say as to Hydro not calling KPMG but  
21 it's in KPMG's attachment and in Hydro's evidence.

22 And we just reiterate what Dr. Williams  
23 said. We haven't done an exhaustive review of all the  
24 transcripts but this is not something new.

25 THE CHAIRPERSON: Ms. Ramage...?

1 MS. PATTI RAMAGE: Mr. Chairman, I --  
2 I have to say, I find this -- this entire position --  
3 we're only telling part of the story; how's that.  
4 Yes, in MPA's report a -- the Bonneville Power  
5 Administration -- Moody's report on Bonneville Power  
6 is a footnote to their report. They footnoted  
7 Bonneville Power and then they attached Bonneville  
8 Power.

9 And they're suggesting to you that that  
10 is the report we're talking about but it's not. What  
11 -- the report we're talking about is a Moody's report  
12 that is footnoted in a document that they footnoted.  
13 And if that is the test for bringing it in front of --  
14 of bringing information in front of the Board, we're  
15 going to have a great deal of difficulty keeping  
16 control of the information.

17 It's -- it's almost like saying  
18 footnoting the Internet and expecting that all parties  
19 will read every document. It's a footnote in a  
20 footnoted report. It was not presented. It is not  
21 filed on the record. It is a different name. I don't  
22 -- I didn't bring my materials up because I, frankly,  
23 didn't think this would be this big of a deal.

24 It is -- it is not -- it does not  
25 appear in the record except as a reference in a

1 footnote to another report that is footnoted. But I  
2 don't think that's the -- the only point here and I  
3 don't think it's the main point. The main point is  
4 there was new information raised in Mr. Colaiacovo's  
5 oral presentation with respect to the difference  
6 between interest coverage ratio and debt service  
7 ratio; that is not a matter that is discussed anywhere  
8 in his report.

9                   In his oral presentation he then cited  
10 this footnoted to a footnote document in support of  
11 his interpretation of what debt service ratio means  
12 and that is our issue.

13                   So, let's go back to the core issue and  
14 that was new and -- and that was not in his report and  
15 I would also suggest that the fact that you footnoted  
16 and footnoted, you -- we go down the -- the line of  
17 footnotes does not allow you to then discuss something  
18 that wasn't discussed in your main report and you will  
19 not find debt service ratio discussed in that main  
20 report. And the point of doing rebuttal on this point  
21 is to clarify simp -- very simply clarify what those  
22 two (2) terms mean.

23                   I would also add that it seemed  
24 somewhat premature for me to be arguing this point.  
25 Normally we do a rebuttal and if there's an issue

1 there is an objection. So I think our witness should  
2 be -- be given the opportunity to address what it  
3 thinks is a -- a mistake on the record and -- and a  
4 mistake in the definition and not one that it could  
5 have addressed because it was never discussed in the  
6 report in the first place.

7 The -- the means of getting it in is  
8 this Moody's report but doesn't change the fact that  
9 it wasn't discussed in the first place.

10 DR. BYRON WILLIAMS: Mr. Chair, if I  
11 might?

12 THE CHAIRPERSON: Yes?

13 MS. PATTI RAMAGE: Is there a reply to  
14 a reply?

15 THE CHAIRPERSON: Well, I don't know  
16 -- yeah, I mean --

17 DR. BYRON WILLIAMS: Well, the -- the  
18 assertion made by Manitoba Hydro is -- you've seen the  
19 reference in Mr. Colaiacovo -- Colaiacovo's evidence.  
20 If you want to turn to where Manitoba Hydro tried to  
21 cross-examine on him, you'll -- I'll just refer you to  
22 the pages 5072. You'll see that any -- any responses  
23 he did made were in responses to questions put to them  
24 by -- by Manitoba Hydro. So you have our position.

25 THE CHAIRPERSON: I'll give you the



1 last word, Ms. Ramage.

2 MS. PATTI RAMAGE: Mr. Williams is  
3 correct because, frankly, we thought it was an error  
4 and in cross-examination it was one (1) of those  
5 moments when you thought you were going to get an  
6 answer and move on; just to clarify and we didn't  
7 think this was going to turn in to an issue and I  
8 didn't think it would turn in to an issue today.

9 THE CHAIRPERSON: Okay. As you can  
10 appreciate the Panel is going to have to consider  
11 this. We'll reserve and -- and deal with it either --  
12 if we have enough time during the morning break,  
13 otherwise, we'll deal with it after the lunch break  
14 and advise the parties.

15 Mr. Peters...?

16

17 INDEPENDENT WITNESS PANEL - MFG, KCB and Amplitude

18 RYAN DEVEREUX, Previously Sworn

19 CAMPBELL ADAMS, Previously Sworn

20 KIERANN FLANAGAN, Previously Sworn

21 VAL MUSFELT, Previously Sworn

22 DAN CAMPBELL, Previously Sworn

23 LESLIE BRAND, Previously Affirmed (by phone)

24 JIM POTTER, Previously Affirmed (by phone)

25 DUANE PHILLIPS, Previously Affirmed (by phone)

1 CONTINUED CROSS-EXAMINATION BY MR. BOB PETERS:

2 MR. BOB PETERS: Yes, good morning,  
3 Mr. Chair, good morning Board members, lady and  
4 gentlemen of the witness panel.

5 And I'm hoping that Mr. Brand, Mr.  
6 Potter and Mr. Phillips are with us today and maybe if  
7 they could acknowledge on the phone line that they're  
8 listening it would be appreciated at this end.

9 MR. LESLIE BRAND: Yes, I can -- I can  
10 hear you, I'm listening. Thank you.

11 MR. BOB PETERS: Thank you, Mr. Brand.  
12 I'm wondering if Mr. Potter and Mr. Phillips are  
13 available as well at this time?

14 MR. DUANE PHILLIPS: Yes, we are both  
15 here.

16 MR. BOB PETERS: All right.

17 MR. DUANE PHILLIPS: And we can hear  
18 you well.

19 MR. BOB PETERS: Thank you. That was  
20 Mr. Phillips.

21 Mr. Chair, I've had an opportunity to  
22 review the evidence from the witnesses yesterday and  
23 have made some subtractions from my questions on  
24 Keeyask, Bipole III, MMTP and Great Northern  
25 transmission line and I will proceed to those but I

1 can say, Ms. Musfelt, when my colleague Ms. Steinfeld  
2 learned that we were going to talk about scheduling  
3 this morning, she arrived early to get a front row  
4 seat. So, let's start with scheduling.

5 I understand from your evidence that  
6 you use a software package, is it called Acumen Fuse?

7 MS. VALERIE MUSFELT: That is correct.

8 MR. BOB PETERS: And would it be  
9 correct for this Board to understand that -- that  
10 Acumen Fuse software evaluates the quality of the  
11 schedule of the -- of the contractor?

12 MS. VALERIE MUSFELT: Yes.

13 MR. BOB PETERS: Perhaps pull the  
14 microphone a little closer so our friends at distance  
15 can hear as well.

16 MS. VALERIE MUSFELT: So, yes, it --  
17 it evaluates the quality but what it really also does  
18 is it pinpoints problem areas in the schedule.

19 MR. BOB PETERS: All right, we're  
20 going to come to that but is it correct that a high  
21 quality schedule doesn't guarantee the project will be  
22 completed on time.

23 MS. VALERIE MUSFELT: Yes.

24 MR. BOB PETERS: And it doesn't -- a  
25 high quality schedule doesn't guarantee that the

1 project will be completed on budget, does it?

2 MS. VALERIE MUSFELT: Correct.

3 MR. BOB PETERS: But is it your  
4 evidence that a poor quality schedule inevitably leads  
5 to delays and cost overruns?

6 MS. VALERIE MUSFELT: A poor quality  
7 schedule usually is indicative of other problems in  
8 the whole planning process. So, I wouldn't say that  
9 it's the schedule per se that's leading to the  
10 problem, it's the whole planning process.

11 MR. BOB PETERS: On the slides from  
12 MGF yesterday on the public record marked as Exhibit  
13 MGF-4, on slide 11, Ms. Musfelt, you spoke to a number  
14 of completion dates that have been put on the record;  
15 correct?

16 MS. VALERIE MUSFELT: Yes.

17 MR. BOB PETERS: And then I believe  
18 you tried to carry those forward into a chart on page  
19 -- slide 12 of your presentation yesterday?

20 MS. VALERIE MUSFELT: That is correct.

21 MR. BOB PETERS: When I look at slide  
22 12, I see in purple what is called the Current  
23 Forecast 6 of October, 2017; correct?

24 MS. VALERIE MUSFELT: Yes.

25 MR. BOB PETERS: Is that BBE's

1 schedule current as of that date?

2 MS. VALERIE MUSFELT: No, the -- on  
3 the previous slide I was dealing with BBE. On this  
4 slide here, the -- the intent really was to see some  
5 of the dates but also to see the impact of the BBE  
6 slippage on other contractors.

7 So the 28th of May, 2022 represents the  
8 integrated master schedule. So the integrated master  
9 schedule combines both our schedules from all of the  
10 contractors. So when BBE's progress is incorporated  
11 into that integrated master schedule then other  
12 contractors' schedules are also imported in and it's  
13 just showing that even though the BBE was indicating  
14 January 2022, on turbines unit 7, the integrated  
15 master schedule is slipping additionally to the 28th  
16 of May, 2022.

17 So because of the interface issues it's  
18 causing further delays to other contractors.

19 MR. BOB PETERS: And when you say that  
20 that purple bar on the chart is the new master  
21 schedule, that's Manitoba Hydro's master schedule?

22 MS. VALERIE MUSFELT: That is correct.

23 MR. BOB PETERS: And so in addition to  
24 the delays that BBE has notified the Utility about,  
25 there are consequence in there being further delays is

1 what I'm hearing?

2 MS. VALERIE MUSFELT: That is correct.

3 MR. BOB PETERS: When you used Acumen  
4 Fuse to evaluate the quality of the scheduling, how  
5 did MGF rate the BBE schedule?

6 MS. VALERIE MUSFELT: The BBE schedule  
7 came in as a medium quality schedule.

8 MR. BOB PETERS: What does that mean?

9 MS. VALERIE MUSFELT: Basically they -  
10 - they go by numbers so if a schedule scores 75 or  
11 better, it's considered a good quality schedule and  
12 then if it's like 50 to 74 it's considered a medium  
13 quality schedule.

14 MR. BOB PETERS: And what did MGF rate  
15 the integrated master schedule for Manitoba Hydro as  
16 in this proceeding?

17 MS. VALERIE MUSFELT: I don't know if  
18 I have that handy but I believe it was also a medium.

19 MR. BOB PETERS: For the same reasons?

20 MS. VALERIE MUSFELT: For -- well,  
21 it's -- it's a little bit more difficult with the  
22 integrated master schedule because the integrated  
23 master schedule is really a sum of all the parts. So  
24 because contractors' schedules are imported directly  
25 into that schedule, however, how -- if the

1 contractor's schedule score a certain way then that  
2 will be carried through to the integrated master  
3 schedule.

4 MR. BOB PETERS: If we could go to  
5 Manitoba Hydro Exhibit 120, and slide 37 of Manitoba  
6 Hydro's presentation for a minute.

7 Manitoba Hydro provided this Board with  
8 some future construction milestones. Are you aware of  
9 that?

10 MS. VALERIE MUSFELT: The first time I  
11 seen it was looking at the -- the notes from the --  
12 the hearing.

13 MR. BOB PETERS: Is MGF in a position  
14 to tell this Board whether these future milestones are  
15 still on track?

16 MS. VALERIE MUSFELT: I would need to  
17 review the schedule to see if those were still on  
18 track.

19 MR. BOB PETERS: And when you say  
20 "review the schedule," the latest one you told this  
21 Board you've seen is October of 2017?

22 MS. VALERIE MUSFELT: That is correct.

23 MR. BOB PETERS: And from Ms. Van  
24 Iderstine's evidence yesterday, there's a suggestion  
25 that Manitoba Hydro is preparing or has prepared a new

1 one.

2 Are you aware of that?

3 MS. VALERIE MUSFELT: I would expect  
4 that that would be the case because progress is being  
5 updated monthly so, yes, I would expect that there  
6 would probably be a couple of updates.

7 MR. BOB PETERS: And you haven't seen  
8 that?

9 MS. VALERIE MUSFELT: No, I have not.

10 MR. BOB PETERS: On MGF Exhibit 4-1  
11 yesterday this Board saw MGF's bottom-up approach to  
12 an order of magnitude project estimate of \$9.857  
13 billion; correct?

14 MR. KIERAN FLANAGAN: Yes.

15 MR. BOB PETERS: Now, Ms. Musfelt,  
16 staying with you and referring back to MGF slide 12 in  
17 your MGF Exhibit 4 from yesterday and with the  
18 assistance of your colleagues, can you tell this Board  
19 the \$9.857 billion estimate is aligned to which of  
20 these schedules?

21 MR. KIERAN FLANAGAN: The 9.857 is  
22 based on the actual productivity rather than the  
23 schedule outlook. It's based on a -- what we know of  
24 the cumulative to date.

25 MR. BOB PETERS: You're going to have



1 to help me with that, Mr. Flanagan. I understand how  
2 the 9.8 or you tell us that the 9.857 was determined.

3 Does that calculation also lead to a  
4 schedule for that to occur?

5 MR. KIERAN FLANAGAN: Productivity --  
6 the actual productivity would lead into the schedule  
7 but the costs weren't based on the schedule, they were  
8 based on the productivity.

9 MR. BOB PETERS: Okay I understand  
10 your point. But now that we have your cost estimate--

11 MR. KIERAN FLANAGAN: Yes.

12 MR. BOB PETERS: -- guess which  
13 schedule does it align with?

14 MR. KIERAN FLANAGAN: It would align  
15 with the BBE schedule but not the integrated.

16 MR. BOB PETERS: Okay, you're going to  
17 have to help me understand that. It would align with  
18 the -- with the blue schedule that has the 7th unit in  
19 service October of 2021?

20 MR. KIERAN FLANAGAN: Can you just let  
21 me clarify one (1) second?

22 MR. BOB PETERS: Yes, sir.

23

24 (BRIEF PAUSE)

25

1 MR. KIERAN FLANAGAN: Sorry,  
2 correction there. It aligns with the bottom bar.  
3 Both -- both the schedule and our costs were based on  
4 the actual productivity.

5 MR. BOB PETERS: So you're telling the  
6 Board that according to the MGF --

7 MR. KIERAN FLANAGAN: It's the MGF  
8 forecast, yep.

9 MR. BOB PETERS: It's the MGF forecast  
10 which is the -- the beige bar on the bottom of the  
11 chart on page 12?

12 MR. KIERAN FLANAGAN: Correct.

13 MR. BOB PETERS: Thank you, sir. Now  
14 on Manitoba Hydro's Exhibit 120, slide 67, some key  
15 milestones were put forward.

16 Can MGF confirm that the spillway was  
17 completed on schedule, that is, the spillway concrete?

18 MS. VALERIE MUSFELT: Again, I would  
19 have to look specifically at the schedule to see what  
20 the dates were and as some of these dates are November  
21 2017, I suspect I would not have them -- the latest  
22 and greatest information.

23 MR. BOB PETERS: All right. That's  
24 because your information stopped October 6th of 2017?

25 MS. VALERIE MUSFELT: That's correct.

1 MR. BOB PETERS: All right. Can --  
2 can MGF tell this Board whether the enclosure of  
3 powerhouse units to allow for the start of the turbine  
4 and generator work is on track for February 2018, some  
5 scant days away?

6 MS. VALERIE MUSFELT: Again, I would  
7 have to take a look at the schedule because I don't  
8 know -- I'd have to look at each line item to see  
9 because it's not -- it's not simply one (1) line item  
10 in the schedule, you have to look at several  
11 activities to see what's causing or what leads to  
12 that.

13 MR. BOB PETERS: Help us understand  
14 that, Ms. Musfelt.

15 MS. VALERIE MUSFELT: So again with --  
16 without seeing the most up-to-date schedule, I can't  
17 comment on whether or not these dates are accurate.  
18 All I would be able to comment is on the copy of the  
19 schedule that I have.

20 MR. BOB PETERS: On the schedule that  
21 you had, Ms. Musfelt, was the enclosure of the  
22 powerhouse units to allow for the start of turbine and  
23 generator work on track for February 2018?

24 MS. VALERIE MUSFELT: I would have to  
25 take a detailed look at the schedule to look at the

1 individual activities that are leading up to that to  
2 determine whether or not it was on schedule.

3 MR. BOB PETERS: So you have that  
4 information but just not at your fingertips?

5 MS. VALERIE MUSFELT: That is correct.

6 MR. BOB PETERS: Then I'm going to ask  
7 through your counsel that MGF undertake to tell this  
8 Board whether according to the schedule that you have  
9 from 6th of October, 2017 shows that the enclosure of  
10 the powerhouse units to allow for the start of the  
11 turbine and generator work was on track to be  
12 completed in February of 2018. Can you do that?

13 MR. WILLIAM HAIGHT: Yes, we'll --  
14 we'll provide that undertaking.

15 MR. BOB PETERS: Thank you.

16

17 --- UNDERTAKING NO. 73: MGF undertake to tell this  
18 Board whether according to  
19 the schedule that MGF has  
20 from 6th of October, 2017  
21 shows that the enclosure  
22 of the powerhouse units to  
23 allow for the start of the  
24 turbine and generator work  
25 was on track to be

1 completed in February of  
2 2018.

3

4 CONTINUED BY MR. BOB PETERS:

5 MR. BOB PETERS: Ms. Musfelt, any  
6 questions about that?

7 MS. VALERIE MUSFELT: No, I'm good,  
8 thanks.

9 MR. BOB PETERS: And likewise, Ms.  
10 Musfelt, the bottom item on this slide out of Manitoba  
11 Hydro's Exhibit 120 speaks to progress on dams and  
12 dikes required to divert the river through the  
13 spillway in August and July of 2018.

14 Do you see that?

15 MS. VALERIE MUSFELT: I do.

16 MR. BOB PETERS: Are you in a position  
17 to tell the Board whether your October schedule showed  
18 that Manitoba Hydro and their contractor were on track  
19 for river diversion as indicated on this slide in July  
20 and August of 2018?

21 MS. VALERIE MUSFELT: Again, I would  
22 have to take a detailed look at the schedule.

23 MR. BOB PETERS: So then I'll ask  
24 through your counsel that we add that to the  
25 undertaking that you come back and provide this Board

1 with your written advice as to whether the October 6th  
2 schedule shows that this is on track.

3 MR. WILLIAM HAIGHT: We will add that  
4 as undertaking.

5 MR. BOB PETERS: Yes, thank you, sir.

6  
7 --- UNDERTAKING NO. 73 (ADDITION): MGF to provide  
8 Board with written advice  
9 as to whether the October  
10 6th schedule showed that  
11 Manitoba Hydro and their  
12 contractor were on track  
13 for river diversion as  
14 indicated in July and  
15 August of 2018.

16  
17 CONTINUED BY MR. BOB PETERS:

18 MR. BOB PETERS: Now yesterday there  
19 was some discussion on MGF-4, page 15, and the word  
20 "negative float" was issued and I'll be less candid  
21 than the Vice Chair Ms. Kapitany was when she said she  
22 didn't understand it. I'll pretend I did.

23 And what I heard and saw on your --  
24 your chart was that one thousand and thirty (1,030)  
25 activities had negative float which, in essence, to me

1 meant they were behind schedule?

2 MS. VALERIE MUSFELT: Yes, based on  
3 constrained dates put into the schedule these were  
4 slipping from those constrained dates.

5 MR. BOB PETERS: And -- sorry, how  
6 many items were put into constrain -- how many  
7 constrained dates were there?

8 MS. VALERIE MUSFELT: There were only  
9 fifteen (15) constrained dates that were causing the  
10 one thousand and thirty (1,030) activities to be --  
11 have negative float.

12 MR. BOB PETERS: Is it correct that  
13 some items can be behind schedule but they're not  
14 going to impact the overall completion date?

15 MS. VALERIE MUSFELT: That is correct.

16 MR. BOB PETERS: And because of that,  
17 Manitoba Hydro and BBE have to determine what is, what  
18 you call, a critical path?

19 MS. VALERIE MUSFELT: That is correct.  
20 So, the critical path is identified as the activities  
21 -- the longest path through the project and activities  
22 with zero float. So if an activity has a positive  
23 float that just, generally, rep -- represents how many  
24 days you can slip that activity without it causing any  
25 issues to the end date of the project.

1 MR. BOB PETERS: And again, not to get  
2 Ms. Steinfeld too excited about the software but you  
3 use a Primavera software for your scheduling analysis?

4 MS. VALERIE MUSFELT: Yes, I did.

5 MR. JIM POTTER: And you said in  
6 answer I think to Vice Chair Kapitany yesterday that  
7 there was a P6 schedule. I didn't look that up on the  
8 transcript but do you remember saying that?

9 MS. VALERIE MUSFELT: Yes, P6 is  
10 Primavera P6. So it's the version of P6.

11 MR. BOB PETERS: So it has nothing to  
12 do with probabilities?

13 MS. VALERIE MUSFELT: Not at all.

14 MR. BOB PETERS: And that Primavera P6  
15 software is to prepare but not evaluate the schedule?

16 MS. VALERIE MUSFELT: That is for  
17 actually doing work on the schedule. So, putting in  
18 your activities, adding your progress. So that's the  
19 tool used to develop the schedule.

20 MR. BOB PETERS: Were the fifteen (15)  
21 constraint dates that you mentioned, those fifteen  
22 (15) constraint dates caused one thousand and thirty  
23 (1,030) activities to be behind schedule?

24 MS. VALERIE MUSFELT: To show with  
25 negative float.



1 MR. BOB PETERS: And in my words, that  
2 meant that those one thousand and thirty (1,030)  
3 activities were behind schedule?

4 MS. VALERIE MUSFELT: Yes.

5 MR. BOB PETERS: How do you determine  
6 what is the critical path?

7 MS. VALERIE MUSFELT: Generally  
8 they're -- within the software there are two (2)  
9 different methods. You can identify a value that  
10 represents the critical path or you can say it's the  
11 longest path through the project.

12 MR. BOB PETERS: But we've heard  
13 evidence in these proceedings that the productivity on  
14 the concrete and the productivity on the earthworks  
15 has been delayed.

16 And you're aware of that?

17 MS. VALERIE MUSFELT: Yes.

18 MR. BOB PETERS: You saw that in your  
19 scheduling?

20 MS. VALERIE MUSFELT: Yes.

21 MR. BOB PETERS: Is the concrete the  
22 critical path?

23 MS. VALERIE MUSFELT: It is on the  
24 critical path, yes.

25 MR. BOB PETERS: Well, not -- not only

1 is it on the path but is it the critical path?

2 MS. VALERIE MUSFELT: There are other  
3 elements that are on the critical path as well. If  
4 you look at the BBE schedule, there are some  
5 powerhouse components that are also on the critical  
6 path.

7 MR. BOB PETERS: Those follow the  
8 concrete?

9 MS. VALERIE MUSFELT: Yes.

10 MR. BOB PETERS: So the current  
11 critical path is determined by the concrete works?

12 MS. VALERIE MUSFELT: Definitely.

13 MR. BOB PETERS: And your colleagues  
14 to your left indicated that the concrete work still  
15 have two (2) more years to go according to the BBE  
16 scheduling?

17 MS. VALERIE MUSFELT: There are  
18 activities, yes.

19 MR. BOB PETERS: And once the concrete  
20 is finished, then there's some powerhouse possible  
21 constraints that could surface?

22 MS. VALERIE MUSFELT: That is correct.

23 MR. BOB PETERS: On your slide, the  
24 last bullet -- I'm sorry, okay.

25

1 (BRIEF PAUSE)

2

3 MS. VALERIE MUSFELT: I just wanted to  
4 add that the critical path could change. Can you just  
5 repeat the comment you said to me please, Mr.  
6 Campbell?

7 MR. DAN CAMPBELL: The critical path  
8 includes at the point -- this point in time, as she  
9 said, some concrete work but if, for example, they  
10 didn't do any work on the dikes for a year, the dikes  
11 might become on the critical path.

12 So that it's a variable as a function  
13 of the progress and it could change and we're only  
14 talking about what it appears to be at the point in  
15 time that she was looking at it.

16 MR. BOB PETERS: So I took two -- two  
17 (2) points from that, Mr. Campbell, and thank you.

18 You're saying that you agree that at  
19 this point in time or at least this point in time  
20 being October of 2017, concrete was on the critical  
21 path and was the first item on the critical path?

22 MR. DAN CAMPBELL: "First" is not the  
23 correct term. It's just on the critical path  
24 according to the analysis that MGF performed.

25 MR. BOB PETERS: It's the most -- it's

1 the item on the path that will have the most immediate  
2 negative impact if it's not done on schedule?

3 MS. VALERIE MUSFELT: Yes, that's  
4 correct.

5 MR. BOB PETERS: And so, Mr. Campbell,  
6 you're telling the Board that just because concrete  
7 works are on that critical path, if Manitoba Hydro  
8 catches up on their concrete works, their earthworks  
9 on the dikes and dams could fall behind and then that  
10 would then be driving the critical path?

11 MR. DAN CAMPBELL: I'm not saying it  
12 could fall behind but as an example that I used, if  
13 they did no work on the dikes for a year then the  
14 dikes would then be -- likely become on the critical  
15 path.

16 MR. BOB PETERS: And -- and we know  
17 that, according to Manitoba Hydro and BBE's schedule,  
18 the dikes and the dams are -- the work is planned for  
19 the next two (2) years on those items as well?

20 MS. VALERIE MUSFELT: Yes.

21 MR. BOB PETERS: While we're -- oh,  
22 the last bullet on the slide in front of the Board  
23 talks about Hydro not accepting this negative float  
24 and that I understood from yesterday was because it  
25 was a term of the contract that was reviewed by MGF

1 that Manitoba Hydro was -- that -- was not to accept  
2 any negative float and BBE was not to incur any  
3 negative float?

4 MR. CAMPBELL ADAMS: Yes, it's  
5 stipulated in the contract that the schedules provided  
6 by BBE should not contain any activity with negative  
7 float.

8 MR. BOB PETERS: Okay, so what I was  
9 wondering and if you can help the Panel understand, on  
10 October the 7th, 2017 Ms. Musfelt says there's one  
11 thousand and thirty (1,030) activities with negative  
12 float and fifteen (15) of those are on the critical  
13 path with critical dates --

14 MS. VALERIE MUSFELT: No.

15 MR. CAMPBELL ADAMS: No. Sorry,  
16 ninety-seven (97) or on the critical path of that  
17 ninety-seven (97), eighty-five (85) are concreting  
18 activities that are on the critical path.

19 MR. BOB PETERS: And so on October 7th  
20 that was the situation that existed as found by MGF,  
21 correct?

22 MS. VALERIE MUSFELT: That is correct.

23 MR. BOB PETERS: And then we hear  
24 yesterday that Manitoba Hydro has done a new schedule,  
25 I think it was in November 2017, and you haven't seen

1 that?

2 MS. VALERIE MUSFELT: No.

3 MR. BOB PETERS: How is it possible  
4 that in the space of a month or two, one thousand and  
5 thirty (1,030) activities with negative float can be  
6 erased and no longer a negative float?

7 MS. VALERIE MUSFELT: It has to do  
8 with the constraints. So, they would have had to do  
9 something with the constraints or change the logic on  
10 the schedule.

11 MR. BOB PETERS: It doesn't mean that  
12 the actual work has been done?

13 MS. VALERIE MUSFELT: No.

14 MR. BOB PETERS: So it means that the  
15 constraint that was causing the bottleneck has been  
16 removed?

17 MS. VALERIE MUSFELT: That is correct.

18 MR. BOB PETERS: And how do you remove  
19 a constraint from a schedule other than erasing it?

20 MS. VALERIE MUSFELT: You're -- that -  
21 - that is how you remove it. You just say that  
22 constraint no longer exists.

23 MR. BOB PETERS: Well, just saying it  
24 doesn't exist, does that mean it doesn't exist?

25 MS. VALERIE MUSFELT: No.

1 MR. BOB PETERS: And how would you  
2 know if it does, in fact, exist?

3 MS. VALERIE MUSFELT: I would assume  
4 that some of these dates may have been -- I cou --  
5 actually, at this point I can only speculate. I can't  
6 really say anything with any facts.

7 MR. BOB PETERS: All right. Well,  
8 it's best not to -- to go there then.

9

10 (BRIEF PAUSE)

11

12 MR. DAN CAMPBELL: When a schedule is  
13 developed, it's developed by -- typically by a group  
14 of people or a person using a particular form of logic  
15 and making some assumptions on how work is going to be  
16 done.

17 And as the project proceeds, if you  
18 realize that something is not happening quick enough,  
19 it's reasonable -- and I believe Manitoba Hydro has  
20 done this -- to probably go back and look and see,  
21 okay, if we're not going to finish this particular  
22 item on time, what else can we do elsewhere in the  
23 schedule to try and catch up or make sure that it --  
24 that the project finishes on time.

25 And so, the -- just because you had a

1 particular constraint at a particular time, it may  
2 change if you relogic the schedule and that's  
3 something that presumably BBE and/or Manitoba Hydro  
4 have done in -- in the November version that we  
5 haven't seen.

6 MR. BOB PETERS: Can you give some  
7 examples, Mr. Campbell, of doing something else to  
8 avoid the constraint? What would be a practical  
9 example of that?

10 MR. DAN CAMPBELL: You could, for  
11 example, decide to work nights on some particular  
12 component of the project and by doing that, your  
13 product -- your complete -- the work that you complete  
14 in a particular time might be faster and,  
15 consequently, you -- that constraint which you saw you  
16 were going to be late on, you may be able to catch up  
17 time on the schedule.

18 Or you could decide to do something in  
19 a different order if it made sense. One example on a  
20 hydroelectric project is sometimes you build the  
21 spillway in its entirety before you divert. In other  
22 projects you build a portion of the spillway and you  
23 divert through that portion and then you complete the  
24 rest of the spillway behind stop locks. So, it  
25 depends a little bit on your -- the logic that you're



1 using and it depends a lot on what your schedule for  
2 the overall project is and what, ultimately, becomes  
3 the issue.

4 MR. BOB PETERS: Even though BBE and  
5 Manitoba Hydro could work evenings to accomplish the  
6 work that was the bottleneck, that doesn't mean their  
7 productivity necessarily increases, it just means the  
8 timeline or the schedule increases; is that correct?

9 MS. VAL MUSFELT: More than likely the  
10 productivity would decrease.

11 MR. BOB PETERS: I've got your point.  
12 Ms. Musfelt, before I leave that, did you have an  
13 opportunity to look at other historical schedules  
14 prior to the October 6th, 2017 one we've talked about?

15 MS. VALERIE MUSFELT: Yes, I -- I  
16 looked at three (3) months prior.

17 MR. BOB PETERS: Is that three (3)  
18 separate schedules or is that one (1) schedule done  
19 three (3) months earlier?

20 MS. VALERIE MUSFELT: There -- they do  
21 an update to the schedule every three -- every month  
22 so, basically, I looked at the May, the June --  
23 actually I looked at the May, the June, the July, the  
24 August and the September schedules prior to that one.

25 MR. BOB PETERS: That was all 2017?

1 MS. VALERIE MUSFELT: That was all  
2 2017.

3 MR. BOB PETERS: Was there negative  
4 float in any of those schedules?

5 MS. VALERIE MUSFELT: I didn't  
6 specifically look for negative float in those other  
7 schedules. I was looking -- doing all of my analysis  
8 on the current schedule.

9 MR. BOB PETERS: Keeping in mind this  
10 negative float on the Keeyask project, I want to turn  
11 on the slides from yesterday, MGF Exhibit 4 to slide  
12 37.

13 Ms. Musfelt, this happens to be related  
14 to the Manitoba Minnesota transmission line project.

15 MS. VALERIE MUSFELT: Yes.

16 MR. BOB PETERS: And in it you  
17 introduced to this Board some words like "high logic  
18 density," "missing logic" and "high duration."

19 Do you remember that?

20 MS. VALERIE MUSFELT: Yes.

21 MR. BOB PETERS: Did you look for the  
22 same high logic density and missing logic and high  
23 duration related to the Keeyask project?

24 MS. VALERIE MUSFELT: Yes.

25 MR. BOB PETERS: Do any of these

1 comments apply to the Keeyask scheduling in addition  
2 to MMTP?

3 MS. VALERIE MUSFELT: Yes.

4 MR. BOB PETERS: Can you explain how  
5 that -- how that works?

6 MS. VALERIE MUSFELT: Well, if an  
7 activity is missing logic -- first off, when you're  
8 working on a critical path model which is what  
9 Manitoba Hydro uses, the whole idea of a critical path  
10 is that each activity is dependent on another  
11 activity.

12 So if there are logical links that are  
13 missing then you don't really know what the end date  
14 of your project's going to be because they have to be  
15 sequenced. So that would be the concern with the  
16 missing logic. If there's missing logic or inaccurate  
17 logic, you have to -- you can't rely as much on the  
18 dates that are in the schedule because there could be  
19 links that are missing that would push those dates  
20 further.

21 If you have high density or pardon me,  
22 if you have high duration, frequently it means that  
23 the activity has not broke -- been broken down into  
24 enough detail to properly sequence it. So if you have  
25 an activity that's sixty (60) days that's not a true

1 picture of maybe you can do part of it within that  
2 sixty (60) days; there may be some overlap. So it  
3 just makes it very hard to properly sequence.

4 Now in Manitoba Hydro's case, they do  
5 use rolling wave planning and rolling wave planning  
6 says, let's start out with a high duration activity  
7 and as we get closer to doing the work, we'll break it  
8 down into more detail. And that's generally what I  
9 would expect to see in a schedule like MMTP that has  
10 not yet started construction.

11 I would expect to see high durations  
12 simply because those activities have not been broken  
13 down into detail yet.

14 MR. BOB PETERS: But you didn't expect  
15 to see those in the BBE schedule on the Keeyask  
16 project?

17 MS. VALERIE MUSFELT: You would still  
18 see -- there again, following that rolling wave  
19 planning usually it could be, let's say, two (2)  
20 months prior to the work being done, you could still  
21 see those high durations.

22 MR. BOB PETERS: As a result of that  
23 then, are you able to say whether this high logic  
24 density or this high duration that you found on the  
25 BBE schedule contributed to the delay of Keeyask?

1 MS. VALERIE MUSFELT: Can you repeat  
2 that question, please?

3 MR. BOB PETERS: I'll ask it a  
4 different way. You're telling this Board that the  
5 high logic density and the high duration aspects were  
6 found not only in the MMTP schedule but also in the  
7 Keeyask schedule?

8 MS. VALERIE MUSFELT: That is correct.

9 MR. BOB PETERS: And the Keeyask  
10 schedule is it the -- is the schedule that you're  
11 referring to the master schedule or is it the BBE  
12 schedule?

13 MS. VALERIE MUSFELT: I -- I did an  
14 analysis on both.

15 MR. BOB PETERS: And did they both  
16 contain aspects of high duration and high logic  
17 density?

18 MS. VALERIE MUSFELT: Yes.

19 MR. BOB PETERS: And was that expected  
20 or unexpected from your perspective?

21 MS. VALERIE MUSFELT: It like -- it --  
22 I would expect to see some. Let's just say that it  
23 was for the most part on the BBE it was more or less  
24 within the right parameters.

25 THE VICE-CHAIRPERSON: Mr. Peters,

1 could I ask a question while you're on this slide?

2 MR. BOB PETERS: Certainly.

3 THE VICE-CHAIRPERSON: This is a  
4 question I should have asked yesterday.

5 But you spoke about the metric of logic  
6 density looks at the number of logic steps and then --  
7 that a rating of greater than 4 is an overly complex  
8 schedule?

9 MS. VALERIE MUSFELT: Yes.

10 THE VICE-CHAIRPERSON: So would you  
11 have done that assessment on the Keeyask schedule as  
12 well?

13 MS. VALERIE MUSFELT: Yes.

14 THE VICE-CHAIRPERSON: And do you have  
15 a recollection of what the rating there would have  
16 been?

17 MS. VALERIE MUSFELT: That one also  
18 came up with the high -- it just means that it's a  
19 very complex -- it means that there's a lot of  
20 activities that have to be -- that feed into a -- one  
21 (1) activity so if those are delayed then it -- it can  
22 delay the -- the schedule; that's really what it's  
23 referring to and you will see this typically on the  
24 schedules that have high durations. So if there's  
25 high durations you can't -- it's not broken down into

1 enough detail to properly sequence.

2 THE VICE-CHAIRPERSON: But you said  
3 the metric of greater than 4 means an overly complex  
4 schedule.

5 MS. VALERIE MUSFELT: Yes.

6 THE VICE-CHAIRPERSON: Is that a  
7 criticism of the schedule or is that more a reflection  
8 of the complexity of the project?

9 MS. VALERIE MUSFELT: It could be a  
10 combination of both. Sometimes the -- like, with some  
11 of the stuff I was looking at, in some cases it was  
12 just -- there was a lot of redundant logic, where you  
13 would say, (a) has to happen before (b). (b) has to  
14 happen before (c) but then they would also say, (a)  
15 also has to happen before (c); that's not a necessary  
16 link and that can lead to that metric.

17 THE VICE-CHAIRPERSON: Okay, thank  
18 you.

19

20 CONTINUED BY MR. BOB PETERS:

21 MR. BOB PETERS: I would like to turn  
22 to Board counsels' book of documents, volume 6,  
23 Exhibit -- Exhibit 42-6 and page 97.

24 When we talk about scheduling we now  
25 want to turn to the risks that remain for the Keeyask

1 project and at the bottom underneath this chart  
2 highlighted on the bottom of this page and I think  
3 actually on the top of the next page, Manitoba Hydro  
4 has set out the three (3) largest risks that remain.

5 Are you familiar with those?

6 MR. CAMPBELL ADAMS: Yes.

7 MR. BOB PETERS: Are you in a position  
8 to indicate to the Board what MGF's position is with  
9 respect to each of these three (3) risks?

10 So let's start with the labour  
11 productivity. You -- you're aware of Manitoba Hydro's  
12 position that they're working on it and your evidence  
13 is that you haven't seen the results?

14 MR. CAMPBELL ADAMS: Correct. That --  
15 that to us is the biggest risk.

16 MR. BOB PETERS: And until you see the  
17 results, it's going to remain the largest risk?

18 MR. CAMPBELL ADAMS: We agree.

19 MR. BOB PETERS: And the unknown  
20 geotechnical issues, again, that's one that Mr.  
21 Campbell spoke about and at this point in time it's  
22 just a question mark as to whether or not it's -- it's  
23 even going to be a problem?

24 MR. CAMPBELL ADAMS: Correct.

25 MR. BOB PETERS: And then on page 98



1 the weather. And did I understand that MGF has  
2 learned that Manitoba Hydro plans to work through the  
3 winter season regardless of the weather?

4 MR. CAMPBELL ADAMS: We believe there  
5 is a winter program being planned or may be executed -  
6 - I'm -- I'm not sure of the status of that.

7 My -- my comment on those three (3)  
8 risks is that one (1) is controllable and two (2) are  
9 not.

10 MR. BOB PETERS: The point of that  
11 comment, Mr. Adams, is to indicate that rather than  
12 worry about the two (2) uncontrollable ones, just deal  
13 with the one (1) you can?

14 MR. CAMPBELL ADAMS: Focus your  
15 efforts on those matters that you can control.

16 MR. BOB PETERS: And you -- you  
17 understand Manitoba Hydro is making efforts to do  
18 that?

19 MR. CAMPBELL ADAMS: I believe so.

20

21 (BRIEF PAUSE)

22

23 MR. BOB PETERS: On Exhibit MGF-4-1,  
24 which was your estimated project value, you built in a  
25 contingency as the last item of approximately \$896

1 million?

2 MR. CAMPBELL ADAMS: Yes.

3 MR. BOB PETERS: When you look at the  
4 remaining risks for Keeyask, is that contingency  
5 adequate?

6 MR. CAMPBELL ADAMS: It's -- it's our  
7 best guess at the moment with those likely risks on a  
8 contractor and a cost reimbursable pricing mechanism  
9 with four (4) years to go, on a contractor who has not  
10 performed as promised over the last two (2) seasons,  
11 last two (2) years.

12 MR. BOB PETERS: Well, is the  
13 contingency built up based on current productivity  
14 continuing through the next two (2) years for concrete  
15 and earthworks?

16 MR. KIERAN FLANAGAN: The current  
17 productivity is taken into account -- or actual  
18 productivity to date is taken into account of both the  
19 contingency, so it'll be in the concrete productivity,  
20 the earthworks productivity. In the contingency,  
21 we've allowed for worsening productivity that may come  
22 into play based on if things don't improve, that  
23 there's winter work coming up, and the concrete work  
24 is more intricate.

25

1 (BRIEF PAUSE)

2

3 MR. BOB PETERS: Thank you. I'd like  
4 to turn to Bipole III.

5

6 (BRIEF PAUSE)

7

8 MR. BOB PETERS: And in this  
9 particular case, the examination started when the  
10 project cost for the converters and the transmission  
11 line was at \$4.65 billion and increased to \$5.04  
12 billion. Is that correct?

13 MR. CAMPBELL ADAMS: Can we see the  
14 slide you're referring to, please?

15

16 (BRIEF PAUSE)

17

18 MR. BOB PETERS: To complete that  
19 thought, if we go to Volume VI of Board counsel's book  
20 of documents, page 5, and we look at the Bipole III  
21 line highlighted in beige, maybe orange, we see that  
22 in the capital expenditure forecast 15 as well as 14,  
23 the cost was estimated at \$4.653 billion, correct?

24 MR. CAMPBELL ADAMS: Yes.

25 MR. BOB PETERS: And then the -- since

1 then in the current proceedings, the Bipole III cost  
2 has increased to \$5.042 billion?

3 MR. CAMPBELL ADAMS: That's what it  
4 says, yes.

5 MR. BOB PETERS: And that's broken  
6 down as between the converter station as well as the  
7 transmission line, correct?

8 MR. CAMPBELL ADAMS: Yes.

9 MR. BOB PETERS: And in terms of the  
10 converter stations, in Volume VI on page 143, and one  
11 (1) -- 143, the converter station -- in this case,  
12 there's two (2) converter stations, correct, one (1)  
13 in Northern Manitoba, one (1) in Southern Manitoba?

14 MR. CAMPBELL ADAMS: Correct.

15 MR. BOB PETERS: That's the  
16 Keewatinohk in the North, and Riel in the South?

17 MR. CAMPBELL ADAMS: Yes.

18 MR. BOB PETERS: The increase on those  
19 projects was about 105 or \$106 million?

20 MR. CAMPBELL ADAMS: You're referring  
21 to the delta between two point seven (2.7) net billion  
22 less two point six (2.6)?

23 MR. BOB PETERS: Correct.

24 MR. CAMPBELL ADAMS: I'll go with  
25 your math.

1 MR. BOB PETERS: I went to the same  
2 math class that Ms. Van Iderstine did, so.

3 MR. CAMPBELL ADAMS: Oh-oh.

4 MR. BOB PETERS: Of course, I was in  
5 an earlier year, that's what I meant to say.

6 MR. CAMPBELL ADAMS: All right.

7 MR. BOB PETERS: And so at the top of  
8 page 144 of this slide, on the next page, we'll see  
9 that at -- the budget increased by the \$106 million in  
10 the first -- we'll go to the first sentence on the  
11 page, please. Thank you.

12 MR. CAMPBELL ADAMS: Yes.

13 MR. BOB PETERS: When the Board looks  
14 to determine whether this project is going to be  
15 delivered on cost and on -- on budget, there still  
16 remains a matter of the contingencies that are  
17 included in that forecast, correct?

18 MR. CAMPBELL ADAMS: Sorry, can you  
19 repeat the question, please?

20 MR. BOB PETERS: I'll come at it this  
21 way. I believe if we turn -- I'd like to turn to the  
22 presentation that Mr. Brand and Amplitude have, which  
23 is marked as MGF-5. And Mr. Brand, you're certainly  
24 welcome to -- to join at any time, and don't hesitate  
25 to interrupt. We recognize there may be a slight time

1 lag from the time we ask our questions to the time you  
2 hear them and respond.

3 But we're looking at the contingencies  
4 that are available for Bipole III and wondering  
5 whether or not the existing contingencies are  
6 sufficient for the work still to be performed on -- on  
7 the converter stations.

8

9 (BRIEF PAUSE)

10

11 MR. BOB PETERS: Mr. Brand, are you  
12 there?

13 MR. LES BRAND: Yes, I'm here. I'm  
14 sorry, was -- was that a question?

15 MR. BOB PETERS: Obviously not. I  
16 will -- I'll rephrase it, sir, and thank you. In  
17 looking at the contingencies that remain for the  
18 converter stations, what can you tell this Board as to  
19 whether or not they are going to be sufficient? And  
20 I'm referring to the slides -- slide number 11  
21 particularly.

22 MR. LES BRAND: Okay. So with slide  
23 number 11, we had to remove a fair bit of information  
24 because of commercially-sensitive information, but we  
25 were able to analyze the remaining contingency and the

1 remaining budgets. We compared it against the  
2 outstanding payment milestones, or progress payments,  
3 and made the assessment that we believe there is  
4 sufficient contingency about it.

5 MR. BOB PETERS: I take from your  
6 answer -- and I don't want you to put the  
7 commercially-sensitive information on the public  
8 record, and I thank you for not doing so, is it  
9 Amplitude's conclusion that the Bipole III converter  
10 stations will be completed on time and on budget?

11 MR. LES BRAND: We -- looking at  
12 whether it's going to be considered on time is not a  
13 part of our scope, but we believe, based on the  
14 information that's been -- been provided, that it's on  
15 budget, yes.

16 MR. BOB PETERS: All right. Thank  
17 you. Let's shift away from the converter stations to  
18 the transmission line portion. And on page 146 of  
19 Board counsel's sixth Volume of documents, we see that  
20 on the transmission line, there was \$302 million of a  
21 cost overrun from the last capital expenditure  
22 forecast, correct?

23 MR. CAMPBELL ADAMS: Correct.

24 MR. BOB PETERS: And on page 165 of  
25 the MGF report -- I'm sorry, on page 165 of Board

1 counsel's book of documents, page 112 of the MGF  
2 report, this Board will understand that MGF believes  
3 that the contingency appears sufficient for this  
4 project?

5 MR. CAMPBELL ADAMS: Yes, that's our  
6 view.

7 MR. BOB PETERS: And on page 166 of  
8 Board counsel's book of documents, MGF indicates that  
9 there are three (3) risks for which a reserve may be  
10 needed, correct?

11

12 (BRIEF PAUSE)

13

14 MR. CAMPBELL ADAMS: The components  
15 you see there are the items that were used to compile  
16 the -- the contingency value.

17 MR. BOB PETERS: Do those remain risks  
18 on the Bipole III transmission line?

19

20 (BRIEF PAUSE)

21

22 MR. CAMPBELL ADAMS: We believe the  
23 answer is...

24

25 (BRIEF PAUSE)



1 MR. CAMPBELL ADAMS: I'll try to get  
2 it right, Cheryl, before I leave. We -- we believe  
3 that they're appropriate, with the exception of the --  
4 the bidding market. We don't think that's as  
5 applicable today.

6 MR. BOB PETERS: I didn't catch your -  
7 - your comment. The bidding market?

8 MR. CAMPBELL ADAMS: Yeah, the bidding  
9 market.

10 MR. BOB PETERS: Is -- is not a risk?

11 MR. CAMPBELL ADAMS: Not -- not any  
12 longer, no. Contracts are placed, and they're  
13 underway.

14 MR. BOB PETERS: On page 168 of Board  
15 counsel's sixth book of documents, MGF identified a  
16 risk with one (1) of the contractors and the  
17 performance of one (1) of the contractors on the line,  
18 correct?

19 MR. CAMPBELL ADAMS: Correct.

20 MR. BOB PETERS: Is -- MGF is aware  
21 that Manitoba Hydro has taken steps with respect to  
22 that contractor?

23 MR. CAMPBELL ADAMS: Yes, we -- we  
24 believe they have descoped the contractor who wasn't  
25 performing.

1 MR. BOB PETERS: And the additional  
2 costs were going to be paid for out of the contingency  
3 fund?

4 MR. CAMPBELL ADAMS: The additional  
5 costs caused by the underperforming contractor can be  
6 recovered from that contractor by Hydro because of  
7 that contractor's default.

8 MR. BOB PETERS: What you're saying is  
9 Manitoba Hydro can -- can take legal action to recover  
10 the additional costs?

11 MR. CAMPBELL ADAMS: If they --  
12 Manitoba Hydro, in their letter of the 9th of  
13 November, have reserved the right to recover damages  
14 from Rokstad.

15 MR. BOB PETERS: If those damages  
16 aren't recovered, is there sufficient funds in the  
17 contingency to carry that risk of a new contractor  
18 coming into finish that work?

19 MR. CAMPBELL ADAMS: I can't answer  
20 that, because I don't know the value of the damages,  
21 and we -- we haven't seen the new contract.

22 MR. BOB PETERS: Even though you  
23 haven't seen the contract, is it MGF's advice to this  
24 Board that the Bipole III transmission line will come  
25 in on budget and on schedule?

1 MR. KIERAN FLANAGAN: Without seeing  
2 the new contract, we don't know what the -- if there  
3 is an overrun or additional costs. We don't know.

4 MR. BOB PETERS: And in terms of  
5 scheduling, are you in any position to indicate  
6 whether it can be completed in 2018 as expected, or  
7 whether it's going to result in a lost year?

8 MR. CAMPBELL ADAMS: We -- we can't  
9 comment on the -- the new contractors come on board,  
10 but there -- there are still four (4) months of float  
11 in the -- the contract for it to be completed by the  
12 31st of July this year.

13 MR. BOB PETERS: Four (4) months of  
14 positive float?

15 MR. CAMPBELL ADAMS: Correct.

16 MR. BOB PETERS: Which is a good  
17 thing?

18 MR. CAMPBELL ADAMS: Yes.

19 MR. CAMPBELL ADAMS: And had Rokstad  
20 stayed on, would Manitoba Hydro have completed the  
21 Bipole transmission line within the schedule?

22 MR. CAMPBELL ADAMS: That's -- that's  
23 a difficult one to answer, because Rokstad's work has  
24 to be completed in the winter construction season. I  
25 think there is sufficient risk that Hydro did the

1 right thing in taking scope off the contractor that  
2 wasn't performing and pulling another contractor in to  
3 mitigate that risk.

4 MR. BOB PETERS: Thank you. I want to  
5 turn to the Manitoba-Minnesota Transmission Line. And  
6 the essence of this transmission line was, I believe  
7 in your slides, a \$453 million cost estimate. Is that  
8 correct?

9 MR. CAMPBELL ADAMS: I think so.  
10 Could we turn to the slide, please?

11 MR. BOB PETERS: I was afraid you were  
12 asking that.

13 MR. CAMPBELL ADAMS: Yes.

14 MR. BOB PETERS: Thank you, Kristen.

15

16 (BRIEF PAUSE)

17

18 MR. BOB PETERS: Was that number  
19 arrived at before or after Manitoba Hydro updated  
20 their Bipole III cost estimate to \$5 billion?

21 MR. CAMPBELL ADAMS: Are we talking  
22 about Bipole or MMTP?

23 MR. BOB PETERS: The cost estimate for  
24 the Manitoba-Minnesota Transmission Line project is  
25 \$453 million. You've agreed with that?

1 MR. CAMPBELL ADAMS: Yes.

2 MR. BOB PETERS: And do you know if  
3 that estimate was derived before or after Manitoba  
4 Hydro increased its Bipole III cost estimates?

5 MR. WILLIAM HAIGHT: We can, if you  
6 want, search through the material and -- at the  
7 morning break and see if we can find the answer to  
8 that question.

9

10 CONTINUED BY MR. BOB PETERS:

11 MR. BOB PETERS: All right. So MGF  
12 isn't aware as to whether or not there were any  
13 lessons learned from Bipole III that have been  
14 incorporated into this \$453 million estimate?

15

16 (BRIEF PAUSE)

17

18 MR. CAMPBELL ADAMS: Our expectation  
19 would be that they would take lessons learned from  
20 Bipole III to MMTP.

21 MR. BOB PETERS: And -- and my -- the  
22 point I'm trying to get at, Mr. Adams, is do we know  
23 whether or not this cost estimate embeds those lessons  
24 learned, or was this estimate before the lessons were  
25 learned?

1 MR. CAMPBELL ADAMS: We'll have to  
2 come back to you on that one. We're looking  
3 presently.

4 MR. BOB PETERS: All right. And I'll  
5 thank Mr. Devereux as well, but also ask Mr. Haight to  
6 take that as an undertaking to come back to the Board  
7 to advise as to whether the cost estimate on which MGF  
8 has given an opinion was calculated before or after  
9 Manitoba Hydro had increased its Bipole III cost  
10 estimates.

11 MR. WILLIAM HAIGHT: Yes.

12

13 --- UNDERTAKING NO. 74: MGF to advise as to  
14 whether the cost estimate  
15 on which MGF has given an  
16 opinion was calculated  
17 before or after Manitoba  
18 Hydro had increased its  
19 Bipole III cost estimates

20

21 CONTINUED BY MR. BOB PETERS:

22 MR. BOB PETERS: One (1) of the points  
23 on page 183 of Board counsel's sixth book of documents  
24 has to do with benchmarking at the bottom of the page,  
25 and Stanley consulting provided a -- an industry

1 benchmark is what I've understood it to be. Can Mr.  
2 Potter or Mr. Phillips confirm that?

3 MR. DUANE PHILLIPS: Yes, we did.

4 MR. BOB PETERS: Can you tell this  
5 Board and -- and sorry, could you identify who was  
6 just speaking?

7 MR. DUANE PHILLIPS: Duane Phillips.

8 MR. WILLIAM HAIGHT: And -- and this  
9 is Bill Haight speaking. If -- if you want to have  
10 Mr. Phillips answer all the questions, that's great.  
11 If you want to have Mr. Potter answer some, if you  
12 could just identify for the court reporter who's  
13 speaking before you answer the question, that would be  
14 great. Thank you.

15 MR. DUANE PHILLIPS: We will do that.

16

17 CONTINUED BY MR. BOB PETERS:

18 MR. BOB PETERS: And Mr. Phillips, can  
19 you tell this Board on what data the Stanley  
20 consulting rely to come up with a benchmark in terms  
21 of dollars per kilometre?

22 MR. DUANE PHILLIPS: Yeah, the  
23 benchmarking -- the data that we used was based on a  
24 Western Electric Council report that was done in 2014.  
25 It was based on a -- a mid-American -- mid -- mid-

1 continent, independent system operator report done on  
2 2016, and it was also based on six (6) projects in the  
3 upper Midwest area, one (1) of which extended into  
4 Alberta, you know, to where we had knowledge and  
5 access to those reports.

6 MR. BOB PETERS: I took from that  
7 answer, Mr. Phillips, that there's three (3) separate  
8 pieces of information that went into the Stanley  
9 consulting benchmark?

10 MR. DUANE PHILLIPS: Yes, there were.  
11 The -- two (2) of those were the reports that are --  
12 published reports. The other one was a -- a data that  
13 we held internally based on six (6) different projects  
14 --

15 MR. BOB PETERS: And on --

16 MR. DUANE PHILLIPS: -- was the third  
17 element.

18 MR. BOB PETERS: -- and on the screen  
19 in front of us, we're looking at the public  
20 information which has redactions, but we see the  
21 Stanley consulting transmission line benchmark at  
22 approximately \$1.95 million per kilometre Canadian  
23 funds? That's correct, is it?

24 MR. DUANE PHILLIPS: I don't have  
25 access at it to look at what you're looking, but that



1 number sounds correct.

2

3

(BRIEF PAUSE)

4

5

MR. BOB PETERS: We'll stay with page  
6 183 of Board counsel's book of documents. It's -- Mr.  
7 Phillips, if you have a copy of the MGF report,, I'm  
8 actually referring to page 128 of the public version  
9 that contains redactions. Have you got that document,  
10 sir?

11

MR. DUANE PHILLIPS: I have that  
12 document. I will turn to page 128, and then I will --  
13 just a moment, sir.

14

15

(BRIEF PAUSE)

16

MR. DUANE PHILLIPS: I'm on page 128,  
17 sir.

18

MR. BOB PETERS: And I just want to  
19 make it clear -- this is a bit awkward, but I do not  
20 want you to indicate at this time anything about the  
21 Great Northern Transmission Line cost, because that  
22 has been redacted from the public record on our  
23 versions. Do you understand me on that?

24

MR. DUANE PHILLIPS: I understand  
25 that, sir.

1 MR. BOB PETERS: All right. Thank  
2 you. So when we compare the Stanley consulting  
3 benchmark of \$1.95 million per kilometre, we see that  
4 Manitoba Hydro has forecast a \$1.47 million Canadian  
5 per kilometre, correct?

6 MR. DUANE PHILLIPS: That is correct.

7 MR. BOB PETERS: And when Stanley sees  
8 that, that causes Stanley to question whether or not  
9 Manitoba Hydro is -- is accurate?

10 MR. DUANE PHILLIPS: I do not believe  
11 that that is a fair assessment. I believe that a fair  
12 way of presenting that would be that -- that we would  
13 have some questions, and want to have a further  
14 understanding of why that number is lower than the  
15 benchmark number.

16 There are many factors that could --  
17 that caused that -- that to be, and we would just want  
18 to have a better understanding of those.

19 MR. BOB PETERS: All right. And in  
20 fairness to -- to you gentlemen from Stanley, on page  
21 184 of Board counsel's book of documents, which is the  
22 very next page in the MGF report, Stan -- Stanley and  
23 MGF have shown this Board some of the activities where  
24 the costs of the Manitoba-Minnesota line appear lower  
25 than other industry projects.

1                   Is that a correct interpretation of the  
2 evidence?

3                   MR. DUANE PHILLIPS:    Yes, it is.

4                   MR. BOB PETERS:    And going one (1)  
5 page further, page 185 of Board counsel's book of  
6 documents, but on page 130 of the MGF report, there's  
7 a listing of areas where the costs that were looked at  
8 by Stanley have come in higher than what would  
9 otherwise have been expected by Stanley?

10                  MR. DUANE PHILLIPS:   That is correct.

11                  MR. BOB PETERS:    And I'll take your  
12 third last answer to me to say that until you get more  
13 information, you -- you're not in a position to  
14 comment whether Manitoba Hydro's cost estimate of  
15 \$1.47 million per kilometre is reasonable or not?

16                  MR. DUANE PHILLIPS:   We would believe  
17 that -- that's a reasonable cost, that we would just  
18 want more information to understand where those  
19 variances are.

20                  MR. BOB PETERS:    All right.  Thank  
21 you.  Before I leave this, I understand that the  
22 Minnesota-Manitoba Transmission Line project is,  
23 according to the American Association of Cost  
24 Estimators, considered a class 4 project, Mr.  
25 Devereux?

1 MR. RYAN DEVEREUX: Based on the  
2 deliverables that were submitted to support the  
3 quantities and the scope definition, that was our  
4 assessment.

5 MR. BOB PETERS: Mr. Devereux, I need  
6 you to help this Board understand what the American  
7 Association of Cost Estimators does in terms of  
8 assigning these class 5, 4, 3, 2, 1 to projects. Are  
9 you familiar with that?

10 MR. RYAN DEVEREUX: I am, yes.

11 MR. BOB PETERS: And was it Mr. Holman  
12 of the validation estimating that My Friend opposite  
13 mentioned yesterday as the guru on -- on this topic?

14 MR. RYAN DEVEREUX: I don't know his  
15 qualifications in terms of investment classification  
16 determination, but I do know that he is quite active  
17 in the community, and his strength is, I think,  
18 related to risk analysis.

19 MR. BOB PETERS: All right. Well,  
20 we'll come back on that, then, but in terms of the  
21 class -- this is simply an indication to somebody as  
22 to how detailed and how thorough a job has been done  
23 in terms of putting a cost on a project?

24 MR. RYAN DEVEREUX: I would -- I would  
25 classify it more in the sense that as a project

1 evolves from its early inception stage, there's a  
2 series of deliverables and a level of maturity of the  
3 project that -- that accompanies the various stages, I  
4 guess. What those -- what those stages -- the  
5 deliverables increase in definition, and a better  
6 understanding of the project and -- and the definition  
7 can be assessed, and cost can be determined.

8 MR. BOB PETERS: And on page 187 of  
9 Board counsel's sixth book of documents, and for our  
10 friends following online, this is reference to a  
11 question the Public Utilities Board asked of MGF,  
12 number 22, and the response. So I'll -- I'll identify  
13 it in that fashion.

14 But Mr. Devereux, we see this chart  
15 starting at class 5, going down to class 1, correct?

16 MR. RYAN DEVEREUX: Correct.

17 MR. BOB PETERS: You're telling this  
18 Board that when a project starts off as a class 5,  
19 it's in its infancy, it's on the back of a -- an  
20 envelope in terms of its calculations, and zero to 2  
21 percent of maturity?

22 MR. RYAN DEVEREUX: I suppose you  
23 could classify it that way, yeah.

24 MR. BOB PETERS: Well, what I'm  
25 wondering is why is there such a lack of precision

1 when it comes to determining what cost estimate class  
2 a project is in? So -- so put another way, how much  
3 more time does Manitoba Hydro need to come up with a  
4 class 1 estimate for the Manitoba-Minnesota  
5 Transmission Line compared to this class 4 estimate  
6 that they have already?

7 MR. RYAN DEVEREUX: Well, effectively,  
8 it's all driven from the engineering deliverables in  
9 the project definition. So that would relate to a  
10 detailed execution plan, a defined scope of work, the  
11 degree to which engineering is completed. So the more  
12 definition and the more understanding you have in  
13 relation to your project, the -- I guess the -- the  
14 higher degree of accuracy you can have within the  
15 outcome.

16 MR. BOB PETERS: Well, I'm familiar  
17 with engineers being the bottleneck, but let's --  
18 let's take it -- let's take it --

19 MR. RYAN DEVEREUX: It's -- it's not  
20 all just related to the engineering. It's -- like I  
21 say, there's execution strategies, there's commercial  
22 decisions that come into play as well.

23

24

(BRIEF PAUSE)

25

1 MR. BOB PETERS: Mr. Devereux, if the  
2 engineering and planning folks had more time, does  
3 that yield a better cost estimate?

4 MR. RYAN DEVEREUX: I wouldn't  
5 necessarily say that. I would -- it -- it would also  
6 come down to the estimating team, and the -- the  
7 comprehension, and the understanding behind the scope.

8 MR. BOB PETERS: And so as we progress  
9 from a class 5 to a class 1, are we getting smarter  
10 engineers and planners? Is that what's happening, or  
11 more senior people, or how is it -- how is it done in  
12 terms of practice?

13 MR. RYAN DEVEREUX: No, I would say  
14 the level and -- and the depth to which the project is  
15 explored and defined increases. So more unknowns  
16 become known.

17 MR. BOB PETERS: is there any reason  
18 that those unknowns could not be discovered at an  
19 earlier time?

20 MR. KIERAN FLANAGAN: If the engin --  
21 engineering was progressed at an earlier time. It --  
22 it depends on the client's expectations. Let's say if  
23 you're -- to make it simpler, if you're building a  
24 building at the time, you might say, I want a twenty  
25 (20) bedroom hotel. That's all you have to work with

1 on the class 5 estimate. Once we start getting down  
2 to square footages, you can bring it to a -- a higher  
3 class, and it progresses as the design progresses.

4 MR. BOB PETERS: I take from those  
5 answers that if the Company expended more time and  
6 effort in coming up with a final price, they could  
7 move through these class estimates quickly and come --  
8 come closer to reality than -- than a -- a class 4  
9 estimate?

10 MR. CAMPBELL ADAMS: If you finish  
11 your design earlier, and then you go and get a lump  
12 sum price, then you move to a tighter control budget,  
13 because you've got a contractor on a lump-sum price  
14 for a design that's complete. Alternatively, if  
15 you're designing as you go, and paying for it as you  
16 go, there is obviously a bit more risk, potential for  
17 greater variability.

18 MR. BOB PETERS: All right. I -- I  
19 have your points on -- on the class estimates. And I  
20 suppose in fairness, Mr. Devereux, until the route and  
21 the permits are obtained, that too could be a  
22 complication in coming to a final cost estimate?

23 MR. RYAN DEVEREUX: That's correct.

24 MR. BOB PETERS: And those are  
25 generally later in the process than the -- than the



1 design stage?

2 MR. RYAN DEVEREUX: I -- I guess it  
3 all depends on when the requirements of the permitting  
4 is -- are outlined.

5 MR. BOB PETERS: Fair enough. I'm  
6 going to skip over the Great Northern Transmission  
7 Line because that's best discussed later this morning.  
8 And I wanted to conclude -- Mr. Devereux, don't go too  
9 far away, because you were extolling the virtues of  
10 Mr. Holman a few minutes ago. This has to do with the  
11 probability analysis that is performed by Mr. Holman  
12 and his validation estimating. You're familiar with -  
13 - with what he does in that area?

14 MR. RYAN DEVEREUX: I understand that  
15 he is actively involved in that area, yes.

16 MR. BOB PETERS: And as a result of  
17 certain methodologies, probabilities can be affixed to  
18 the end cost of a project, correct?

19 MR. RYAN DEVEREUX: That is correct.

20 MR. BOB PETERS: And in this  
21 particular case, it's my understanding that on the  
22 Bipole III project, we have a P75 confidence level for  
23 the cost of the converters. Is that also your  
24 understanding?

25 MR. RYAN DEVEREUX: That's what's been

1 carried, yes.

2 MR. BOB PETERS: And for the  
3 transmission line itself, there is a P80 confidence  
4 level?

5 MR. RYAN DEVEREUX: That's what's been  
6 carried in that project, yes.

7 MR. BOB PETERS: And when you say  
8 "been carried," the -- the probability level  
9 influences directly the contingency amount?

10 MR. RYAN DEVEREUX: That's correct.

11 MR. BOB PETERS: Now, the Bipole III  
12 line, we're led to believe, is in the final stages of  
13 completion, correct?

14 MR. RYAN DEVEREUX: That's correct.

15 MR. BOB PETERS: But for the  
16 Minnesota-Manitoba Transmission Line project, the  
17 shovels really aren't in the ground on that one yet?

18 MR. RYAN DEVEREUX: That's correct.

19 MR. BOB PETERS: So why is it  
20 appropriate for the Bipole III line to have  
21 probabilities of a P75 and P80 when they're almost  
22 finished projects, and again, Manitoba Hydro uses a  
23 P75 for the Manitoba-Minnesota Transmission Line?

24 MR. RYAN DEVEREUX: Sorry, I'm not  
25 sure I understand the question with --

1 MR. BOB PETERS: Let me --

2 MR. RYAN DEVEREUX: -- Minnesota-  
3 Manitoba and a P75.

4 MR. BOB PETERS: All right. And are  
5 you in a position to confirm or otherwise that  
6 Manitoba Hydro's cost estimate on the Manitoba-  
7 Minnesota Transmission Line is at a confidence level  
8 of P75?

9 MR. RYAN DEVEREUX: I don't believe it  
10 has been provided with a confidence level.

11 MR. BOB PETERS: All right. At this  
12 point in time, from the estimates you've seen, does  
13 MGF have an opinion as to what confidence level should  
14 be affixed to the cost estimate provided by Manitoba  
15 Hydro?

16 MR. RYAN DEVEREUX: For Minnesota-  
17 Manitoba --

18 MR. BOB PETERS: Correct.

19 MR. RYAN DEVEREUX: -- the  
20 transmission line? No, we are not in a position for  
21 that.

22 MR. BOB PETERS: Mr. Devereux, at what  
23 stage of the project should costs be considered a P50,  
24 or a P75, or P80 level?

25

1 (BRIEF PAUSE)

2

3 MR. CAMPBELL ADAMS: The -- there's a  
4 lot of moving parts to the answer to that. It could  
5 depend on the -- the level of definition. It could  
6 depend on the -- how far the design has progressed.  
7 It could depend whether you have got prices from  
8 contractors, or you're relying on historic cost data.

9 I -- I don't know that there is a rule  
10 of thumb that tells you what that answer would be.  
11 You -- you've got risks. It depends where it's being  
12 constructed. It depends if there's a lot of winter  
13 working. You've got contractor risk. You know, I  
14 could go on and on.

15 MR. BOB PETERS: Has MGF -- I'll let  
16 you -- I'll take -- you can take a minute.

17

18 (BRIEF PAUSE)

19

20 MR. BOB PETERS: Now that we've lost  
21 our trains of thought, was there anything further you  
22 wanted to add as a result of your discussions?

23 MR. CAMPBELL ADAMS: No, they would --  
24 they -- the -- the team were just discussing that from  
25 organization to organization, the appetite for risk

1 and taking risk varies, and some can go with a -- a  
2 lesser probability, and some will want better  
3 definition and go for a higher probability of a  
4 successful outcome.

5 MR. BOB PETERS: Mr. Devereux, in  
6 fairness to you, I -- I don't believe on the record,  
7 other than on transcript page 5,891, Mr. Penner from  
8 Manitoba Hydro has indicated that the Manitoba-  
9 Minnesota Transmission Line project has been costed at  
10 a P75 confidence level.

11 Would you accept that, subject to  
12 check?

13

14 (BRIEF PAUSE)

15

16 MR. RYAN DEVEREUX: I -- I can't add  
17 to that. I don't have any basis to agree or disagree.

18 MR. BOB PETERS: All right. So MGF  
19 doesn't have an opinion as to whether Manitoba Hydro  
20 is at that maturity level and confidence level for the  
21 costing of the Manitoba-Minnesota Transmission Line?

22 MR. RYAN DEVEREUX: That's correct.

23 MR. BOB PETERS: And maybe conclude on  
24 some discussion of -- at what point in time should  
25 these Hydro projects be developed before a go/no go

1 decision is -- is made on them?

2

3

(BRIEF PAUSE)

4

5 MR. DAN CAMPBELL: Typically, when a  
6 project -- and a Hydro project is probably not a lot  
7 different -- is being developed, the go/no go question  
8 is reviewed as the design is progressed. So someone  
9 will initially come up with the idea and do a initial  
10 estimate, and then they'll do some financial analysis  
11 and determine if it makes sense.

12 And then they might go forward and  
13 they'll do some conceptual engineering, and they'll  
14 review the new -- the updated cost estimate. They'll  
15 make a decision about whether it makes sense. And  
16 then eventually, they'll go forward to preliminary  
17 design, and then detailed design, and at each point in  
18 time, there's a review for the -- the updated cost  
19 estimate and a decision on whether to go forward.

20 And ultimately, when you have a  
21 complete des -- it -- depending on how you're doing  
22 it, but assuming you have a complete design, you'll  
23 take it to your board, or to somebody who actually is  
24 going to put the money on the table, and they'll have  
25 to bless it and go forward. So there's multiple

1 points in time when it's reviewed and decisions to  
2 stop or go forward are made.

3 MR. BOB PETERS: At the point in time  
4 when a decision has to be made to -- to put shovels in  
5 the ground, how detailed and what confidence level  
6 should be developed before that decision is made?

7 MR. KIERAN FLANAGAN: I would say a  
8 very high confidence level. Unless something  
9 disastrous happens in the geotech, you shouldn't be  
10 putting shovels in the ground unless you intend to go  
11 ahead with the project.

12 MR. BOB PETERS: And so when you say  
13 "a high level," are you talking a P75? Are you  
14 talking P80, P90?

15 MR. KIERAN FLANAGAN: In -- in all  
16 fairness, I don't do P75s. I do what's realistic and  
17 what's realistic is you shouldn't start a project  
18 unless you intend to follow through.

19 MR. BOB PETERS: But how do you know  
20 what the end product's going to cost you, Mr.  
21 Flanagan, if you don't have some probability before  
22 you start?

23 MR. KIERAN FLANAGAN: I suppose I come  
24 from the school that's -- the majority of projects  
25 I've worked on, it would be detailed design and

1 detailed geotech before you go on site.

2

3

(BRIEF PAUSE)

4

5 THE CHAIRPERSON: Sorry, can I -- can  
6 I ask a follow-up to that? How -- how do you do a  
7 detailed geotech on a project like Keeyask, where the  
8 sunk dam has no geotech yet, because the river's  
9 flowing.

10 MR. KIERAN FLANAGAN: And that's what  
11 I was saying. A -- a geotech as in-depth as you can.  
12 Obviously, that's the biggest risk. If you a detailed  
13 design, the biggest risk in design is what's  
14 underground.

15 THE CHAIRPERSON: Right. Okay.

16 MR. DAN CAMPBELL: And so you do the -  
17 - you do the best geotech you can. You put risk money  
18 on that particular item. You build up your cost  
19 estimate based on that. You make your financial  
20 analysis, and you go forward. And if the risks are  
21 sufficiently identified that the benefits outweigh the  
22 risks in your analysis, then you may go forward if you  
23 -- even if you don't know everything. And almost  
24 every project, you don't know everything, and that is  
25 the role of the, to some degree, the engineer to try



1 and minimize the -- the risks, in that sense. And  
2 geotech is the classic hydroelectric technical risk,  
3 geotech and hydrology.

4

5 CONTINUED BY MR. BOB PETERS:

6 MR. BOB PETERS: Mr. Campbell, you've  
7 indicated that your company KCB is involved in the  
8 Hydro generating station design level, correct?

9 MR. DAN CAMPBELL: Yes.

10 MR. BOB PETERS: Does -- does that  
11 design level also include your company coming up with  
12 the financial analysis and costs of the project?

13 MR. DAN CAMPBELL: We do a cost  
14 estimate -- a basic cost estimate at multiple points  
15 through a -- through a -- a project for clients, but  
16 ultimately, the -- the cost estimate that the client  
17 is using is a -- is a financial analysis, so he has --  
18 depending on whether he's financing it, or how he's  
19 financing it, or whether he's paying for it out of his  
20 cash account, or whatever, so that -- that decision is  
21 a financial decision, not a -- a cost estimate  
22 decision.

23 MR. BOB PETERS: Well, what level of  
24 definition does -- does your company provide before a  
25 go or no go decision is made on a Hydro generating

1 station?

2 MR. DAN CAMPBELL: We don't make the  
3 decisions to go forward, the clients do based on their  
4 financial analysis.

5 MR. BOB PETERS: But what level of  
6 design have you provided to them for them to do that?  
7 Are -- you have complete design done?

8 MR. DAN CAMPBELL: It depends on the  
9 risk/reward ratio. With private developers, they may  
10 jump in -- typically, they may jump in earlier than a  
11 public utility would.

12 MR. BOB PETERS: They're prepared to  
13 carry higher risk?

14 MR. DAN CAMPBELL: Yes, because they  
15 believe they've got a higher reward opportunity. But  
16 a hydroelectric project, certainly a project like  
17 Keeyask, is fundamentally an annuity in perpetuity.  
18 It's going to run for a very long time, right? And so  
19 pension funds and other financial institutions that  
20 are looking for long-term, stable financial returns  
21 tend to invest in hydroelectric projects, which is why  
22 -- public -- one (1) of the reasons public utilities  
23 build the bigger ones.

24 MR. BOB PETERS: Mr. Campbell, have  
25 you ever been involved in a project that's been

1 quantified at a P50 cost level?

2 MR. DAN CAMPBELL: I'm not a cost  
3 estimator, but the answer is yes.

4 MR. BOB PETERS: Did -- have you ever  
5 seen at a P50 project come in with costs under the P50  
6 level?

7 MR. DAN CAMPBELL: I don't recall.

8 MR. BOB PETERS: But you do recall  
9 seeing P50 projects coming in over the P50 level?

10 MR. DAN CAMPBELL: Yes.

11 MR. BOB PETERS: Last question to MGF.  
12 On page -- we're going to have to turn to MGF Exhibit  
13 2-1, which is the -- the public report. On page 130,  
14 at the bottom of the page, MGF was recommending an  
15 industry standard project stage gate process for  
16 Manitoba Hydro and the Manitoba-Minnesota Transmission  
17 Line. Do you see that? You won't, because it's at  
18 the bottom of the page. I apologize. I'm looking in  
19 the conclusions and recommendations, sir, on -- on  
20 page 130.

21 MR. CAMPBELL ADAMS: Yes, we see it.

22 MR. BOB PETERS: Can you explain to  
23 this Board what is the industry standard project stage  
24 gate process?

25 MR. CAMPBELL ADAMS: The stage gate

1 process is a -- I believe it started with the outcome  
2 of the Chevron, and it was -- it's a project  
3 management tool. It is designed to take a -- a  
4 project from its initial idea or idea, into concept  
5 selection, into tendering, into execution, and into  
6 oper -- into operation. Each of those five (5)  
7 phases, you've got to pass what's a gate to get from  
8 phase 1 to phase 2.

9                   There's certain requirements that  
10 you've got to comply with, and that -- that process  
11 brings rigour to the -- the state of readiness for the  
12 project team to take a project from one (1) phase to  
13 the next. That can be technical. It can be design.  
14 It can be commercial. It can be an economic analysis  
15 of the return on that investment.

16                   It talks about risks. To go from one  
17 stage to the next, the stage gate review is --  
18 normally involves a -- a peer review by other  
19 experienced and like-minded -- couple of projects  
20 professionals. It's multidisciplinary. Does that  
21 help?

22                   MR. BOB PETERS:    Was there any  
23 evidence, Mr. Adams, that Manitoba Hydro follows a  
24 stage gate review process?

25                   MR. CAMPBELL ADAMS:   We're -- we're

1 not -- we're not sure of that, and I think we made a  
2 recommendation for a -- a project manament --  
3 management office, a PMO, that might be consi -- that  
4 Hydro might consider this. It is typically the -- the  
5 project management office, certainly in the energy  
6 sector, that would be the -- the process owner of a  
7 stage gate process.

8 MR. BOB PETERS: And that stage gate  
9 process applies to Keeyask as well as to a  
10 transmission line?

11 MR. CAMPBELL ADAMS: Absolutely.  
12 Anything that's a capital project would benefit from  
13 this process in the -- in our experience.

14 MR. BOB PETERS: All right. I have  
15 your points. I thank you. Mr. Chair, I'd like to  
16 thank the witness panel for their answers to me this  
17 morning. Those conclude my questions.

18 THE CHAIRPERSON: Thank you. Mr.  
19 Haight, any re-examination?

20

21 RE-DIRECT EXAMINATION BY MR. WILLIAM HAIGHT:

22 MR. WILLIAM HAIGHT: I have one (1)  
23 question by way of re-examination, Mr. Chair, and it  
24 is for Mr. Campbell.

25 Mr. Campbell, do you recall yesterday

1 My Friend, Ms. Van Iderstine, asking you if you were  
2 aware that the Wuskwatim contract was a cost  
3 reimbursable contract with a target price? You were  
4 asked about that. And I believe you said that you  
5 were aware that it was.

6 MR. DAN CAMPBELL: I believe that I  
7 read something to that effect in some of the  
8 documentation, but that's all the information I have.

9 MR. WILLIAM HAIGHT: Right. So you  
10 wouldn't have any information as to whether the  
11 Wuskwatim contract contained the same anomalous  
12 definition of actual costs which made no connection  
13 between actual costs and the quantities and unit  
14 prices that you saw in this contract?

15 MR. DAN CAMPBELL: Correct.

16 MR. WILLIAM HAIGHT: No further re-  
17 examination.

18 THE CHAIRPERSON: Thank you. We will  
19 break for twenty (20) minutes, at which time we'll  
20 come back for the in-camera session. So Mr. Hacault,  
21 you're allowed to have a normal life, and we will cut  
22 the live stream and -- and continue at that point.

23 MR. WILLIAM HAIGHT: And I just wanted  
24 to tell our panels that are sitting in by live -- or  
25 by video stream that they are now excused as well.

1 Are they, for the CSI?

2 THE CHAIRPERSON: Now, that's an  
3 interesting --

4 MR. WILLIAM HAIGHT: Oh, no, no, not  
5 Les, but Stanley is, are they not?

6 THE CHAIRPERSON: That's an  
7 interesting question.

8 MR. WILLIAM HAIGHT: No, I'm sorry. I  
9 jumped the queue. No, they're not excused.

10 THE CHAIRPERSON: Well --

11 MR. WILLIAM HAIGHT: Excuse me.

12 THE CHAIRPERSON: -- we have to, you  
13 know, we're going to adjourn, but we'll figure this  
14 out and get back. And I'm just -- I'm just trying to  
15 figure how we keep them on and cut the live stream so  
16 the public can't --

17 MR. KURT SIMONSEN: We can cut the live  
18 stream.

19 THE CHAIRPERSON: Can we cut the live  
20 -- but keep Stanley on? Okay, that's what we will do.  
21 We will -- we will keep -- do we need Amplitude as  
22 well for the in-camera session? I would suggest that  
23 we keep Amplitude and -- and Stanley available for the  
24 -- for the in-camera session, but we will cut the live  
25 stream so that the public does not have access to the

1 -- to the testimony.

2                   Okay. We'll adjourn until eleven  
3 o'clock. Thank you.

4

5 --- Upon recessing at 10:42 a.m.

6

7                   (IN-CAMERA PROCEEDINGS IN PROGRESS)

8

9 --- Upon resuming at 2:15 p.m.

10

11                   THE CHAIRPERSON: Okay, if we could go  
12 onto the record. The -- the first thing that I wanted  
13 to put on the -- on the public record was to thank all  
14 of the people that -- both here and -- and on the  
15 phone who attended both yesterday and today before us.  
16 It was a very informative session, both -- both days.  
17 The information's important and we appreciate your  
18 attendance and assistance to the Board.

19                   I -- I could have said that in CSI, but  
20 I did want to put it on the public record. So, thank  
21 you very much. We will -- we've got a few -- a few  
22 matters and then we'll adjourn for the day.

23                   Mr. Peters...?

24                   MR. BOB PETERS: Thank you. I'm --  
25 I'm going to ask that the microphone be turned over to



1 Ms. Van Iderstine to talk about an undertaking that  
2 the Corporation had given in one of the responses to  
3 one of my questions, and it had to do with scheduling  
4 and it was pertinent because Ms. Musfelt, and others,  
5 have explained the scheduling issues to us and I'll  
6 leave it to Ms. Van Iderstine to explain what Manitoba  
7 Hydro is able to provide by way of response. Thank  
8 you.

9 MS. HELGA VAN IDERSTINE: So thank you  
10 very much. Appreciate this opportunity to clarify  
11 some of that. You may recall that Manitoba Hydro had  
12 given an Undertaking 55 to provide the PUB with an  
13 update of Manitoba Hydro's control schedule for the  
14 completion of Keeyask at the end of February or as  
15 soon as it's received.

16 As we've heard the evidence this  
17 morning, we understood that something a little more  
18 was being requested, and we were guessing it as we  
19 heard the evidence. But, I can tell you and I did say  
20 yesterday that we had -- that we'd be able to provide  
21 you with Undertaking Number 55 and we will do that  
22 right now.

23 It will be entered as Exhibit Number  
24 131.

25

1 --- EXHIBIT NO. MH-131: Response to Undertaking  
2 No. 55.

3  
4 MS. HELGA VAN IDERSTINE: And the  
5 response to that undertaking was as follows: We have  
6 the updated forecast schedule for the general civil  
7 works contractor updated to December 2017. This  
8 forecast schedule for the GCC recovers the delay to  
9 the GCC schedule, thereby eliminating the negative  
10 float activities.

11 This schedule extends the concrete  
12 season by -- including winter concrete and adjust  
13 monthly production targets to reflect actual  
14 quantities achieved in 2016 and 2017 by the  
15 contractor.

16 The GCC forecast schedule demonstrates  
17 that the service bay and powerhouse unit 1 enclosure  
18 was achieved on schedule in December 2017 and  
19 enclosure of units 2 and 3 were achieved in late  
20 January 2018 on schedule.

21 The draft tube liner installation by  
22 the turbine and generator contractor began on schedule  
23 in late January 2018 and this schedule is forecasting  
24 river diversion through the spillway in August -- on  
25 August 31st, 2018.

1                   So that's the answer to that  
2 undertaking. The schedule which is attached is being  
3 entered as CSI. I have one (1) copy of it right now  
4 and I have a -- have a second -- another version on  
5 this -- this USB key that have been given. We will  
6 produce the other five (5) copies as soon as we can.  
7 It was just the photocopier downstairs was too slow to  
8 do it in a timely way. So, that's the answer to that  
9 undertaking.

10                   I would just like to add a couple of  
11 things that we spoke with Mr. Peters about and the  
12 first is that -- oh, before I go on to that, you'll  
13 have heard me say in answering that undertaking that -  
14 - about the completion of the -- of the -- an  
15 enclosure of the powerhouse and the stages it's at,  
16 those pictures of that are actually on the Manitoba  
17 Hydro's Twitter account for those of you who -- who  
18 follow Manitoba Hydro on Twitter and on Facebook.

19                   So the second issue that Mr. Peters  
20 asked me -- asked us about was in relation to the  
21 schedule which we are providing. This schedule which  
22 is being provided reflects only the schedule as it  
23 relates to BBE, the GCC. There was reference in some  
24 of the materials that were being looked at this  
25 afternoon to an integrated master schedule, and that

1 would include other contractors' schedules. When that  
2 integrated master schedule is available, we will --  
3 Manitoba Hydro will undertake to provide that whatever  
4 date that may be available. No, it's just a  
5 commitment, I would say.

6                   So I just to -- to clarify in case  
7 there's any confusion about what's being provided,  
8 this is not the control schedule either through the  
9 undertaking or through the integrated master schedule,  
10 which is being provided. The control schedule is  
11 something different. As Ms. Mayor is reminding me, it  
12 -- it does not change. It's more static. So it's not  
13 going to show you the -- where the progress is. It  
14 just -- it's the static document, okay.

15                   MR. BOB PETERS: I've long wanted the  
16 opportunity to cross-examine Mr. Van Iderstine and  
17 this might be as close as it comes but I'm not going  
18 to ask her to be sworn.

19                   I wonder if I could ask -- and I just  
20 want this for clarification from My Friends opposite,  
21 if they can help the Panel understand this issue, I  
22 would ask Ms. Schubert to bring up MGF's public --  
23 public slidedeck from their presentation yesterday and  
24 turn to page 12, slide 12.

25

1 (BRIEF PAUSE)

2

3 MS. HELGA VAN IDERSTINE: While Mr. --  
4 Mr. Peters is asking -- or looking for that -- the  
5 question to ask, I just would also like to remind you  
6 that the commitment we just made to provide the  
7 integrated master schedule is also a document that  
8 should be considered CSI.

9 MR. BOB PETERS: And so, Mr. Chair,  
10 I'm going to indicate what I understand Ms. Van  
11 Iderstine, on behalf of Manitoba Hydro, has indicated  
12 and if I make a mistake I'm going to ask her to  
13 certainly jump in and correct me.

14 But on the schedule, on page 12, you  
15 see in front of you a scheduling history and, Ms. Van  
16 Iderstine just indicated that the -- that this is not  
17 the integrated master schedule that is being filed  
18 today and we understand the integrated master schedule  
19 is the one identified in the purple bar on this chart.

20 Have I understood that correctly?

21 MS. HELGA VAN IDERSTINE: Yes, that is  
22 correct.

23 MR. BOB PETERS: And then what I do  
24 understand is that Manitoba Hydro is filing the  
25 updated schedule related to the general civil

1 contractor BBE and I believe that would be the blue  
2 bar on this chart that will be filed as an update.  
3 And because it may be CSI, I'm not asking to put any  
4 dates on the public record.

5 But I would like confirmation that what  
6 has been filed this afternoon, as an undertaking, is  
7 an update of the BBE schedule?

8 MS. HELGA VAN IDERSTINE: Yes, the  
9 blue line is the schedule which is being provided  
10 today.

11 MR. CAMPBELL ADAMS: Is -- is that the  
12 update to the baseline? Sorry.

13 MS. HELGA VAN IDERSTINE: It's the  
14 updated forecast for the general civil works contract  
15 updated to December 7 -- 2017,

16 I'm being advised if we go to slide 11.  
17 It's the second item which is being identified and  
18 which, as I'm now being advised, is not actually the  
19 blue line then but is what's reflected here.

20 MR. BOB PETERS: All right, thank you,  
21 Mr. Chair. We have it on the record. I think we --  
22 we have the understanding of what is being filed and I  
23 apologize, I did mess it up a little bit there, and I  
24 thank My Friends opposite for help getting me out of  
25 it.

1 MS. HELGA VAN IDERSTINE: I'm going to  
2 thank the advisors I have from Manitoba Hydro for  
3 that. Thanks.

4

5 RULING:

6 THE CHAIRPERSON: There's one (1)  
7 final matter which I will deal with now. The panel  
8 has considered Manitoba Hydro's request for additional  
9 rebuttal evidence and now issues the following ruling:

10 On January 22nd, 2018, beginning at  
11 page 5527 of the transcript, the Board issued a ruling  
12 on a request for Manitoba made at page 511 of the  
13 transcript to call rebuttal evidence to respond to  
14 newest analysis raised for the first time on slide 17  
15 and 18 of the direct evidence presentation of Morrison  
16 Park Advisors.

17 The Board ruled that Manitoba Hydro can  
18 address the analysis of Morrison Park Advisors on  
19 slide 17 and 18 of the direct presentation through  
20 calling rebuttal evidence.

21 On the January 22nd, 2018, ruling the  
22 Board stated that the right to call rebuttal or reply  
23 evidence is limited to new issues raised in the  
24 evidence and does not include matters which might  
25 properly be considered to form part of the applicant's

1 case in-chief.

2           The Board further stated that based on  
3 the submissions of Manitoba Hydro, the matter related  
4 to slide 17 and 18 of the Morrison Park Advisors  
5 direct presentation was the only matter in the  
6 proceeding to that date that was properly the subject  
7 of oral rebuttal evidence, unless another matter is  
8 raised in the remaining schedule -- scheduled oral  
9 testimony following that date.

10           As such, the Board ruled that Manitoba  
11 Hydro's oral rebuttal evidence would be strictly  
12 limited to addressing only the evidence that form the  
13 subject of the request related to slide 17 and 18 of  
14 the direct evidence presentation.

15           On January 13th, 2018 at pages 7280 to  
16 7282 of the transcript, Manitoba Hydro made a request  
17 that it be allowed to refer to an additional matter in  
18 rebuttal, specifically a document titled quote, "US  
19 Public Power Utilities With Generation Ownership"  
20 close quote, that was noted on slide 33 of Morrison  
21 Park Advisors' direct presentation.

22           In making its request to the Board,  
23 counsel for Manitoba Hydro stated that the documents  
24 and not the contents was referenced in Morrison Park  
25 Advisors' prefiled written evidence, but also said



1 that the first Manitoba Hydro saw of it was in the  
2 direct presentation.

3                   Counsel for Manitoba Hydro also noted  
4 that Manitoba Hydro had attempted to deal with this  
5 matter in cross-examination but was unsuccessful.  
6 Specifically, Manitoba Hydro is requesting to call  
7 rebuttal evidence on the definition of a term used in  
8 the US Public Power Utilities With Generation  
9 Ownership document in order to put on the record  
10 Manitoba Hydro's position as to what the term means.

11                   On January 31st, 2018, the Consumers  
12 Coalition and the Manitoba Industrial Power Users  
13 group objected to the January 30th, 2018 request of  
14 Manitoba Hydro to call additional rebuttal evidence as  
15 described by Manitoba Hydro at pages 7280 to 7282 of  
16 the transcript. The basis of the objection is that  
17 the document referenced on slide 33 of the Morrison  
18 Park Advisors' direct presentation is not new  
19 evidence, but was referenced in the pre-filed evidence  
20 of Morrison Park Advisors.

21                   In addition, counsel for Manitoba  
22 Industrial Power Users Group advised the Board the  
23 document in question is referenced in Manitoba Hydro's  
24 application at appendix 4.1.

25                   The Board understands from the

1 submissions of general counsel that the specific issue  
2 arising from the US Public Power With Generation  
3 Ownership document relates specifically to the concept  
4 of debt service coverage. It is the debt service  
5 coverage issue that Manitoba Hydro wishes to address  
6 in rebuttal evidence.

7           The Board has considered Manitoba  
8 Hydro's request. At the outset, the Board reiterates  
9 its January 22nd, 2018, ruling that rebuttal evidence  
10 must be limited to new issues raised in the evidence  
11 and cannot be used under the guise of replying to  
12 confirm or reinforce the case which the applicant was  
13 required to make out in the first instance.

14           The Board has reviewed the references  
15 provided by counsel for the Consumers Coalition and  
16 Manitoba Industrial Power Users Group. The Board  
17 notes the following: At page 92 of appendix 4.1 of  
18 Manitoba Hydro's General Rate Application, there is an  
19 excerpt from a Moody's report that expressly refers to  
20 the credit rating of Bonneville Power Administration  
21 as determined based on the methodology from the US  
22 Public Power With Generation Ownership document.

23           At page 88 of the Morrison Park  
24 Advisors' written prefiled evidence, which is appendix  
25 D to the report, there is a summary of the operations

1 of Bonneville Power Administration. The chart at the  
2 bottom of page 88 states that Bonneville Power  
3 Administration's debt service coverage ratio as 5.1  
4 times.

5 Beginning at page 126 of the Morrison  
6 Park Advisors' prefiled evidence, which is appendix E  
7 to the report, complete copies of Moody's opinions are  
8 provided in full as part of the prefiled evidence.

9 At page 132 of the Morrison Park  
10 Advisors' prefiled evidence, the US Public Power With  
11 Generation Ownership Document is referenced in  
12 identifying the methodology used by Moody's in  
13 evaluating the credit rating of Bonneville Power  
14 Administration.

15 At page 133 of the said prefiled  
16 evidence, there's reference to the debt service  
17 coverage metric used in assessing Bonneville Power  
18 Administration's financial strength and liquidity.

19 At page 135, there's reference again to  
20 US Public Power With Generation Ownership as the  
21 principal methodology used by Moody's in the rating.

22 At page 139 of the prefiled evidence,  
23 which is a Moody's rating action document for  
24 Tennessee Valley Authority, there is discussion of  
25 that Utility's credit rating and its debt service

1 requirements. The document then goes on to reference  
2 the US Public Power With Generation Ownership  
3 methodology as the principal methodology used by  
4 Moody's.

5 The US Public Power With Generation  
6 Ownership document is referenced on slide 33 of the  
7 Morrison Park Advisors' direct evidence.

8 The Board agrees with counsel for the  
9 Consumers Coalition that this slide is consistent with  
10 Morrison Park Advisors' prefiled written evidence.

11 On January 20 -- on January 16th, 2018,  
12 counsel for Manitoba Hydro Mr. Matthew Ghikas cross-  
13 examined Mr. Pelino Colaiacovo of Morrison Park  
14 Advisors. The Board notes the following:

15 On page 5071 of the transcript after  
16 discussion regarding Manitoba Hydro's EBITDA to  
17 interest metric and target, Mr. Ghikas turns to slide  
18 33 of the Morrison Park Advisors' direct presentation  
19 and, specifically, took the witness to the reference  
20 to the Moody's document.

21 On page 5072 of the transcript, Mr.  
22 Ghikas suggested to the witness that, quote:

23 "What Moody's is actually looking at  
24 when it sets out 1.5 to 2.0 times  
25 debt -- adjusted debt service

1 coverage not interest coverage."

2 [closed quote.]

3 Also on page 5072 of the transcript,  
4 Mr. Ghikas asked the witness if, in common financial  
5 disclosure -- sorry -- find common financial  
6 discourse, debt service generally includes interest  
7 and principal.

8 Beginning on page 5073, and continuing  
9 on to page 5074 of the transcript, Mr. Ghikas asked  
10 the witness if the Moody's reference related to US  
11 Public Power Utilities. On confirmation from the  
12 witness, Mr. Ghikas then asked, quote:

13 "Like Bonneville and others."

14 [closed quote]

15 On page 5085, of the transcript Mr.  
16 Ghikas indicated to the witness that he wished to  
17 explore some of the nuances about Bonneville Power  
18 Administration and beginning at line 14 referred the  
19 witness to page 88 of the Morrison Park Advisors'  
20 report where there was a quote -- where there was,  
21 quote:

22 "A little synopsis of BPA's  
23 metrics." [closed quote]

24 Also on page 5085 of the transcript and  
25 lines 22 to 23, Mr. Ghikas asked the witness to

1 confirm that Bonneville Power Administration's debt  
2 service coverage ratio, as shown on page 88 of the  
3 Morrison Park Advisors' report was 5.1 times.

4                   Based on the foregoing, the Board  
5 concludes that the US Public Power With Generation  
6 Ownership document referenced on slide 33 of the  
7 Morrison Park Advisors' direct presentation does not  
8 constitute new evidence, rather it was referenced on  
9 the record in a number of places, including Manitoba  
10 Hydro's own filing.

11                   The specific issue of the debt service  
12 coverage metric used in the US Public Power With  
13 Generation Ownership methodology is explicitly  
14 referenced in the Morrison Park Advisors' prefiled  
15 evidence.

16                   Further, the cross-examination of  
17 Morrison Park Advisors by Manitoba Hydro indicates  
18 that Manitoba Hydro was aware of the US Public Power  
19 With Generation Ownership document and, specifically,  
20 the matter of the debt service coverage metric used  
21 under the US Public Power With Generation Ownership  
22 methodology. This cross-examination referenced  
23 sections of the witness's prefiled evidence that  
24 referred to this matter.

25                   As such, the Board does not agree with

1 Manitoba Hydro counsel's characterization of this  
2 document as a footnote to a footnote; rather, it is a  
3 matter which properly can be considered to form part  
4 of the applicant's case in-chief. While the applicant  
5 might have chosen not to address it in its oral  
6 evidence, this does not grant the applicant the  
7 opportunity to confirm or reinforce the case which it  
8 was required to make out in the first instance.

9           To allow the applicant to now put its  
10 views of the debt service coverage metric and the US  
11 Public Power Wit Generation Ownership document on the  
12 record through rebuttal evidence when they've had the  
13 opportunity to do so in its case in-chief would be  
14 unfair to the parties who are engaged in testing the  
15 applicant's case.

16           The Board, therefore, denies Manitoba  
17 Hydro's request to call additional rebuttal evidence  
18 on the issue as described by Manitoba Hydro at pages  
19 7280 to 7282 of the transcript.

20           Further to the Board's January 2nd,  
21 2018 ruling, the Board will hear Manitoba Hydro's  
22 rebuttal evidence on the analysis raised in slide 17  
23 and 18 of the direct evidence presentation of Morrison  
24 Park Advisors.

25           The Board will hear this evidence on

1 February 1st, 2018 beginning at 10:30 a.m. At the  
2 conclusion of this rebuttal evidence, all parties will  
3 be given an opportunity to ask questions of the  
4 Manitoba Hydro witnesses called to give oral rebuttal  
5 evidence.

6 The Board requests Board counsel to  
7 distribute to all parties the contents of this ruling,  
8 as well as the scheduling information for Manitoba  
9 Hydro's rebuttal evidence. Thank you.

10 This adjourns this -- sorry.

11 MS. PATTI RAMAGE: I have a couple of  
12 undertakings --

13 THE CHAIRPERSON: Certainly.

14 MS. PATTI RAMAGE: -- to get on the  
15 record.

16 MR. WILLIAM HAIGHT: Permission to be  
17 excused before we deal with this. Thank you.

18 THE CHAIRPERSON: Gentlemen, it's been  
19 a pleasure. Thank you. And lady, I'm sorry, my  
20 apologies. Thank you. And the people who are online.

21

22 (PANEL STANDS DOWN)

23

24 THE CHAIRPERSON: Ms. Ramage...?

25 MS. PATTI RAMAGE: Yes, Manitoba Hydro



1 has three (3) documents to file. The first one is  
2 identified as Manitoba Hydro Undertaking transcript  
3 page 2640. It is dealing with a Manitoba Hydro  
4 clarifying how customers with solar PV systems or  
5 other nonutility generating -- generation systems are  
6 credited for excess energy generated each month, and  
7 it in fact, I can note for the record, is a correction  
8 of a previous response. That -- I've spoken to Mr.  
9 Simonsen and that's Manitoba Hydro Exhibit 132. The

10

11 --- EXHIBIT NO. MH-132: Manitoba Hydro Undertaking  
12 transcript page 2640  
13 response.

14

15 MS. PATTI RAMAGE: The next is  
16 Manitoba Hydro Exhibit Number 56 which -- in which  
17 Manitoba Hydro provides the Board with an indication  
18 of payments to KPMG since May the 2nd and that is  
19 Manitoba Hydro Exhibit 133.

20

21 --- EXHIBIT NO. MH-133: Manitoba Hydro provides  
22 the Board with an  
23 indication of payments to  
24 KPMG since May the 2nd.

25

1 MS. PATTI RAMAGE: And then, lastly,  
2 is Manitoba Hydro Undertaking Number 63. Manitoba  
3 Hydro is providing a comparison of First Nation and  
4 Indigenous persons to the other populate --  
5 populations comprising the skilled trades at Keeyask,  
6 and that is Manitoba Hydro Exhibit 134. Thank you.

7 MR. KURT SIMONSEN: Thank you.

8

9 --- EXHIBIT NO. MH-134: A comparison of First  
10 Nation and Indigenous  
11 persons to the other  
12 populations comprising the  
13 skilled trades at Keeyask.

14

15 THE CHAIRPERSON: Thank you. Any  
16 other matters? If not, we're adjourned until 10:30  
17 tomorrow morning. We will have public presentations  
18 in the afternoon, starting at 1:00, and as I  
19 understand scheduled for the entire afternoon until  
20 6:00 p.m. Thank you.

21

22 --- Upon adjourning at 2:42 p.m.

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Certified Correct,

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Cheryl Lavigne, Ms.