



“When You Talk - We Listen!”



MANITOBA PUBLIC UTILITIES BOARD

Re:

MANITOBA HYDRO  
NEEDS FOR AND ALTERNATIVES TO  
REVIEW OF MANITOBA HYDRO'S  
PREFERRED DEVELOPMENT PLAN

Regis Gosselin	- Chairperson
Marilyn Kapitany	- Board Member
Larry Soldier	- Board Member
Richard Bel	- Board Member
Hugh Grant	- Board Member

HELD AT:

Public Utilities Board  
400, 330 Portage Avenue  
Winnipeg, Manitoba  
April 8, 2014  
Pages 5721 to 6013

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25

1	TABLE OF CONTENTS	
2		Page No.
3	List Exhibits	5724
4	List of Undertakings	5725
5		
6	IEC LA CAPRA ASSOCIATES PANEL CONTINUED:	
7	DANIEL PEACO, Previously Affirmed (Qual.)	
8	JOHN ATHAS, Previously Affirmed (Qual.)	
9	MARY NEAL, Previously Affirmed	
10	Continued Examination-in-chief	
11	by Mr. Christian Monnin	5739
12	Cross-examination by Mr. William Gange	5775
13	Cross-examination by Mr. Byron Williams	5811
14	Cross-examination by Mr. Antoine Hacault	5914
15		
16	Certificate of Transcript	6013
17		
18		
19		
20		
21		
22		
23		
24		
25		

1	LIST OF EXHIBITS		
2	EXHIBIT NO.	DESCRIPTION	PAGE NO.
3	LCA-47	Addendums to Technical Appendices	
4		9A and 9B	5739
5	CAC-45-12	Excerpt from the Brattle Group's	
6		Integrated Resource Plan for	
7		Connecticut	5812
8	CAC-45-13	One (1) page excerpt from Hydro	
9		Exhibit 87	5813
10	MH-163	TCN's experiences in relation to	
11		employment and ongoing training	
12		and the challenges they face	5850
13	MH-164	Manitoba Hydro's response to the	
14		question: Can Manitoba Hydro	
15		extrapolate the extent to which a	
16		homeowner can reduce his or her	
17		bill by adopting DSM?	5851
18	MH-165	Confirmation of notice to proceed	
19		with Phase 2 site work	5852
20	MIPUG 20-7	Volume VII book of documents	5921
21			
22			
23			
24			
25			

1	LIST OF UNDERTAKINGS	
2	NO.	PAGE NO.
3	101	La Capra to provide a revised chart
4		that includes the updated capital
5		costs for the Preferred Plan 5799
6	102	La Capra to provide graph 5801
7	103	La Capra to provide updated crossover
8		points for the Wind case, reflecting
9		the change in the Keeyask and Conawapa
10		capital cost 5803
11	104	La Capra to provide a footnoted
12		explanation with sources of the
13		derivation of the calculations
14		underlying slide 16 and slide 18 of
15		La Capra Exhibit 45 5843
16	105	La Capra to provide a comparable
17		analysis for Plans 5, 6, and 2, as
18		was undertaken between the Preferred
19		Plan and All Gas on page 84 of
20		Appendix 9B 5856
21		
22		
23		
24		
25		

1	LIST OF UNDERTAKINGS (Con't)	
2	NO.	PAGE NO.
3	106	La Capra to provide the correct
4		figure for Figure 9-94 and Figure
5		9-95 relating to the seventy-eight
6		(78) year NVP for Plan 16; and then
7		if there are any necessary
8		reconciliations to do that 5908
9	107	La Capra to provide 'S' curve graphs
10		using Manitoba Hydro methodology 5910
11	108	La Capra to redo Figure 9-99U 5976
12	109	La Capra to indicate if the high
13		and low estimates on page 177 of
14		MIPUG Exhibit 20-5 are
15		correspondingly used in the
16		economic analysis 6004
17		
18		
19		
20		
21		
22		
23		
24		
25		

1 --- Upon commencing at 9:01 a.m.

2

3 THE CHAIRPERSON: Good morning. I  
4 believe that everybody is in position, so we will start  
5 today's proceedings. Go ahead, please.

6

7 IEC LA CAPRA ASSOCIATES PANEL CONTINUED:

8 DANIEL PEACO, Previously Affirmed (Qual.)

9 JOHN ATHAS, Previously Affirmed (Qual.)

10 MARY NEAL, Previously Affirmed

11

12 MR. RICHARD BEL: Good morning, Mr.  
13 Peaco. I'm -- I'd like to examine in more detail the  
14 No New Gen case.

15 MR. DANIEL PEACO: Okay.

16 MR. RICHARD BEL: I want to try and  
17 understand it because I think I understand it, but I'm  
18 not -- I'm not sure. So the -- the two (2) base  
19 assumptions are the 750 -- I'm on page 59 -- slide 59.

20 So it's -- we have the 750 megawatt  
21 interconnection and we have a raise in the import  
22 floor, so we double the amount of imports that are  
23 allowed?

24 MR. DANIEL PEACO: Yes.

25 MR. RICHARD BEL: So there's -- those

1 two (2) effects are working together?

2 MR. DANIEL PEACO: That's correct.

3 MR. RICHARD BEL: So you -- you  
4 postulated that the -- the transmission line would be  
5 built so that we could -- it was a drought condition.

6 But the transmission line's working with  
7 the import floor because by raising the amount of  
8 imports, we're essentially increasing the amount of  
9 capacity in the system for exports?

10 MR. DANIEL PEACO: No, this -- let me -  
11 - let me take it --

12 MR. RICHARD BEL: Okay.

13 MR. DANIEL PEACO: As the system sits  
14 today, the -- the interface between Manitoba and the US  
15 has a certain rating for export and a certain rating  
16 for import, and they're different numbers. But the --  
17 and so the -- the All Gas Plan, for example, doesn't  
18 add any transmission. And so the -- the limitations on  
19 -- on import in that plan remain the same as they are  
20 today through the -- through the entire study.

21 In this case, what we said is, Let's --  
22 let's specifically test whether an increase in -- in  
23 the ability to import power when you need it has an  
24 effect. And so there's -- there's two (2) things you  
25 need to do. There's two (2) -- there's two (2) ways to



1 -- to think about that. One is you need to increase  
2 the -- the transfer limit on imports. And we did that  
3 -- did that by postulating a build of -- of trans -- an  
4 additional transmission line.

5                   And in the Preferred Development Plan,  
6 which has the 750 line that was -- was used in this  
7 case, it increases both import and export transfer  
8 limits by 750 megawatts, so it -- it increases the  
9 transfer limits both ways.

10                   And so that gives you an amount of a  
11 bill -- you know, extra amount of capacity to -- to  
12 import power if and when you need to do so. And then  
13 coupled with that, even -- even if you have the  
14 expanded import capability, Manitoba Hydro's planning  
15 criteria has a separate criteria to -- to rely no more  
16 than -- than 10 percent on -- on imports in its overall  
17 planning.

18                   And so what we said is, Let's change  
19 that -- that policy as well when we do that to see what  
20 that does. So we -- I mean, we had one (1) shot. So  
21 we said, Let's -- let's do a case and kind of test a  
22 couple things together. So we put those in there so  
23 that when you -- it allows to -- basically to contract  
24 for capacity across that transmission line, as well as  
25 use it for energy.

1                   And when you do -- when we did those two  
2   (2) things, it obviously allows the opportunity for  
3   more imports to come in. Now, obviously, that's  
4   working with the existing hydro system. So there are  
5   times when the existing hydro system has a lot of water  
6   and it -- it is plenty. But when it doesn't, then it  
7   has access to an -- expanded paths to import power from  
8   MISO.

9                   Is that -- does that answer your  
10   question?

11                  MR. RICHARD BEL:    I understand -- yeah,  
12   I understand that part. But I'm -- I'm trying to  
13   understand on the top of that S-curve where that net  
14   present value's coming from.

15                  And I'm wondering if, by changing that  
16   constraint, it allows us to utilize the existing hydro  
17   system more efficiently.

18                  MR. DANIEL PEACO:   It would.

19                  MR. RICHARD BEL:    In other words,  
20   export more --

21                  MR. DANIEL PEACO:   It would.

22                  MR. RICHARD BEL:    -- at any given  
23   situation, because you're kind of buying capacity, or  
24   you're --

25                  MR. DANIEL PEACO:   Yeah, if you think

1 about it, a lot of what -- the opportunity here is you  
2 -- to the extent you have the added ability, there's --  
3 there's more capacity spec -- particularly to import at  
4 night/weekends, when prices are low in MISO, and -- and  
5 then return it. In drought conditions the import  
6 capacity today limits the amount of energy you can  
7 import in those circumstances. So this gives you more  
8 -- more division freedom in order to take advantage of  
9 off-peak prices to import and -- and manage the  
10 reservoir differently than you can with the limitations  
11 on the import as it -- as it sits today.

12 And I think that's what's -- what you're  
13 seeing in those numbers.

14 MR. RICHARD BEL: Okay. And the -- the  
15 limit -- I read in one of the reports that the import  
16 level that's set right now is a convention. It's not a  
17 physical thing. It's --

18 MR. DANIEL PEACO: Well, when you say--

19 MR. RICHARD BEL: 'Convention' means  
20 that that rule could be changed.

21 MR. DANIEL PEACO: Well, you said  
22 import limit. The import limit is -- is not a -- a  
23 convention. That's a -- it's an engineering  
24 determination of what the capacity of the interface is.  
25 But -- but the -- on the planning policy, in terms of

1 dependable energy --

2 MR. RICHARD BEL: Right.

3 MR. DANIEL PEACO: -- there's --

4 there's a determination as -- it -- you know, how much

5 -- how much are we going to rely on imports is really a

6 -- a policy determination, because there's -- there's a

7 policy that Manitoba Hydro uses in its planning. And

8 it -- and it -- it could be different. And we've --

9 we've talked about that issue separately in our

10 reports.

11 And -- and this -- this case was an --

12 was an opportunity for us to test, you know, does it

13 make any difference if we relax that. And -- and so --

14 so you see the combined effect of both of those things

15 in that case.

16 MR. RICHARD BEL: Okay. And one last

17 thing, there's another slide with a -- slide 71. So if

18 we combined your -- the -- the No New Generation case,

19 if we -- if we change the import limit -- I'm not --

20 I'm not calling it the right -- the right way here.

21 If we changed the known -- if we added

22 the known -- if we made a hybrid plan between --

23 between No New Generation and the K19 case, would that

24 that shift the blue line to the right if we made a

25 hybrid plan?

1                   You mentioned in this scenario that you  
2 could combine these two (2) things.

3                   MR. DANIEL PEACO:     Sure. I -- so I'm -  
4 - I'm just -- I want to make sure that I understand the  
5 combination you're looking -- looking to talk about.

6                   MR. RICHARD BEL:     Okay.

7                   MR. DANIEL PEACO:     So the K19 plan,  
8 which has -- which -- which includes the -- the  
9 transmission line --

10                  MR. RICHARD BEL:     And the No New  
11 Generation. It means relax the -- or -- or raise the  
12 import limit.

13                  MR. DANIEL PEACO:     Oh. Oh, I see. Oh.  
14 You're talking about the import limit policy?

15                  MR. RICHARD BEL:     Right. So what  
16 happens to the -- to the -- the K19 S-curve then? It  
17 shifts to the right?

18                  MR. DANIEL PEACO:     Well, by virtue of  
19 building --

20                  MR. RICHARD BEL:     Keeyask.

21                  MR. DANIEL PEACO:     -- Conaw -- Keeyask,  
22 you have more times when you would be surplus and  
23 exporting and -- and less time that you would have oppo  
24 -- you know, need to be importing. But -- but as we --  
25 as I showed in one of the other charts, even with

1 Keeyask and Conawapa in there are times when -- in --  
2 in drought condition where the line's being using (sic)  
3 for import.

4                   So there -- so there would be the same  
5 effect. It wouldn't be as pronounced as in that other  
6 case, because -- because Keeyask is not there. You  
7 don't have as much energy in -- in province in -- in  
8 the -- in the no gen case. But you'd see the same  
9 effect, only to a lesser degree.

10                   MR. RICHARD BEL:    Okay.   Okay.   Thank  
11 you.

12                   THE CHAIRPERSON:    I wonder if we could  
13 go back to 59. I want to make sure I understand it  
14 too. Because I -- I asked a question yesterday and --  
15 and I think I asked the question in terms of that red  
16 line representing avoided cost.

17                   But in reality, you're suggesting that  
18 the -- to potential gain -- the potent -- potential man  
19 -- maximum gain from the All Gas -- pardon me, the No  
20 New Gen case is related to the ability to import power  
21 in a drought situation.

22                   Is that -- am I misreading that?

23                   MR. DANIEL PEACO:    No, that's -- that's  
24 correct.

25                   THE CHAIRPERSON:    Okay.   And that no

1 gen case would be available to what extent before you  
2 definitely would need power -- new generation in  
3 Manitoba?

4 MR. DANIEL PEACO: I'm sorry, I'm not -  
5 - if I understood your question.

6 THE CHAIRPERSON: At some point, you --  
7 you've maximized the amount of -- amount of savings you  
8 could get from DSM and so on. And so, I guess, the  
9 question is: In a scerio -- in a scenario where it's  
10 high demand, the economy of Manitoba increases and so  
11 on, would you have enough power in that's -- in that --  
12 in that eventuality for -- to -- to meet load?

13 MR. DANIEL PEACO: Yeah, I --

14 THE CHAIRPERSON: Say, for example, you  
15 got a major load increase in the midst of -- of the  
16 evolution of that plan. Do you have enough power to --  
17 to...

18 MR. DANIEL PEACO: Sure. Could --  
19 could you turn to slide 31?

20

21 (BRIEF PAUSE)

22

23 MR. DANIEL PEACO: So it -- it's a good  
24 question, but -- so the -- the No Gen case that we  
25 postulated starts with an amount of DSM and an amount

1 of fuel switching, and that essentially takes care of  
2 the need through 2029, when the transmission line is  
3 built. So what we -- what we plotted on here -- and I  
4 think there is, actually, generation added, eventually.  
5 Do you remember, John, what the date is?

6 MR. JOHN ATHAS: Yeah, I think --

7 MR. DANIEL PEACO: Or near.

8 MR. JOHN ATHAS: -- it's the -- I  
9 think it's '32, around there.

10 MR. DANIEL PEACO: Yeah. But at some  
11 point, you'll see in this chart there -- on chart -- on  
12 slide 31, you'll see what would -- we basically plotted  
13 the -- the generation. The thermal generation, you  
14 could see, is pretty low up until to get to about 2040,  
15 and then it starts -- kicks in.

16 So at that point, we're adding some  
17 additional generation, and you're seeing some thermal  
18 generation. So the -- the -- I would -- I mean, what  
19 that means is you need resources above and beyond the  
20 ability to import, and the DSM would -- that's been  
21 built into that plan at that point in time.

22 So effectively, that plan defers any new  
23 generation in province until about that time. And I  
24 don't really remember the exact date when -- 2037 was -  
25 - in that case, 2037 was the first time generation was



1 actually added in province. And I think it was the Gas  
2 -- Gas Plan, right?

3 So -- so you can see, following 2037,  
4 that the -- that thermal generation starts to be  
5 utilized. Does that help?

6 MR. RICHARD BEL: Could I ask again --  
7 something else? Okay, on -- back on slide 59.

8 So the S-cur -- the -- the No Gen case  
9 and the Preferred Plan intersect at 75th percentile,  
10 somewhere around there?

11 MR. DANIEL PEACO: I'm sorry, which  
12 plans --

13 MR. RICHARD BEL: Slide 59.

14 MR. DANIEL PEACO: Yeah.

15 MR. RICHARD BEL: Okay. I'm looking at  
16 the oaks -- the -- the K19/Conawapa25/750.

17 MR. DANIEL PEACO: Yes.

18 MR. RICHARD BEL: And the No New Gen  
19 case.

20 MR. DANIEL PEACO: Okay.

21 MR. RICHARD BEL: Seventeen (17).

22 MR. DANIEL PEACO: Yes. The red line,  
23 yeah.

24 MR. RICHARD BEL: So they're crossing  
25 over around sixty-five (65) -- or 75 percentile in the

1 eight -- range.

2 MR. DANIEL PEACO: Yes.

3 MR. RICHARD BEL: So what does that  
4 mean?

5 MR. DANIEL PEACO: Okay. So in -- in  
6 the way this is structured, you could -- if you're  
7 doing a, basically, comparison between those two (2)  
8 cases, it would say that there are -- and let's call --  
9 let's call the cross-point seventy-five (75), just for  
10 purposes -- it's somewhere close to that.

11 So that means that 75 percent of the  
12 time -- or 75 percent of the -- the outcomes there on -  
13 - on the twenty-seven (27) branches are ones where the  
14 conditions are more favourable for the No Gen case than  
15 for -- for the Preferred Development Plan. Twenty-five  
16 (25) percent of them are ones that -- where the outcome  
17 is more favourable for -- for the Preferred Development  
18 Plan.

19 MR. RICHARD BEL: Okay.

20 THE CHAIRPERSON: I think that's it for  
21 the questions from yesterday, so --

22 MR. DANIEL PEACO: Okay.

23 THE CHAIRPERSON: -- please go ahead.

24 MR. DANIEL PEACO: Do we have...

25

1 CONTINUED EXAMINATION-IN-CHIEF BY MR. CHRISTIAN MONNIN:

2 MR. CHRISTIAN MONNIN: M. President, La  
3 Capra has prepared a -- a further slide presentation  
4 with respect to a comparison of the addendums to  
5 Technical Appendices 9A, 9B. And, Mr. Secretary, that  
6 would be entered as Exhibit LCA-47.

7 MR. KURT SIMONSEN: That's correct.

8  
9 --- EXHIBIT NO. LCA-47: Addendums to Technical  
10 Appendices 9A and 9B  
11

12 MR. JOHN ATHAS: Good morning. What --  
13 what we've -- what I've -- what we're going to do here  
14 with two (2) different sets of control of the -- of the  
15 screens for everyone is I'll have a little bit of a --  
16 of an introduction to the -- to the addendum from the -  
17 - on -- in this PowerPoint. And then we'll also go  
18 through a few of the comparisons of how the -- the  
19 information on 9A and 9B looks side by side with the  
20 update in the addendum. So we'll be putting up, thanks  
21 to the technology you have here, the -- the original  
22 charts of -- of figures as compared to the updated  
23 figures.

24 So -- but I'll -- first I'll take you  
25 through what -- what got us to those figures. The

1 first slide on slide 2 of this pack is a slide that was  
2 taken out of Mr. Peaco's presentation yesterday where  
3 we -- and using it just for the illustration, we talked  
4 about a number -- he talked about a number of facts  
5 that go -- went from the original filing NFAT valuation  
6 of the different plans to -- to the most recent  
7 information filed by -- by Manitoba Hydro. And in this  
8 case it was using the example of the 2012 based  
9 analysis.

10 What the addendum, in the short amount  
11 of time that we had and the short amount of information  
12 that we had for -- for a broad amount of plans, we only  
13 -- this addendum discussion that I'm going to have  
14 today is just focussing on the update of the capital  
15 costs that went on. So it -- so the -- any comparisons  
16 between 9A and 'B' and the corresponding figure in 9U  
17 is -- is the capital cost increase for Keeyask and  
18 Conawapa.

19 And the other effects of -- of  
20 potentially going from changes in the 2012 to 2013  
21 analysis of discount rates and changes in the WPS  
22 contract and the levels of DSM, and changes in load are  
23 not part of the update in the addendum versus the 9A  
24 and 9B.

25 Okay. So we -- I'll walk through just a

1 quick thing about the analysis that we have -- that we  
2 had at hand from Manitoba Hydro as input, and make sure  
3 that -- and this is the -- basically going through the  
4 introduction part of 9U of -- of the addendum to 9A and  
5 B. I'll talk about our approach, so -- do a little  
6 walk through of what's in the addendum, and then --  
7 then start doing some comparisons of real results of --  
8 of -- versus the 9A and 9B figures.

9                   So we had -- this is a quick reminder  
10 there's -- we had several Manitoba Hydro analyses the -  
11 - that was filed. The two (2) -- two (2) were filed in  
12 the NFAT, the 2012 vintage analysis, which had  
13 reference scenario results and the uncertainty analysis  
14 results. And that was for all fifteen (15) resource  
15 development plans.

16                   The second part of their -- I'm on slide  
17 5 of the blue package. The second part of the  
18 information set in the NFAT filing was the 2013 update  
19 for -- which was done for five (5) plans on the  
20 reference scenario assumptions. I believe it's Chapter  
21 12 in the -- in the analysis of -- in the NFAT filing.  
22 And so that was only done for, like I said, one-third  
23 (1/3) of the plans, you know, Plans 1, 2, 4, 12, and  
24 14.

25                   Now, the update for the capital cost

1 estimates was supplied in -- for the 2012 analysis in  
2 the handout that -- of the presentation that was made  
3 in the week of March 10th and discussed, provided  
4 information on the uncertainty analysis and the  
5 reference scenarios -- ref -- reference scenario  
6 analysis for six (6) resource plans: Plan 1, 2, 4, 8,  
7 5, and 14.

8                   Subsequent to the -- to most of the time  
9 that we had to work on this presentation there was  
10 information provided in some detail about Plan 6 that  
11 wasn't in the -- that I actually -- or I didn't see in  
12 the original PowerPoint presentation. So -- so that --  
13 that is available to us now, but it -- it hasn't  
14 figured -- it didn't figure much into the -- it didn't  
15 figure at all into the analysis that's in the addendum.  
16 Some of that information on Plan 6 made its way into  
17 the presentation that -- that Mr. Peaco went through  
18 yesterday.

19                   And the -- the fourth kind of analysis  
20 that was -- that was discussed -- that came up in the -  
21 - in the PowerPoint of -- of the week of March 10th was  
22 they looked at three (3) different levels of activities  
23 for DSM, and --- and they looked at that across three  
24 (3) resource plans: the -- the All Gas Plan number 1;  
25 Plan 14, the PDP, the Preferred Development Plan; and

1 Plan 5, which is essentially the Preferred Development  
2 Plan with gas instead of Conawapa.

3                   So that -- and that was -- that -- that  
4 comparison was probably triggered by -- the choice of  
5 those plans was probably triggered by a discussion in  
6 December with ourselves and John Todd from Elenchus,  
7 and the people from Manitoba Hydro.

8                   So with the limited approach that we had  
9 -- excuse me -- was that we -- we could only update the  
10 2012 vintage analysis for ref -- the reference and  
11 uncertainty analysis. We did update more metrics than  
12 the information -- the -- than the information that was  
13 provided in the PowerPoint. So we have the additional  
14 metric -- metrics of internal rate of return,  
15 cumulative present value at three (3) different points  
16 in time in addition to the seventy-eight (78) years  
17 that Mr. Peaco spoke about, and -- and the breakeven on  
18 a cumulative present value basis.

19                   The -- in addition, we have -- we  
20 provided comparisons, and you'll see, that show --  
21 based on the derivation of the capital cost estimates,  
22 we were able to take the comparisons that we had as  
23 their impacts and apply them to similar comparisons.  
24 So that's why we actually have some additional  
25 comparisons than -- than what information was provided

1 by Manitoba Hydro.

2                   The addendum -- when performing the  
3 addendum, we did -- as I'll note going forward, that  
4 the -- Manitoba Hydro presented their information with  
5 an update to the -- to the -- over the change in their  
6 perspective on the capital cost probability  
7 distributions.

8                   When they updated the capital cost, they  
9 also concluded that they should update the split  
10 between the reference and high capital costs in their  
11 uncertainty branches. And they went, believe -- I  
12 believe, from -- from a 20 percent probability of low,  
13 50 percent probability reference, and 30 percent  
14 probability high to 20 percent, 60 percent, and 20  
15 percent. That was -- and that came out of -- in the  
16 cross-examination, and we took that from the  
17 transcript.

18                   What we decided to do, based on the way  
19 we understood the analysis and put together, is that  
20 since their probability distribution applied to all  
21 kinds of capital costs and, you know, was -- was based  
22 on just one (1) piece of information as a quick change,  
23 we did our analysis without changing the probabilities.  
24 So we have the probabilities base -- that you'll see in  
25 the -- in the addendum still with 20 percent



1 probability of low capital cost, 50 percent probability  
2 of reference capital cost, and 30 percent probability  
3 of high capital cost. And those -- and the capital  
4 costs have been adjusted in according -- in -- in their  
5 absolute value with Manitoba Hydro changes.

6                   The -- we used the La Capra methodology  
7 for developing uncertainty profiles that we discussed -  
8 - had a few discussions about and -- and pulled up one  
9 of the examples. So that's consistent with our  
10 addendum and our preparation of 9A and 9B technical  
11 appendices.

12                   And when we show a provincial view, as  
13 we discussed in our technical appendices 9A and 9B,  
14 we're showing a provincial view that only assumes that  
15 the -- that the water rental fees and the capital tax -  
16 - that's supposed to be capital tax, I apologize, in  
17 that last bullet, instead of capital cost. The capital  
18 tax and the water rental fees are the only things that  
19 should be considered transfer payments in -- into --  
20 move to a provincial view.

21                   The missing piece between the difference  
22 between our view and the view by Manitoba Hydro was the  
23 1 percent provincial guarantee for the loan, the 1  
24 percent fee on the loan. And as Mr. Peaco mentioned  
25 and -- yesterday, and that we have in our technical

1 appendix 9A and 9B, based on discussions with -- with  
2 MPA (phonetic), that was viewed as being compensatory  
3 and not just a pure transfer fee.

4                   Okay. So the contents of the appendum -  
5 - of the addendum is that we have a lot of figures in  
6 the addendum with a lot less words than we have in our  
7 technical appendices, unfortunately, with the time we  
8 had. We've labelled figures with the same number with  
9 a designation of 'U' so they -- as they correspond to  
10 the same figures in the -- the prior technical  
11 appendices. And fortunately, we were lucky enough or  
12 smart enough to -- to just have identified all the --  
13 the 9A and 9A figures in sequence. So there aren't two  
14 (2) 928s. There is a -- a lot of '9' in the hundreds.

15                   So every figure that's in the technical  
16 -- in the addendum that says '9' and the number 'U' is  
17 -- is the exact number in the Technical Appendix 9A and  
18 9B, and there won't -- will only be one (1) of those.

19                   Now, what we have -- what we had done in  
20 a limited period of time, we took some of our  
21 sensitivities and some of our comparisons and we were  
22 able to put together the information -- the  
23 corresponding information. The -- the other -- these  
24 were done in an attempt to do as much as we could do  
25 with the information we had, because some other

1 comparisons would have required us to have the detailed  
2 annual economic model output and not necessarily just a  
3 NPV result. Because the presentations were limited to  
4 NPV results for seventy-eight (78) years and we were  
5 able to derive a lot of information from those, but we  
6 weren't abl -- but some of our sensitivities required  
7 us to actually do calculations on a -- on a year-by-  
8 year basis, so we weren't able to do those.

9           Principally, one of those -- a good  
10 example of that would be the -- the sensitivity, where  
11 we raised all three (3) interest rates -- discount  
12 rates to do a sensitivity to discount rate. That one  
13 we -- we can do now, because we have the detailed  
14 cashflows in hand. We got them too late into the  
15 process of -- of prepping this addendum to actually be  
16 able to -- to do that analysis.

17           But we do have lots of comparisons  
18 versus the Plan 14, 4, and 5 for -- versus All Gas for  
19 fifty (50) year and seventy-eight (78) year metrics,  
20 and in the uncertainty risk profiles. We did have one  
21 -- we do have the ability to have put together one of  
22 our sensitivities to discount rates, because that was a  
23 sensitivity where we just eliminated the low discount  
24 rate branch and essentially split the 100 percent  
25 probability between the reference branch for dis -- for

1 discount rate and the high proba -- case for discount  
2 rates.

3                   So since that was just a manipulation of  
4 probabilities, it was -- it was able to -- we were able  
5 to use the -- the endpoint information of seventy-eight  
6 (78) year impacts from the -- from the Manitoba Hydro  
7 presentations.

8                   We were able to do a sensitivity to the  
9 -- one of our sensitivities in our capital cost was if  
10 we took the capital cost and just took 10 percentage  
11 points of probability from the reference case in  
12 Technical Appendix 9A and moved that probability to the  
13 high case, so essentially we made the higher capital  
14 cost out -- outcome more probable in that analysis.

15                   We had another sensitivity where we  
16 actually changed values of the capital cost, and Mr.  
17 Peaco spoke about that yesterday, I believe, where we  
18 increased capital costs by 20 percent in the reference.  
19 And in the high case and in the low case we actually  
20 used the reference. That one, again, we needed some  
21 more detailed year-by-year information to make that --  
22 to do that update and we now have the ability to do it,  
23 but we didn't have it in time for the addendum.

24                   The last sensitivity that we were able  
25 to do from -- from Technical Appendix 9A is that we

1 were able to do some low energy price sensitivity, redo  
2 that work with the updated capital costs. Again, this  
3 is all centred around the updated capital cost  
4 information that we had that came out during the -- the  
5 economic modelling panel from -- from Manitoba Hydro.

6 For 9B, we were able to look at --  
7 update some of the information around the alternate  
8 resource plan comparisons. Now, Plan 16 and 17, as we  
9 called them, the Combined Cycle Plan and the No New Gen  
10 Plan, you -- those obvious -- those plans obviously  
11 don't change with an update to Keeyask and Conawapa.  
12 But there was material there that compared them, as we  
13 spoke about it already today, Plan -- to Plan 14, the  
14 Preferred Development Plan. And that changes, so we've  
15 updated those slides for the up -- updated Preferred  
16 Development Plan costs.

17 We had another section in -- in  
18 Technical Appendix 9B where we had the value of the  
19 Preferred Development Plan components. So we took  
20 piece by piece, going from where -- where's the value  
21 kind of created, or not, from the Preferred Development  
22 Plan. And -- and that, we have been able to update for  
23 the -- with the updated capital cost. So that's -- so  
24 that -- that figure is available.

25 And -- and then we have it -- there were

1 several comparisons of Technical Appendix 9B for -- of  
2 Plan 14 versus Plan 5, where we used Plan 5 as the base  
3 case and Plan 14 as the change case. That was  
4 particularly to isolate the economics of Conawapa. We  
5 have that in the -- in the package. I'm not necessar -  
6 - I wasn't planning on running through any of that  
7 today, because I'm going to take some examples of these  
8 to show you what we have.

9                   We had done several export price  
10 sensitivities within Technical Appendix 9 -- 9B, and  
11 we've updated those as well and -- and with -- for the  
12 new capital costs. And we had a -- an uncertainty  
13 analysis sensitivity to export revenue changes that we  
14 were able to update in -- for the limited number of  
15 plans that we have in the addendum. So this is, in  
16 some ways, a run through of the index of the -- of the  
17 -- the detailed index of the addendum.

18                   So if we go to the comparisons to -- I  
19 have to hit the button again? Okay. Okay. The -- the  
20 first comparison, and this is actually one that was  
21 mentioned to -- to redo this one. We -- we first  
22 started showing the -- the slide on -- in Mr. Peaco's  
23 presentation before we even got to the update.

24                   So the -- on the left side is the -- is  
25 a page right out of Technical Appendix 9A. It's page

1 48. It shows Figure 9-21, which is a summary table  
2 showing lots of the metrics. And this -- this table  
3 was in Mr. Peaco's presentation yesterday. I actually  
4 forget the slide number, but it was relatively early  
5 on.

6                   So it has several statistics or metrics:  
7 the present value of capital cost, the -- the net  
8 present value over seventy-eight (78) years; the three  
9 (3) different cumulative present values: fifty (50),  
10 thirty (30), and -- and -- thirty-five (35), and twenty  
11 (20); the internal rate of return; and the breakeven  
12 year.

13                   The smaller -- much smaller table on the  
14 right is a page out of 9U; and I think that's page 7  
15 out of 9U. And we have for Plans 2, 4, 5, 8, and 14 in  
16 this figure, labelled 9-21U, how these numbers change.  
17 And you can see that if we just take a quick look at  
18 some numbers, like the first numbers across the top,  
19 we'll see that in a case where we -- of Plan 2 versus  
20 All Gas -- and, actually, I apologize. This is -- we --  
21 -- we didn't have time to get errata in, but I -- the --  
22 the capital column is incorrect in the up -- in the  
23 addendum. We need to get the -- provide that in the  
24 errata. I just grabbed -- grabbed the wrong sets of  
25 numbers when we made the table.

1                   So ignoring that table -- actually  
2   that's right. It was corrected in Dan's presenta --  
3   Mr. Peaco's presentation yesterday, so that slide. If  
4   we want to -- if we want to discuss those numbers, we  
5   can. Thanks, Mary.

6                   So the -- but the seventy-eight (78)  
7   year net present value dropped from eight eighty-seven  
8   (887), or almost \$900 million, beneficial to do Plan 2  
9   in the original analysis by -- by Manitoba Hydro to  
10   about a little under \$500 million, the four eighty-nine  
11   (489) number there. The -- the fifty (50) year value  
12   dropped from just under \$500 million of value to just  
13   under \$100 million of value, at the \$81 million number.  
14   And you can see that the -- correspondingly, the  
15   numbers get -- became more negative in the thirty-five  
16   (35) year and the twenty (20) year period.

17                  The breakeven year was pushed out eight  
18   (8) years for that case, and the internal rate of  
19   return of that case over seventy-eight (78) years  
20   dropped from estimated 6.6 percent to about 5.9  
21   percent. So it took away about -- about a third of the  
22   -- more -- more than a third of the -- of the margin  
23   between internal rate of return and cost of capital was  
24   -- was lost with this change.

25                  The -- similarly, if we go through -- if



1 we look through the numbers on the Preferred  
2 Development Plan line at 14, we had the -- the... I  
3 was just trailing the wrong line, so I apologize. The  
4 1.696 billion of the number that -- that is probably  
5 etched in everybody's mind pretty clearly at the  
6 starting point changed to seventy (70) -- seven ninety-  
7 eight (798) in the -- in the Manitoba Hydro update.  
8 That number is directly out of their work.

9                   And similarly, the -- that over \$800  
10 million erosion in value -- almost \$900 million erosion  
11 in value happens to the fifty (50) year point, the  
12 thirty-five (35) year, and the twenty (20) -- twenty  
13 (20) year such that the -- that at the end of fifty  
14 (50) years where our metrics in our original document  
15 of 9A on Figure 9-21 showed that there was still -- at  
16 that point there was -- had been the creation of value  
17 of almost -- a little over \$700 million, and the  
18 economic analysis from Plan 14 now has gone down to --  
19 a drop in economic value of about 200 million -- sorry,  
20 about \$180 million.

21                   So the -- so that -- and that, not  
22 surprising, now says that the breakeven period has  
23 pushed out be -- beyond fifty (50) years in the -- in  
24 the change in capital cost analysis, and there has been  
25 a corresponding drop in internal rate of return from

1 approximately 6.15 percent to 5.6 percent.

2 So similarly, that's how you read  
3 through these -- the comparisons of these -- of the  
4 information that was available. These were the -- the  
5 numbers -- the table out of Mr. Peaco's presentation,  
6 as well. And -- and that -- that's kind of the first  
7 comparison that's available in the update of the  
8 addendum.

9 So we go to the next comparison that  
10 I've laid out here. And some of these slides in the --  
11 in the update you'll -- are actually the figures that -  
12 - or some of these figures in the addendum are actually  
13 figures that were used yesterday, but they weren't  
14 necessarily shown side by side.

15 So in -- these here -- we're looking at  
16 Figure 9-34 and 9-34U on page 77 in the original 9A  
17 addendum -- 9A technical appendix. So that the -- you  
18 can see that the -- if you focus on the light blue  
19 line, which is the Preferred Development Plan, as we  
20 discussed yesterday, that in our methodology that was  
21 crossing a -- I believe the number that was is 42  
22 percent as an example as a read, the zero point, and  
23 now it moved up to about 55 percent for the -- the  
24 probability.

25 And that number, as you read it in our

1 analysis, that's the probability that the -- that the  
2 Preferred Development Plan will have a higher cost than  
3 the -- than the All Gas cost on a net present value  
4 basis. So that's what -- so -- so that -- that,  
5 percentage point wise, is increased about ten (10) or a  
6 little bit more percentage points of probability.

7                   The -- the profiles have changed a  
8 little bit, obviously, with the capital cost change.  
9 The other plans that were all -- that were somewhat  
10 clustered where they crossed the point -- the zero  
11 point in around 35 percent has now inched up to about  
12 40 -- 40 percent. But in all reality, the -- I mean,  
13 looking at the way these charts are interpreted, the --  
14 it's around zero from the 30 percent in the new chart,  
15 from the 30 percent point to the 50 percent point, it's  
16 about zero. I mean, we don't want to imply too much  
17 precision to the -- to the -- the significant figures  
18 here.

19                   But -- so -- so that there's been a  
20 small change is what the -- what we -- we had with that  
21 update. You know, it hasn't -- it hasn't made -- you  
22 know, it hasn't provided such a dramatic change to the  
23 metrics that its -- in its own right, just a capital  
24 cost change, that -- that conclusions would change --  
25 or observations would change dramatically.

1                   In the next comparison on the -- on the  
2 two (2) things, we have essentially the same two (2)  
3 charts, only at the -- at the fifty (50) year period.  
4 And here the -- the fifty (50) year period has the --  
5 impacts are a little bit more pronounced where you --  
6 again using the Preferred Development Plan. Where it  
7 had been crossing in that forty-five (45) to fifty-five  
8 (55) period, it's now crossing at probably the seventy  
9 (70) to seventy-five (75) period of -- of probability.

10                   One reason why this is more dramatic in  
11 its percentages is that all the change in capital cost  
12 impacts, except for the residual capital tax issues, is  
13 -- is up front so that -- that's happ -- it -- it  
14 impacts the comparative nature to the All Gas case at  
15 the fifty (50) year point, and the thirty-five (35)  
16 year point, and the twenty-five (25) -- twenty (20)  
17 year point. Similar numbers, but more dramatically on  
18 a -- on a comparative basis -- on a probabilistic  
19 basis.

20                   So we go to the next comparison that was  
21 -- that -- we had that in there. Actually, you can  
22 skip this one. Go to the next one after that, the --  
23 the fourth comparison. The fifth comparison, sorry.

24

25                   (BRIEF PAUSE)

1 MR. JOHN ATHAS: Okay. So this -- now  
2 we're comparing 9-50 and 9-51 in Technical Appendix A  
3 to 9-51U in the -- in the addendum. And here we -- the  
4 original chart had compared four (4) plans in their --  
5 and how their risk profiles looked versus All Gas. The  
6 -- the new 951U does not have Plan 6, because that was  
7 not discussed enough in the presentation for us to be  
8 able to extract the information. Again, this is  
9 something that we have addition -- more detailed  
10 information now available to us, but it wasn't  
11 available when we -- we were doing the addendum.

12 So you can see that in this chart that  
13 the blue line is dissimilar -- has kind of had some of  
14 the similar changes that we -- that we had. It was the  
15 -- but by comparison the -- the relative nature of the  
16 plans have -- have, you know, stayed relatively similar  
17 in -- in the --

18 So if we go to the next slide comparison  
19 at number 6.

20

21 (BRIEF PAUSE)

22

23 MR. JOHN ATHAS: Okay. This comparison  
24 is one where we took the -- the original analysis at  
25 nine-fift -- Figure 9-56 was where we changed the

1 energy price probabilities that I mentioned when I was  
2 going through like the overview, where we increased the  
3 -- the probability of low energy prices occurring. We  
4 -- and we did that -- so we did that analysis over for  
5 the Plans 14, 5, and 4, and as well as the All Gas  
6 Plan, so that the -- the comparison and the -- the  
7 change points for -- and the expected value numbers all  
8 change a bit in this -- you know, in doing over this  
9 comparison.

10                   The expected value numbers are -- of  
11 each plan versus All Gas are similar to the -- the way  
12 they were, kind of how they differ from each other.  
13 But what you have here is that where in this energy  
14 price probability sensitivity that we did, if you look  
15 at the box that's on slide -- Figure 9-56, it has a  
16 expected value under Plan 14 for seven twenty-seven  
17 (727). That number changes to minus \$240 million as a  
18 result of the capital cost change. If you'll look at  
19 the figure -- corresponding Figure 9-56U.

20                   So there was a -- and -- and one thing  
21 that again, just to re-enforce, that we -- we quickly  
22 went through and made as many of the comparison updates  
23 that we could. We didn't necessarily even try to sort  
24 through, you know, which ones were the most profoundly  
25 impacted or not from the capital cost change. It was

1 more to give you a -- a new set of metrics and -- from  
2 the -- from where we had given you in 9A and B.

3                   Okay. If we go to -- just a few more.

4 If we go to the seventh one, that would probably  
5 helpful, I think. All the analysis that we was -- that  
6 we've been giving examples of before this were the --  
7 were on the Manitoba Hydro perspective. We do have  
8 some analysis in the technical appendixes -- appendices  
9 for both 9A and 9B from the provincial viewpoint.  
10 Again, the provincial viewpoint here -- our diffe --  
11 differs a little bit in -- in what it's trying to show  
12 than the Manitoba Hydro, because of the difference in  
13 the 1 percent guarantee -- treatment of the 1 percent  
14 debt guarantee fee.

15                   So you can see that the -- we have some  
16 analysis differences and the -- for example, the top  
17 bar in -- in Plan 14, and these are numbers that were  
18 showing up on the charts yesterday as well, that the --  
19 from the original Manitoba Hydro analysis, we had a  
20 number of twenty-seven ninety (2,790) in our view of  
21 the provincial benefits over seventy-eight (78) years.  
22 That number dropped to just under \$2 billion in  
23 benefits.

24                   And the -- and so there was  
25 corresponding changes made from the few plans that we

1 had to be able to do the update on.

2 THE CHAIRPERSON: Could you explain --

3 MR. JOHN ATHAS: And --

4 THE CHAIRPERSON: -- could you explain,  
5 Mr. Athas, explain why there's a difference there? Why  
6 there would be such a dramatic difference? Because we  
7 haven't talked about --

8 MR. JOHN ATHAS: In the --

9 THE CHAIRPERSON: -- interest rates.  
10 What would -- what would impact these values based on  
11 the changes you've made?

12 MR. JOHN ATHAS: Well, in that -- in  
13 that particular -- like -- like with those two (2)  
14 numbers that's basically when -- the couple of dollar  
15 here. But that -- that's essentially the eight (8) --  
16 eight-ninety-eight (898) number that was viewed -- that  
17 was shown in the -- one (1) of the slides of the  
18 Manitoba Hydro package that said this was the  
19 difference between when you add the capital costs into  
20 the Preferred Development Plan. It went from sixteen-  
21 ninety-six (1,696) to like seven-ninety-eight (798), if  
22 you remember -- might remember those numbers. And  
23 those same -- that same delta translates right over  
24 into the provincial view.

25 THE CHAIRPERSON: I was more interested



1 in the -- what's happening with the provincial  
2 revenues. They're -- they're roughly -- are they  
3 roughly the same?

4 MR. JOHN ATHAS: They should be the  
5 same. I mean, there's been -- there's -- there's a  
6 slight -- slight difference because the -- the  
7 provincial capital tax benefit goes up -- the capital  
8 tax payment goes up, so that means the change -- when  
9 you take out the transfer payment changes a little bit.  
10 But by and large that they -- I mean, the -- the  
11 picture would look the same to the naked eye if we  
12 didn't even make that change, that secondary change.

13 But what's -- what's really happened  
14 here in the -- the real shift here is that the maroon  
15 line -- maroon bar has shifted from -- in the Preferred  
16 Development Plan from -- from bigger than the -- the  
17 adjustment for the provincial benefits to small. But -  
18 - and -- and the blue bars bas -- basically stayed the  
19 same.

20 Okay. So we go -- if we go to -- that  
21 was Figures 9 -- 9-76, and we go to the last comparison  
22 that I thought it would -- might be good to just run  
23 through for examples here today. Actually, sorry, we  
24 do have two (2) more left.

25 So if we do that -- this is the -- this

1 is the probabil -- probabilistic distribution of the  
2 Manit -- of the provincial viewpoint. And so we  
3 updated the -- where we had the information we were  
4 able to update those as well. So where the -- obv --  
5 obviously the -- on the left-hand side on -- on Figure  
6 9-82, the -- the probabilistic benef -- the probability  
7 is much lower than the -- or from the provincial  
8 viewpoint, that the Preferred Development Plan will  
9 have higher costs than the All Gas Plan, from the  
10 provincial viewpoint. So that -- that's down around  
11 the -- a little under 30 percent versus being about  
12 that 55 percent point that we were talking about. That  
13 would -- versus the 42 percent on the left-hand side.  
14 On the right-hand side we've dropped this -- that 55  
15 percent point that Mr. Peaco spoke about yesterday for  
16 where it crosses for the Preferred Development Plan,  
17 back down to about only a 40 percent probability on the  
18 Preferred Development Plan having higher costs than the  
19 -- than the All Gas case.

20                   So -- so we've -- the -- the change in  
21 capital costs has -- has pushed up the line for the --  
22 in terms of the -- well, or pushed out to the right,  
23 but pushed up the probabilities, essentially, that the  
24 All Gas Plan will -- will be more favourable.

25                   The last comparison, if we could just go

1 to that -- that -- to walk through is we had a -- an  
2 illustration of the value of the -- how you -- we would  
3 kind of break down from all the different comparisons,  
4 the -- approximately break down the \$1.696 billion  
5 benefits in the NFAT filing Preferred Development Plan.

6 And we tried to break it down in steps  
7 from the Keeyask -- adding Keeyask to the All Gas Plan,  
8 to then adding the two-fifty (250) transmission and  
9 then going from a case that had the two-fifty (250) to  
10 the seven-fifty (750), and then adding Conawapa for the  
11 las -- for the last -- for a large amount of the gas  
12 capacity that was installed. And then the last thing  
13 was to have the change in the WPS contract and  
14 investment at that time.

15 So we're still -- we're still working  
16 with the -- with essentially an item of the resource  
17 plan, at that time the Preferred Development Plan,  
18 being the combination of the original WPS term sheet,  
19 and its expectation that WPS was going to make an in  
20 the tra -- in the US side of the transmission line.

21 We -- we now looked at these -- at how  
22 these comparisons look with the change in the Preferred  
23 Development Plan -- I mean, changing the capital costs  
24 to Keeyask and the like, we changed the -- because of  
25 the limited number of comparisons we had in the plans,

1 we changed the order a little bit. So that's what that  
2 -- that's why that big box has a note there, so it  
3 doesn't -- so you -- you don't -- we don't mess anybody  
4 up by having you try to just go box for box. So we  
5 swapped the order of adding Conawapa and adding the WPS  
6 sale and investment in there.

7                   So you can see that the -- that there's  
8 been a -- and the scale has changed, so that -- I -- I  
9 apologize, we try to keep most of the scales the same -  
10 - so the -- the scale on the left hand side of the  
11 Figure 9-99 -- 9-99 in 9B is from zero to eighteen  
12 hundred (1,800), so it's been, basically, about cut in  
13 half -- for you to look at the scale when you -- when  
14 we went to 9U. So the scale is zero to a billion.

15                   So while the boxes didn't change in  
16 relative size, the number of the -- for -- the value of  
17 the Keeyask went from eight eighty-seven (887) to four  
18 eighty-nine (489) when you increase the capital costs.  
19 The value of the transmission of the two-fifty (250) is  
20 -- is a -- was assu -- came out to be about the same.

21                   And, overall, these -- we were able to  
22 break down their components. The value of Conawapa  
23 went down from two sixty-nine (269) to one thirty-one  
24 (131) as an -- as an added component. So it's --  
25 again, on the reference assumptions at seventy-eight

1 (78) years, this was kind of an illustration for, you  
2 know, how all the -- how all the parts add up to the  
3 sum.

4                   So I think that -- in an effort to try  
5 to get everybody a little bit more familiar with a --  
6 with the addendum that we only finished up late last  
7 week and made its way through the -- through the path  
8 to the general public in a few steps of -- of only  
9 yesterday, and try -- try to jumpstart that  
10 familiarization process, I think these were the,  
11 probably, the better comparisons to, at least,  
12 highlight today. But as I mentioned, there was more  
13 comparisons within the addendum to the 9A and 9B. And  
14 there is more that we could make on a going-forward  
15 basis with the -- some of the additional information we  
16 have.

17                   THE CHAIRPERSON: The slight difference  
18 in value between the total and the NFAT Preferred  
19 Development Plan total, what's going on there in terms  
20 of the -- the gray bar and the black bar --

21                   MR. JOHN ATHAS: Oh, that -- the  
22 comparisons we had weren't always the -- the cleanest  
23 comparisons. Like maybe -- we didn't run -- we didn't  
24 have a case where we just asked for the next run and  
25 the next run and the next run to make -- to end up with

1 the right kinds of comparisons. So this is more an  
2 illustration than a -- a hard decision criteria.

3 I mean, I wouldn't -- I wouldn't say  
4 value the -- eve -- even in the original technical  
5 Appendix 9B analysis, I wouldn't say that -- that nine  
6 (9) -- the WPS box at two sixty-nine (269) is the --  
7 should be the decision matrix for saying whether the  
8 WPS arrangement was -- was good or not. There's  
9 obviously better comparisons in the plans to make --  
10 and risk profiles to look at, and things like that.

11 But this was more ill -- trying to  
12 illustrate that, just as we sa -- saw in the Preferred  
13 Development Plan, a significant chunk of the value in  
14 the -- on the -- in the 9B analysis on -- on Figure 9-  
15 99 shows that more than half of the value of the  
16 Preferred Development Plan, even though it's got many  
17 components, comes from Keeyask, and when you add -- and  
18 -- and a lot less of it was really associated with  
19 Conawapa.

20 And -- and more of it was in the way  
21 these were looked at the -- there was a positive  
22 contribution to -- to the tran -- 250 megawatt  
23 transmission line, that's very significant, as well, in  
24 the original analysis. And while the combination of  
25 Conawapa and the seven-fifty (750) were, basically, in

1 this illustration, a wash in terms of providing --  
2 netting out the -- the impact. And there was some  
3 discussion in 9B of our conclusions that the -- that  
4 Conawapa needs the seven-fifty (750) and the seven-  
5 fifty (750) needs Conawapa. That's -- there were  
6 similar discussions in the -- in the NFAT filing by  
7 Manitoba Hydro to that -- maybe not as -- as direct a  
8 statement as I just made but -- so that's what this  
9 kind of shows.

10 And that -- that's how -- so that's what  
11 we really -- really we try to break down, that the --  
12 the real value comes out of the -- the three (3) main  
13 components of the first transmission -- Keeyask and the  
14 -- and the WPS contract, where WPS was making the  
15 investment.

16 THE CHAIRPERSON: And this includes the  
17 investments, doesn't it? These two (2) slides include  
18 the --

19 MR. JOHN ATHAS: Yeah, these both  
20 include the investment assumptions that were made in  
21 the original filing.

22 THE CHAIRPERSON: So the effect of --  
23 the effect of -- removing an investment has the effect  
24 of increasing the loss related to -- or the apparent  
25 loss related to the megawatt -- the 750 megawatt line

1 that's shown here?

2 MR. JOHN ATHAS: That's right. It  
3 would -- the -- the invest -- the WPS investment change  
4 in the -- under this 2012 assumptions with their 5.05  
5 percent discount rate, I believe, is around \$183  
6 million on a present value basis. In one of their --  
7 one of the Manitoba Hydro slides, it -- they provided  
8 that direct comparison under the 5.5 percent discount  
9 rate of about \$217 million.

10 So -- so basically it says that a lot of  
11 the -- a large chunk of the WPS investment benefits,  
12 you know, from the original assumptions under the 2012  
13 analysis reference case with all those kind of -- make  
14 sure it's clarity, that's what we're talking right here  
15 -- that a large chunk of that two sixty-nine (269) went  
16 away with the investment going away.

17 And the pri -- there was a price change,  
18 too, but that's -- that's not trying -- I haven't made  
19 an attempt to value that here.

20

21 (BRIEF PAUSE)

22

23 THE CHAIRPERSON: I think that's all  
24 the questions the panel has at the time being, so back  
25 to you, Mr. -- Me. Monnin. You're -- you completed



1 your -- okay. So I would basically -- I'm assuming  
2 that it's either Mr. Gange or Mr. Williams.

3 Mr. Gange, please...?

4 MR. WILLIAM GANGE: It would be helpful  
5 to me if we had a short break, and I can get everything  
6 arranged and -- and discuss slides with Ms. Vill --  
7 Villaluz -- sorry --

8 THE CHAIRPERSON: I think that's an  
9 excellent suggestion.

10 MR. WILLIAM GANGE: -- Villegas.

11 THE CHAIRPERSON: I think that's --

12 MR. WILLIAM GANGE: So that would be  
13 helpful.

14 THE CHAIRPERSON: Okay. Thank you.  
15 Let's take five (5).

16

17 --- Upon recessing at 9:57 a.m.

18 --- Upon resuming at 10:11 a.m.

19

20 THE CHAIRPERSON: I believe that  
21 everybody's in a position. One of the panel members  
22 has a question.

23 Ms. Kapitany, please...?

24 MS. MARILYN KAPITANY: Thank you, Mr.  
25 Chair. Mr. Athas, just going back to Figure 99 -- 9-

1 99U. I thought I understood this yesterday, but I  
2 think it's escaped me again. We've heard from Manitoba  
3 Hydro that the 250 megawatt interconnect is really no  
4 longer an option, and the 750 megawatt interconnect is  
5 really what we need to be looking at. And yet it's  
6 showing as -- in terms of component values, it's  
7 showing as a negative component value.

8 And I'd just like to understand that  
9 better, if you could go over that again.

10 MR. DANIEL PEACO: Let me -- let me  
11 take a shot at this. What we -- what we're showing  
12 here is -- is differences -- or trying to -- to build  
13 from cases that were originally filed, the original  
14 fifteen (15), and going through and sort of stepping --  
15 sort of adding -- starting with Keeyask, Keeyask plus -  
16 - plus the two fifty (250) and seven fifty (750). Of  
17 course at the time, the two fifty (250) line was -- was  
18 part of the options. And so this analysis builds off  
19 of that original application.

20 But what you're seeing in this analysis  
21 is if you step through the way we're talking about  
22 here, and you -- you look at the plan in where they ran  
23 Keeyask and the two fifty (250) line, it's showing the  
24 transmission line obviously adding -- and -- and the  
25 contract -- the -- the case that's there really is --

1 if you think about the comparison that was shown in  
2 that first step is -- is comparing to the Keeyask by  
3 itself. The -- the Plan 2, I don't think has Keeyask  
4 investment and there's no contacts, there's no  
5 transmission.

6                   Going to the MP250 plus -- plus the two  
7 fifty (250) line, the case that they ran for that, I  
8 think it's Plan 4 -- is it...

9                   MR. JOHN ATHAS: Yeah, it -- it was one  
10 of the -- it was one of the options --

11                  MR. DANIEL PEACO: Yeah.

12                  MR. JOHN ATHAS: -- for the -- the  
13 comparison.

14                  MR. DANIEL PEACO: Yeah. And so in --  
15 in that case, adding in the -- that amount of  
16 transmission with -- with the export contracts  
17 increases the value over Keeyask by itself.

18                  So then we said, Okay, let's compare  
19 that one to the plan that adds -- that adds a 750 line  
20 instead of the 250 line. Everything else is the same.  
21 And with only Keeyask in and no other changes, you --  
22 you're taking on added cost, because the trans -- the  
23 750 line is more expensive, compounded by the fact that  
24 Manitoba Hydro is -- is stepping into what -- what  
25 otherwise would be an investment by Wisconsin Public

1 Service.

2 And -- and at that point, the -- the  
3 increased transfer limits is not providing any more  
4 benefit. So all you're -- all you're doing is  
5 basically adding cost in taking that step. But then  
6 when you go an lay Conawapa in, obviously, there's more  
7 energy to export and you could take advantage of the --  
8 of the larger export capacity of the transmission.

9 So that's -- that's really what you're  
10 seeing and it's simply by sequencing in the way we did  
11 you're seeing that particular effect. Does that help?

12 MS. MARILYN KAPITANY: Yes, thank you.

13 DR. HUGH GRANT: And just to be clear,  
14 so the -- the 750 line is still a net benefit though?

15 MR. DANIEL PEACO: Yeah, if you -- if  
16 you take the 250 line -- take the step out that  
17 includes the 250 transmission, you're still going to  
18 get to the same place. It's just that, you know, some  
19 transmission is going to give you benefit. And in this  
20 particular analysis, by sequencing and looking at the  
21 two fifty (250) first, it's -- it's basically saying  
22 you get most of the transmission busi -- benefit from  
23 the 250 line. You get all of that benefit if you went  
24 straight to seven fifty (750).

25 So if the two-fifty (250) never existed,

1 you'd end up at the same place and you'd -- you'd see  
2 as -- as a benefit accruing to the add -- addition of  
3 the 750 line.

4 THE CHAIRPERSON: I want to make sure  
5 I've got that right. You'd net out what -- what's  
6 showing here as two fifty (250) and the seven fifty  
7 (750). Those two (2) are netted out would still yield  
8 a profit, would still yield a positive net value?

9 If you net out the seven fifty (750) and  
10 two fifty (250) on the -- on the left graph?

11 MR. DANIEL PEACO: Yeah, so if you --  
12 what you would -- what you would get is if you remove  
13 the second step, you would have a -- and you go over to  
14 -- directly from -- from Keeyask alone to -- to the  
15 seven fifty (750), you would have a blue bar that goes  
16 up from the Keeyask amount to the bottom of that red  
17 bar. And that's -- that would be the positive benefit  
18 from going to that step.

19 THE CHAIRPERSON: So why would there be  
20 so little value out of the WPS in that particular  
21 graph? It's showing a net present value of six (6).

22 What you've added there is a contract?

23 MR. JOHN ATHAS: Yeah, in -- in this  
24 case, the -- the -- as you've said, we're -- we're  
25 trying to -- well, back up a step. The process by

1 putting together the original illu -- illustration had  
2 -- there was -- for most of the components, there were  
3 a couple of different comparisons of plans you could  
4 make which may -- may or may not have been just  
5 directly the exact component change.

6                   So there, for -- for several of the --  
7 the plans -- and even in -- for several of the  
8 components, there -- there might have been three (3)  
9 choices of ways to look at adding Conawapa, depending  
10 on what you had or didn't have for the things, for  
11 example. So we chose ones that were tending to be in  
12 the middle of the original analysis. In this analysis,  
13 we didn't have as clean a comparison of -- because like  
14 Plan 16 wasn't run, okay; and that Plan 16 in the  
15 original analysis was with and without the WPS  
16 investment.

17                   THE CHAIRPERSON: And this probably  
18 also excludes the WPS contract, the three-o-eight  
19 (308)?

20                   MR. JOHN ATHAS: That's correct. It's  
21 still on the old numbers.

22                   THE CHAIRPERSON: Okay. That would be  
23 the difference between the two (2) graphs in that one  
24 includes the -- the larger WPS contract and one -- the  
25 other one doesn't?

1                   MR. JOHN ATHAS:   Well, they also -- the  
2   -- the order isn't -- is more -- is more indicative of  
3   the -- the order was important in this one. And we had  
4   a comparison without Conawapa of the two fifty (250)  
5   and -- I mean, of the -- of the WPS agreement. And so  
6   -- so that's why it would -- it's -- it's a lower  
7   number or -- or more just about a wash when you have --  
8   when you do -- try to fulfill it without Conawapa. I  
9   know it's tied contractually to Conawapa, but it's --  
10   but the -- but if you did it without Conawapa, that's  
11   where the value's that low.

12                   If I changed it to -- and if I had all  
13   the plans again to be able to put a value on it after  
14   Conawapa, as an addition, it would be -- the -- you  
15   know, the Conawapa bar would go down and there would be  
16   value in the WPS component, which is one reason why I  
17   kind of cautioned about -- like too much of trying to  
18   isolate this as a decision on one of those things  
19   versus just seeing some of the relative nature.

20                   THE CHAIRPERSON:   The panel has  
21   exhausted its questions. So I'll turn the microphone  
22   over to Mr. Gange, please.

23

24   CROSS-EXAMINATION BY MR. WILLIAM GANGE:

25                   MR. WILLIAM GANGE:   Thank you, Mr.

1 Chair. Mr. Peaco and Mr. Athas, thank you for being  
2 here. Your reports have been very interesting. My  
3 name is Bill Gange. I represent the Green Action  
4 Centre, and I have a number of questions for you that  
5 al -- almost exclusively deal with the analysis of the  
6 use of wind energy in -- as an alternative in -- in  
7 this NFAT process.

8 From -- on a -- on a high level, Mr.  
9 Peaco, there are certain advantages, would you agree,  
10 that we have -- Manitoba Hydro is currently primarily a  
11 -- a water-based system, correct?

12 MR. DANIEL PEACO: Yes.

13 MR. WILLIAM GANGE: And as a result of  
14 that, one of the potential risks of a hydro -- a water-  
15 based system is -- is the potential impact of drought.

16 MR. DANIEL PEACO: The water varia --  
17 variability from year to year obviously is -- is  
18 pronounced in the system.

19 MR. WILLIAM GANGE: And -- and in  
20 looking at the use of -- of wind as part of the  
21 Manitoba Hydro system, would you agree with me that  
22 there are a number of -- of advantages that wind would  
23 have, and one (1) of them would be that there's a  
24 significantly shorter lead time from making a decision  
25 to putting the -- the energy into place?



1 MR. DANIEL PEACO: Clearly, wind res --  
2 the -- the time to develop a wind resource is -- is a  
3 lot shorter than the time to develop a -- a Keeyask or  
4 Conawapa project. Yeah, that's right.

5 MR. WILLIAM GANGE: And -- and  
6 obviously, a second potential advantage in -- in a --  
7 in a hydro-based system such as we have is that wind is  
8 likely to be different in terms of the risk with  
9 respect to drought.

10 MR. DANIEL PEACO: Correct. The wind -  
11 - I mean, wind resource is -- is not associated with a  
12 hydro resource. And so their -- their uncertainties  
13 would be -- be derived from different -- different  
14 sources. The wind -- wind obviously moves differently  
15 than the hydro.

16 MR. WILLIAM GANGE: Would you also  
17 agree that there's -- that one (1) of the advantages of  
18 wind over hydro is that there's a higher percentage of  
19 energy that is fir -- can be considered to be firm?

20 MR. DANIEL PEACO: I -- in Manitoba,  
21 I'm not sure that that's the case. I think that the --  
22 the -- at least Manitoba Hydro's analysis is the  
23 coincidence in the winter peak to production in wind is  
24 not necessarily very good. So I think firmness would -  
25 - would be tied with its performance during the times

1 of system peak.

2 MR. WILLIAM GANGE: Okay. Thank you.  
3 If we could go to Appendix 3A of -- of La Capra, and  
4 page 35.

5 Sir, down at the bottom of this page,  
6 you have the -- you raise the issue of modularity of  
7 wind.

8 MR. DANIEL PEACO: Yes.

9 MR. WILLIAM GANGE: And I don't believe  
10 that that's something that you discussed in -- in any  
11 detail with respect in -- in your main testimony.

12 Could you advise the panel, what -- what  
13 are you getting at with res -- this phrase  
14 'modularity'?

15 MR. DANIEL PEACO: Sure. Well,  
16 modularity is -- is a term that's related to the lead  
17 time issue that you raised a few minutes ago, and it  
18 would feed into the -- some of the pathways discussion  
19 we talked about yesterday afternoon.

20 Basically, there's two (2) elements to  
21 that. One (1) is, you know, the -- the size of the in  
22 -- incremental investment that you'd make. Installing  
23 a wind farm or a wind turbine is a smaller-scale  
24 resource and it's a shorter lead time. And so your --  
25 your lead time on decision making and being able to

1 change course as years go on is -- is more -- gives you  
2 more flexibility over time if you have -- you're making  
3 small, shorter lead time decisions in your resource  
4 planning as opposed to large, long -- long-term -- long  
5 lead time and long-term investment types of decisions.

6 And so that's the concept of modularity  
7 that we were referring to there.

8 MR. WILLIAM GANGE: And -- and again,  
9 that would be one (1) of the advantages that would be  
10 available in the -- in -- in a -- in a wind analysis?

11 MR. DANIEL PEACO: That's correct.

12 MR. WILLIAM GANGE: Thank you. I want  
13 to talk, sir, about the base capital cost that was --  
14 that has been used with respect to the analysis of wind  
15 by Manitoba Hydro. And if you -- if -- if Diana could  
16 go to Appendix 2 and page 13.

17

18 (BRIEF PAUSE)

19

20 MR. WILLIAM GANGE: On this page, sir -  
21 - a little bit down, Diana -- used -- you used a  
22 figure, I believe, of one thousand seven hundred and  
23 fifty (1,750) for the -- the -- I hope I've got the  
24 right page.

25

1 (BRIEF PAUSE)

2

3 MR. DANIEL PEACO: Are you looking for  
4 wind numbers?

5 MR. WILLIAM GANGE: Yes.

6 MR. DANIEL PEACO: Yeah, this -- the --  
7 the numbers on -- on this -- on the page you cited are  
8 -- are other resources.

9 MR. WILLIAM GANGE: You know what, sir,  
10 I may have been looking at -- well, 2-9, Diana. I'm --  
11 I'm sorry, sir, I gave you the wrong number: 2-9.

12

13 (BRIEF PAUSE)

14

15 MR. WILLIAM GANGE: Yes, thank you. I  
16 -- I think this is the right page that -- that I was  
17 looking at, sir. On this page, in -- in the middle  
18 paragraph there you -- you're talking about one  
19 thousand seven hundred and fifty dollars (\$1,750) in  
20 2012?

21 MR. DANIEL PEACO: Yes.

22 MR. WILLIAM GANGE: And where did you  
23 take that from?

24 MR. DANIEL PEACO: It's a US Department  
25 of Energy document source there in the Footnote 14.

1 MR. WILLIAM GANGE: And that one  
2 includes transmission interconnection costs --

3 MR. DANIEL PEACO: Yes.

4 MR. WILLIAM GANGE: -- correct, sir?

5 MR. DANIEL PEACO: That's correct.

6 MR. WILLIAM GANGE: In the evidence  
7 that was filed by GAC, they used your number of  
8 seventeen fifty (1,750) and then deducted fifty dollars  
9 (\$50) per kilowatt hour for transmission station costs  
10 to come up with a number of -- for the -- the base  
11 capital cost of seventeen ten (1,710) per kilowatt  
12 hour.

13 Does that analysis -- does it -- does it  
14 make sense to deduct the -- the transmission costs from  
15 the base capital cost?

16 MR. DANIEL PEACO: I'm not -- I guess  
17 I'm -- I'm not recalling the specific piece of  
18 testimony. I'm not sure what the -- what the purpose  
19 for deducting -- was it assuming a lower cost for  
20 transmission than was included in these numbers?

21 MR. WILLIAM GANGE: No, they -- they --  
22 Mr. Stevens simply took out the transmission  
23 interconnection costs, and -- and he had estimated  
24 those transmission connection costs as fifty dollars  
25 (\$50) per kilowatt hours. And -- which then would

1 leave seventeen hundred and ten dollars (\$1,710) as the  
2 project cost.

3 So the -- the only difference that he  
4 had was that your seventeen fifty (1,750) included  
5 transmission interconnection costs, and the number that  
6 he used was seventeen ten (1,710) excluding  
7 transmission interconnection costs.

8 MR. DANIEL PEACO: Yeah, I don't -- I -  
9 - I don't have a good number for the interconnection  
10 cost component of that number on the top of my head,  
11 but...

12 MR. WILLIAM GANGE: And -- and, so that  
13 -- that fifty dollars (\$50), you're not sure whether  
14 that's a reasonable number or not?

15 MR. DANIEL PEACO: I'd have to -- I'd  
16 have to go back and check. I'm not -- I don't have the  
17 number handy.

18 MR. WILLIAM GANGE: Okay. Thank you.  
19 With respect to the trends in capital costs, Manitoba  
20 Hydro assumed that the same rate woul -- could be used  
21 going forward for the capital costs. Do you recall --  
22 I believe that you testified on -- on that in your  
23 direct testimony.

24 MR. DANIEL PEACO: That's correct.

25 MR. WILLIAM GANGE: And you had

1 suggested a reduction of up to 40 percent through 2030,  
2 correct, sir?

3 MR. DANIEL PEACO: Yes. I believe  
4 that's correct. The -- it's discussed on page 211.

5 MR. WILLIAM GANGE: And the -- the  
6 assumption that you used was a 1 percent per year  
7 decline. And I think that this is Appendix 3A, page  
8 26, where you make that -- that assumption.

9 MR. DANIEL PEACO: Yes. There's a  
10 table -- Figure 3-3 has the assumptions there.

11 MR. WILLIAM GANGE: And -- and, sir,  
12 the reason that you used that, could you explain that  
13 to the Board again?

14 MR. DANIEL PEACO: Sure. When we were  
15 back -- I mean, it's actually, discussed back where --  
16 in Section 2 on page 211.

17

18 (BRIEF PAUSE)

19

20 MR. DANIEL PEACO: And it actually --  
21 discussion on it starts on the bottom of page 210. But  
22 there's a -- sort of depiction there of a -- of a  
23 National Renewable Energy Lab study looking at --  
24 actually, a composite of -- of a number of different  
25 studies looking at trends in -- in improvements and

1 technology over time. And they -- so we reviewed that  
2 and -- and used a number representative from that study  
3 as a -- as a basis for our im -- improvements in costs-  
4 over-time estimate.

5 MR. WILLIAM GANGE: And -- and I take  
6 it, sir, that -- but the obvious point of that, that  
7 you're making, is that Manitoba Hydro overstated the --  
8 the cost, because it didn't take into account these  
9 improvements in -- in, well, in pricing --

10 MR. DANIEL PEACO: Right.

11 MR. WILLIAM GANGE: -- going forward,  
12 so that the capital costs then would for -- for wind  
13 farms would be less than what was put forward?

14 MR. DANIEL PEACO: Yeah, in their -- in  
15 their wind plan, they obviously -- every -- everyone of  
16 their plans goes seventy-eight (78) years, and so --  
17 which is beyond the life of a wind farm, and so they  
18 were replacing in kind. And they -- they assumed that  
19 the costs stay constant, as you replaced in kind  
20 through time. And so we -- in our adjustment, we  
21 assume when you replaced, you replaced with a -- with a  
22 somewhat improved cost performing option.

23 MR. WILLIAM GANGE: In the analysis  
24 that was undertaken by Mr. Stevens, he was somewhat  
25 critical of the construction period.



1 And, Diana, if you could go to GAC  
2 evidence and page 29 -- just -- yes, that -- right  
3 there, that's perfect.

4 And -- and what Mr. Stevens was  
5 referring to in here -- and I'll -- I'll go to it in a  
6 -- in a second -- was that Manitoba Hydro had used a --  
7 a three (3) year time period. And as you can see,  
8 approximately, 3 percent of the capital costs were  
9 incurred in the first year, 95 percent in the second,  
10 and 2 percent in the third year.

11 Do you see that part, sir?

12 MR. DANIEL PEACO: Yes, I do.

13 MR. WILLIAM GANGE: And, Diana, if you  
14 can go to La Capra undertaking Tab 308. Thank you.

15 And -- and you see, sir, that -- that  
16 Manitoba Hydro in answer to one of your undertakings --  
17 this is 308, and I believe, it's slide 22 -- and it  
18 sets the -- the costs, as you can see there -- their --  
19 their numbers are four point six one (4.61). In year  
20 1, one twenty-eight point nine six (128.96) --

21 MR. DANIEL PEACO: I'm sorry, could you  
22 give me the -- the cell reference here?

23 MR. WILLIAM GANGE: I'm looking at --  
24 under generating stations, sir.

25 MR. DANIEL PEACO: Okay.

1 MR. WILLIAM GANGE: Thank you, Diana.

2 So four six one (4.61) in first year,  
3 one twenty-eight ninety-six (128.96), and two point six  
4 four (2.64) in the third year?

5 MR. DANIEL PEACO: Yes, I see that.

6 MR. WILLIAM GANGE: And Mr. Stevens's  
7 comment was that -- that, that given the relative short  
8 time period that a wind project could be put into  
9 operation, that those numbers would be better  
10 distributed on the basis of 3 percent in the first  
11 year, and then splitting the balance the other 97  
12 percent half way, 48 1/2 percent and 48 1/2 percent in  
13 years 2 and 3.

14 In response to that, sir, in -- in your  
15 experience, is it likely that 95 percent of the costs  
16 are going to incur -- be incurred a year prior to the  
17 implementation of the wind farm?

18 MR. DANIEL PEACO: Well, I think  
19 probably, Mr. Stevens's assumptions would be more  
20 consistent with some of the recent wind farm  
21 developments. Obviously, in -- in the US with  
22 production tax credit deadlines, we've seen projects go  
23 up in a hurry. And this -- the, you know -- so  
24 spending, you know, within the twelve (12) to eighteen  
25 (18) months of operation is -- is pretty typical for

1 some of the ones that have recently been built.

2 MR. WILLIAM GANGE: Thank you.

3 THE CHAIRPERSON: Does it matter a  
4 great deal? I mean, does it matter -- from -- from the  
5 standpoint of what we're doing here, does it matter a  
6 great deal in -- in terms of the outcome? It wouldn't  
7 matter a great deal, would it?

8 MR. DANIEL PEACO: It would -- it would  
9 change the present value stuff of the -- of the  
10 investment a little bit. You know, obviously it -- it  
11 matters when you're developing the project, but in --  
12 relative to the scale of some of the other changes we  
13 were suggesting this would -- this would be a much  
14 smaller perturbation in the overall economics. But  
15 obviously it would be -- it would be somewhat of an  
16 improvement.

17

18 CONTINUED BY MR. WILLIAM GANGE:

19 MR. WILLIAM GANGE: With respect to the  
20 project life, sir, I believe that your evidence is that  
21 -- that Manitoba Hydro underestimated the project life?

22 MR. DANIEL PEACO: Yeah, we've -- we've  
23 -- in -- in the analysis we did is, we -- we used a  
24 twenty-five (25) year life, which we've seen accorded  
25 in many projects, as opposed to the -- the twenty (20).

1 We -- the twenty (20) is -- is a much more conservative  
2 perspective on -- on the life of a wind farm, and we've  
3 seen a -- a number of projects that have been put  
4 forward as twenty-five (25) year life.

5 MR. WILLIAM GANGE: And so when Mr.  
6 Stevens used twenty-five (25), that's -- that's  
7 consistent with your experience as well?

8 MR. DANIEL PEACO: Yes.

9 MR. WILLIAM GANGE: Thank you. Mr.  
10 Stevens also indicated that -- that if you're going to  
11 be doing a levelized cost analysis with respect to the  
12 wind farms that you ought to extend that levelized cost  
13 analysis out sixty (60) years, so that you're comparing  
14 apples to apples.

15 Would you agree with that?

16 MR. DANIEL PEACO: I guess I'm not  
17 quite sure if I have enough context to answer the  
18 question. Would --

19 MR. WILLIAM GANGE: That -- that -- Mr.  
20 -- in -- in terms of -- of doing the levelized cost,  
21 what Mr. Stevens indicated in his evidence is that what  
22 one ought to be doing is taking into account the fact  
23 that if you've got turbines that are twenty (20) years  
24 or twenty-five (25) years, that -- that you ought to be  
25 taking into account the -- the lifetime of the project

1 as sixty-eight (68) years, so that you're doing a  
2 comparison of the wind project on -- at -- for the same  
3 time period as the time period that's being used for  
4 the levelized cost analysis of the -- of the dams.

5 MR. DANIEL PEACO: So if you're doing a  
6 comparative analysis --

7 MR. WILLIAM GANGE: Yes.

8 MR. DANIEL PEACO: -- on the levelized  
9 cost ratio between a hydro project and the wind, yeah,  
10 you -- you would want to make some adjustments, so you  
11 were looking at -- you make adjustments for the  
12 differences in life, sure.

13 MR. WILLIAM GANGE: Okay. Thank you.  
14 With respect to wind integration costs, sir -- and,  
15 Diana, if you could go to Manitoba Hydro Exhibit 136.

16

17 (BRIEF PAUSE)

18

19 MR. WILLIAM GANGE: This -- this  
20 question came up during the cross-examination of the  
21 Hydro panel, sir. And what was noted was that -- that  
22 in the economic analysis, in Appendix 9.3, the -- the  
23 wind integration costs were cited at four dollars  
24 twenty-two cents (\$4.22) per megawatt hour in 2005 US  
25 dollars, and four dollars ninety-nine cents (\$4.99) for

1 1,000 megawatts of wind generation, and again in 2005  
2 US dollars. But that the wind integration costs in  
3 response to the Information Request that you had  
4 provided used different numbers than what was in the  
5 economic analysis.

6 So that's the background to this  
7 question.

8 MR. DANIEL PEACO: So can I -- just to  
9 clarify. So you're referring to the difference between  
10 the -- the two (2) numbers in the bullet and eight-  
11 forty-five (845)?

12 MR. WILLIAM GANGE: That's correct,  
13 sir. The -- the -- what was -- what was used in -- in  
14 the answer to your IR was eight-forty-five (845) rather  
15 than those four-twenty-two (422) or four-ninety-nine  
16 (499).

17 MR. DANIEL PEACO: Right. But -- and  
18 those are -- those are different by currency and -- and  
19 year of dollars?

20 MR. WILLIAM GANGE: Yes, correct.

21 MR. DANIEL PEACO: Okay.

22 MR. WILLIAM GANGE: Can -- can you  
23 comment, sir, on -- on -- now, the -- the statement  
24 that's made is that the value of eight dollars and  
25 forty-five cents (\$8.45) is consistent with the wind

1 integration cost used in the economic analysis and --  
2 and represents an average integration cost for a  
3 significant wind billed out over the detailed study  
4 period ending in 2047/'48.

5 Do you understand what that -- what that  
6 -- that part of the undertaking is res -- responding?  
7 Or what -- what does it mean? I don't understand it.

8 MR. DANIEL PEACO: Well, give me a  
9 second.

10

11 (BRIEF PAUSE)

12

13 MR. DANIEL PEACO: Okay. So -- so  
14 they're using this number in their -- it says,  
15 "Levelized cost," so I assume this is a levelized cost  
16 that was used in their screening analysis. Is that --  
17 is that --

18 MR. WILLIAM GANGE: That's correct,  
19 sir.

20 MR. DANIEL PEACO: Okay. And so  
21 they're -- they're apparently providing some  
22 explanation of what was in their levelized cost  
23 analysis. As I sit here, I don't know the currency  
24 exchange bet -- and the -- and the inflation  
25 adjustments necessary to convert four twenty-two (422)

1 and four ninety-nine (499) to 2012 Canadian dollars.

2 So I'm -- I'm kind of at a loss to know --

3 MR. WILLIAM GANGE: Okay. The --

4 MR. DANIEL PEACO: -- to know that.

5 MR. WILLIAM GANGE: -- the question may  
6 be unfair then. I'll -- I'll move on to the next --

7 MR. DANIEL PEACO: Okay.

8 MR. WILLIAM GANGE: -- point. Thank  
9 you, sir. And, Diana, if you can go to Exhibit 117,  
10 Manitoba Hydro Exhibit 117.

11

12 (BRIEF PAUSE)

13

14 MR. WILLIAM GANGE: This is a similar  
15 type of question, sir, because the -- the material that  
16 was used in -- in the Appendix 7.2 of the NFAT  
17 submission used a fixed O&M cost of thirty nine dollars  
18 and fifty-five cents (\$39.55), and then the economic  
19 analysis used forty-six dollars (\$46) per kilowatt  
20 hour.

21 Did -- did La Capra take a look at these  
22 O&M costs to determine which one would be the  
23 appropriate one to use in -- in the analysis?

24 MR. DANIEL PEACO: Let me just be clear  
25 what you're -- so you're referring to which numbers?



1 MR. WILLIAM GANGE: So in the -- in  
2 Appendix 7.2 of the NFAT submission, the O&M cost that  
3 was used was thirty-nine dollars and fifty-five cents  
4 (\$39.55) per kilowatt year. That's -- that's the  
5 number that's in the first paragraph.

6 MR. DANIEL PEACO: Right.

7 MR. WILLIAM GANGE: And then in the  
8 economic analysis, the fixed O&M costs had been  
9 increased from thirty-nine fifty-five (39.55) to forty-  
10 six dollars (\$46) per kilowatt year. And that's in the  
11 first line of the second paragraph.

12 MR. DANIEL PEACO: Right.

13 MR. WILLIAM GANGE: And the question  
14 that -- that I'd like to know is whether La Capra did  
15 any independent analysis of this with respect to  
16 choosing which of those -- which of those costs  
17 properly reflected the O&M cost.

18 MR. DANIEL PEACO: We -- we didn't --  
19 we didn't spend a lot of time on that. Again, I think  
20 it was -- the numbers are -- are different. But -- but  
21 in looking at -- when -- when we went through and --  
22 and looked at all the costs that we've talked about  
23 here to decide what to feature in -- in our analysis,  
24 this -- this one didn't seem like it was -- I mean,  
25 they could be different, but it -- but it would be a

1 smaller perturbation in the overall economics than the  
2 ones that we -- the issues we did look -- feature in  
3 our analysis.

4 But -- but clearly, if you were going to  
5 refine your analysis, you'd want to look at -- at all  
6 the inputs, including --

7 MR. WILLIAM GANGE: Yes.

8 MR. DANIEL PEACO: -- including fixed  
9 O&M.

10 MR. WILLIAM GANGE: And if -- if -- I  
11 take it then that it follows logically that if one were  
12 going to be preparing a capital cost for wind, one  
13 would want these numbers to be as accurate as possible.

14 MR. DANIEL PEACO: That's correct.

15 MR. WILLIAM GANGE: Thank you.

16

17 (BRIEF PAUSE)

18

19 MR. WILLIAM GANGE: And, Diana, if you  
20 could go to -- back to the GAC evidence, page 31 -- 32,  
21 at the bottom.

22

23 (BRIEF PAUSE)

24

25 MR. WILLIAM GANGE: What Mr. Stevens

1 then did was to prepare a revised levelized cost  
2 calculation. And he used the -- the following  
3 assumptions: that -- that the capital cost would be  
4 updated using the declines, similar to what you talked  
5 about, in terms of the weakness in the Manitoba Hydro  
6 analysis.

7 That would be a proper calculation,  
8 would it not, sir?

9 MR. DANIEL PEACO: I'm sorry, which  
10 one?

11 MR. WILLIAM GANGE: Use -- to take into  
12 account the declines in the capital cost?

13 MR. DANIEL PEACO: Yes.

14 MR. WILLIAM GANGE: And in order to --  
15 to revise the levelized cost, one would also want to  
16 take into account the difference in the equipment life  
17 for the turbines from twenty (20) years to twenty-five  
18 (25) years?

19 MR. DANIEL PEACO: Yes, that's the same  
20 adjustment we did.

21 MR. WILLIAM GANGE: And -- and Mr.  
22 Stevens also reduced the wind integration cost on the  
23 basis that it had been overstated. And if one -- if  
24 one accepts that wind integration cost was overstated -  
25 - and -- and I -- I understand, sir, that that's not

1 something that you want comment on -- upon.

2 But -- but if one keeps that conclusion,  
3 that would be another thing that would be proper to  
4 take out of the levelized cost calculation, correct?

5 MR. DANIEL PEACO: If the wind  
6 integration costs were lower, then obviously that would  
7 improve the levelized cost analysis.

8 MR. WILLIAM GANGE: Right. If we could  
9 go to page 33, Diana, the next page, and right down to  
10 the bottom. You did a similar thing; you reduced --  
11 you -- you made the changes to the capital cost,  
12 correct, sir?

13 MR. DANIEL PEACO: Yes.

14 MR. WILLIAM GANGE: You made changes to  
15 the capacity?

16 MR. DANIEL PEACO: Yes.

17 MR. WILLIAM GANGE: You made --

18 MR. DANIEL PEACO: Capacity factor.

19 MR. WILLIAM GANGE: And you made  
20 changes to the lifetime?

21 MR. DANIEL PEACO: Yes.

22 MR. WILLIAM GANGE: And you made  
23 changes to -- with respect to the cost decline?

24 MR. DANIEL PEACO: Yes.

25 MR. WILLIAM GANGE: And as a result of

1 that, sir, what was your -- the change in your  
2 calculation?

3 MR. DANIEL PEACO: Well, actually, I  
4 think I featured that in a slide yesterday. I -- I  
5 think the number -- if I recall, the number was  
6 something like a change in the overall cost of -- the  
7 present value cost of the plan, the Wind Plan of -- of  
8 about a billion two (1,200,000,000). Is that what  
9 you're looking -- is that the number you're looking  
10 for?

11 MR. WILLIAM GANGE: Yeah, that's --  
12 that's fine.

13 THE CHAIRPERSON: It's covered off in  
14 slide 35 of the presentation from yesterday.

15

16 (BRIEF PAUSE)

17

18 CONTINUED BY MR. WILLIAM GANGE:

19 MR. WILLIAM GANGE: And -- and in  
20 looking at this one, sir, when you say, "change in cost  
21 of plan versus Preferred Development Plan," are -- are  
22 the numbers on the right -- do they take into account  
23 the revised numbers that Manitoba Hydro has brought,  
24 which then leads you to your revised Appendix 9?

25 MR. DANIEL PEACO: No. No, these are -

1 - that's the -- I believe these are all -- I don't know  
2 what this says, but I believe these are the original --  
3 orig -- these -- these are original 2012 assumptions.

4 MR. WILLIAM GANGE: Would it be  
5 possible to redo this chart on the right using the  
6 updated numbers so that -- so that there's a -- a  
7 current change in cost of plan versus the current  
8 Preferred Development Plan?

9

10 (BRIEF PAUSE)

11

12 MR. JOHN ATHAS: Just to make sure I  
13 understand, the -- the numbers here are comparative  
14 costs of the plans, right. So the -- then the -- the  
15 change that you're wanting, it would be the change in  
16 the first bar?

17 MR. WILLIAM GANGE: Yes.

18 MR. JOHN ATHAS: Okay. That's -- we  
19 have that number available.

20 MR. WILLIAM GANGE: So -- so you could  
21 provide an undertaking to provide a revised chart  
22 that's shown on slide 35, using, with respect to the  
23 Preferred Plan, the -- the revised numbers?

24 MR. JOHN ATHAS: So just -- let me try  
25 this to make sure we're clear. So we'll -- we'll

1 provide a revised chart that includes the updated  
2 capital costs for the Preferred Plan?

3 MR. WILLIAM GANGE: Okay. Thank you.

4 MR. JOHN ATHAS: Yes.

5

6 --- UNDERTAKING NO. 101: La Capra to provide a  
7 revised chart that includes  
8 the updated capital costs  
9 for the Preferred Plan

10

11 CONTINUED BY MR. WILLIAM GANGE:

12 MR. WILLIAM GANGE: And -- and the  
13 effect of that would be that the Board would then be  
14 able to see where the -- how -- how these two (2) bars  
15 on the left -- whether the three (3) red bars would  
16 compare, correct, with -- with that change?

17 MR. DANIEL PEACO: If I -- if we  
18 understand your request correctly, the -- the first red  
19 bar, the Preferred Development Plan, would increase.

20 MR. WILLIAM GANGE: Yes.

21 MR. DANIEL PEACO: And the other -- the  
22 rest would be the same.

23 MR. WILLIAM GANGE: Yes, thank you.

24

25 (BRIEF PAUSE)

1 MR. JOHN ATHAS: Just to make sure that  
2 I understand what the last -- the -- the impact on the  
3 Preferred Development Plan economics that Manitoba  
4 Hydro put in their presentation for the -- for the 2012  
5 assumptions had the impact of the change being about  
6 eight hundred and ninety-eight (898) -- I think it was  
7 \$898 million of net present value change.

8 I believe that will be what we increased  
9 the Preferred Plan bar by. So it'll go up to -- from a  
10 little under three (3) -- a little under 3 billion to a  
11 little -- a little bit more, under 4 billion for -- for  
12 the picture.

13 MR. WILLIAM GANGE: I see. So then --  
14 and then the -- the -- what you expect would be that  
15 the -- the Preferred Plan red bar would be just  
16 slightly less than the adjusted Wind/Gas bar?

17 MR. JOHN ATHAS: It's probably about an  
18 equal amount below 4 billion as it -- as the other is  
19 above.

20 MR. WILLIAM GANGE: Okay. Thank you.

21

22 (BRIEF PAUSE)

23

24 MR. WILLIAM GANGE: Yeah, I -- I would  
25 like the undertaking. I would like to see that graph,



1 if -- if that can be provided?

2 MR. CHRISTIAN MONNIN: That's fine, Mr.  
3 Gange, yeah.

4 MR. WILLIAM GANGE: Thank you.

5

6 --- UNDERTAKING NO. 102: La Capra to provide graph

7

8 CONTINUED BY MR. WILLIAM GANGE:

9 MR. WILLIAM GANGE: If we could go to  
10 page 33 of Appendix 3A, and just down to -- to the --  
11 the paragraph itself. Thank you.

12 Mr. Peaco, in -- in this paragraph you  
13 indicated that La Capra looked at the impact on the  
14 crossover point of using La Capra's onshore wind  
15 assumptions in the economic analysis.

16 And you indicated that the crossover  
17 point would move out eleven (11) years to 2057 for the  
18 Wind/Gas Plan, and ten (10) years to 2052 for the  
19 Wind/Conawapa Plan.

20 MR. DANIEL PEACO: Yes.

21 MR. WILLIAM GANGE: That -- that  
22 crossover point is -- again that's -- that's prior to  
23 the revised numbers?

24 MR. DANIEL PEACO: That's correct.

25 MR. WILLIAM GANGE: And would those

1 revised numbers change that crossover point for those -  
2 - for those two (2) plans?

3 MR. DANIEL PEACO: Yes, it would.

4 MR. WILLIAM GANGE: Is it possible for  
5 you -- for you to advise us with the revised numbers  
6 what those crossover points would be?

7

8 (BRIEF PAUSE)

9

10 MR. DANIEL PEACO: Yeah, we could do  
11 that. It's -- it's -- I was just checking to see if it  
12 was something that was in our -- in our -- the updates  
13 that we talked about this morning, but apparently it's  
14 not. But it's -- it's -- would be a similar exercise  
15 as the -- as the update to Appendix 9 that we talked  
16 about this morning.

17 MR. WILLIAM GANGE: Okay, thank you.

18

19 (BRIEF PAUSE)

20

21 MR. DANIEL PEACO: So if I -- so the --  
22 they asked us to provide updated crossover point  
23 calculations consistent with -- I know I seen the page  
24 number here. Is there...

25 MR. WILLIAM GANGE: Page 3A-28.

1 MR. DANIEL PEACO: Page 3A-28, provide  
2 updated crossover points for the Wind case cited on the  
3 bottom of that page with the -- reflecting the change  
4 in the Keeyask and Conawapa capital cost.

5 MR. WILLIAM GANGE: Thank you.

6  
7 --- UNDERTAKING NO. 103: La Capra to provide updated  
8 crossover points for the  
9 Wind case, reflecting the  
10 change in the Keeyask and  
11 Conawapa capital cost

12

13 CONTINUED BY MR. WILLIAM GANGE:

14 MR. WILLIAM GANGE: Thank you, sir. I  
15 just have to find something...

16

17 (BRIEF PAUSE)

18

19 MR. WILLIAM GANGE: If we could go to  
20 page 14 of the Addendum 9A.

21

22 (BRIEF PAUSE)

23

24 MR. WILLIAM GANGE: Oh, Diana, you know  
25 what? I -- I've got a different page.

1 MR. DANIEL PEACO: This is -- what's on  
2 the screen is -- is the up -- is the update package?  
3 Is that what you're...

4 MR. WILLIAM GANGE: I -- I'm looking  
5 at, yeah, 9U-7. Yeah. Yes, thank you.

6 So Figure 21U, that -- that you've  
7 prepared here, sir, you've calculated net present  
8 values for all scenarios for the selected development  
9 plans affected by the new Keeyask and Conawapa costs.  
10 Is that correct?

11 MR. JOHN ATHAS: That's correct.

12

13 (BRIEF PAUSE)

14

15 MR. WILLIAM GANGE: And -- and if we  
16 could go to Technical Appendix 9B. Sorry, Diana, but  
17 9B.

18

19 (BRIEF PAUSE)

20

21 MR. WILLIAM GANGE: I'm -- I'm -- Mr.  
22 Peaco, I'm looking for Figure 30 on -- on -- in 9B.

23 Do you know what page that is?

24 MR. DANIEL PEACO: Figure 30 would be  
25 9A. Because we numbered 9A and 'B' sequentially, so 9

1 -- I think there were more than thirty (30) figures in  
2 9A, so it would...

3

4 (BRIEF PAUSE)

5

6 MR. DANIEL PEACO: It should be on page  
7 71, 9A.

8

9 (BRIEF PAUSE)

10

11 MR. WILLIAM GANGE: You know what, sir,  
12 I -- I'm sorry, I'm not -- I -- I don't want to waste  
13 time. I -- I'm going to -- I'll -- I'll skip that.

14 Sir, you've read -- you -- you made  
15 certain criticisms of the way that Manitoba Hydro had -  
16 - had calculated the cost of wind in your report, sir.

17 MR. DANIEL PEACO: I'm so -- I'm sorry.  
18 I -- I did find the page for Figure 30.

19 MR. WILLIAM GANGE: You know what, I --  
20 I'm looking at something different and I can't find it  
21 and --

22 MR. DANIEL PEACO: Okay.

23 MR. WILLIAM GANGE: -- it's -- the  
24 world isn't going to turn on this, so I'll -- I'll move  
25 on --

1 MR. DANIEL PEACO: Okay. All right. I  
2 apologize. Can you give me the question again?

3 MR. WILLIAM GANGE: Yes. And -- and  
4 this is the ending of my cross-examination, so -- but  
5 in your report you made numerous criticisms of the way  
6 that Manitoba Hydro has dealt with the wind analysis.

7 That would be fair?

8 MR. DANIEL PEACO: That's correct.

9 MR. WILLIAM GANGE: And Manitoba Hydro  
10 gave a rebuttal with respect to your analysis of the  
11 cost of wind.

12 You reviewed Manitoba Hydro's rebuttal  
13 evidence, sir?

14 MR. DANIEL PEACO: Yes.

15 MR. WILLIAM GANGE: And -- and you  
16 considered the -- the comments that Manitoba Hydro made  
17 with respect to your analysis?

18 MR. DANIEL PEACO: Yes.

19 MR. WILLIAM GANGE: Does it change any  
20 of the criticisms that were made?

21 MR. DANIEL PEACO: No. We reviewed it.  
22 We didn't really -- I mean, I understand we have a  
23 difference of opinion about information that we rely  
24 on, but it didn't really -- I think we -- we've  
25 explained the information we rely on and it -- and

1 nothing that -- from the rebuttal really changes that?

2 MR. WILLIAM GANGE: Changes your mind.

3 Just one (1) last point, sir. We heard evidence from a

4 -- a lawyer from Minnesota whose name is Eric Swanson.

5 Mr. Swanson does a great deal of regulatory work in the

6 state of Minnesota. And he indicated that Minnesota

7 has a prohibition against new fossil fuelled base load

8 supply.

9 Are -- are you aware of that?

10 MR. DANIEL PEACO: Generally.

11 MR. WILLIAM GANGE: Do any of your

12 comparisons involving the gas generation in Manitoba

13 take into account the prohibitions of -- of the -- the

14 prohibition in Minnesota with respect to new fossil

15 fuelled load?

16 MR. DANIEL PEACO: I guess...

17

18 (BRIEF PAUSE)

19

20 MR. DANIEL PEACO: Let me make sure I

21 understand your question. So the question is, you're -

22 - you're referring to our -- to the natural gas plants?

23 MR. WILLIAM GANGE: Yes.

24 MR. DANIEL PEACO: And your question is

25 --

1 MR. WILLIAM GANGE: What -- what I --  
2 what I'm really referring to is -- is the -- is the  
3 fact that -- that power coming into Minnesota,  
4 according to Mr. Swanson, that there's a prohibition  
5 against new fossil fuelled base load supply.

6 So with respect to the wind generation,  
7 do your comparisons take into account the fact that the  
8 -- the wind generation would qualify as part of the  
9 base load supply in Minnesota?

10 MR. DANIEL PEACO: We -- we didn't  
11 really look at a specific scenario of sort of building  
12 wind for export, if that -- if that's your question?

13 MR. WILLIAM GANGE: Yes.

14 MR. DANIEL PEACO: We didn't look at  
15 that in particular. We -- we simply sort of looked at  
16 the economic assumptions in the wind case that Hydro  
17 did. We didn't -- we haven't postulated other  
18 scenarios.

19

20 (BRIEF PAUSE)

21

22 MR. WILLIAM GANGE: And -- and, sir,  
23 the -- the scenarios that were run that -- that  
24 included wind and gas, did -- did you take into account  
25 whether those scenarios could be used for export, given



1 the -- the ban in Minnesota?

2 MR. DANIEL PEACO: We didn't look at  
3 that specifically, no.

4 MR. WILLIAM GANGE: Okay. Mr. Chair,  
5 those are my questions. Thank you.

6 THE CHAIRPERSON: Now, one (1) obvious  
7 question in my mind is the costs that are shown here  
8 with respect to wind would not reflect any disparities  
9 with respect to the US/Canada? I mean, they're all  
10 entirely based on US data. And I'm guessing at --  
11 differences in the values of the, you know, of  
12 currency, and I expect higher costs in Manitoba  
13 relative to the -- North Dakota.

14 I mean, all -- all that wouldn't nec --  
15 necessarily be captured in -- in the data that you've  
16 examined here?

17 MR. DANIEL PEACO: That's right. You  
18 need to do a more specific analysis than -- I mean,  
19 obviously, the -- the material that Hydro put together  
20 and that we put together are -- really are, you know,  
21 secondary source information to try to get a sense of  
22 what ballpark is this -- is this wind resource in and  
23 is it worth pursuing. I -- you would need to develop a  
24 more specific cost estimate for projects in -- in -- if  
25 you were going to do a project in Manitoba.

1 THE CHAIRPERSON: Did you look at any  
2 Canadian data at all? Were you able to find any  
3 Canadian data regarding costs associated with --

4 MR. DANIEL PEACO: We -- we looked --  
5 actually, we -- we spent some time. There's just a lot  
6 more data in the US available. And so we -- we --  
7 actually, one of the conversations we had with Mr.  
8 Zavadil, is like, You know, we can't find any Canadian  
9 data; do you know where you can -- you know, and so he  
10 was -- you know, so we looked around, but there's just  
11 a lot more data from the US projects available.

12 So that's -- I mean, unfortunately,  
13 that's -- that's most of what the information is. It  
14 goes to the -- the core cost of the projects, but any -  
15 - any local, you know, specific cost differences would  
16 be -- would have to be developed. And we -- we just  
17 didn't find a lot of data on that.

18 THE CHAIRPERSON: Do you know of any  
19 utilities in the US that generate their own -- that --  
20 that build their own wind as opposed to having a third  
21 part -- I mean, not so much building. In Manitoba,  
22 there are third-party generators that feed wind into  
23 the system and Manitoba pays a fee.

24 In the US, is that the practice as well?  
25 I mean, or do they -- utilities actually have -- build

1 and -- and operate their own wind?

2 MR. DANIEL PEACO: Well, yeah, there is  
3 -- there is some. I mean, I would say the  
4 preponderance is -- is third-party contracts. But, you  
5 know, actually, we worked on a couple cases. Oklahoma  
6 Gas and Electric builds and owns and operates a couple  
7 of their own wind farms. And, so -- that -- that's one  
8 (1) example of a utility that actually owns and  
9 operates wind facilities that I'm aware of.

10 I don't know, John, if you're aware of  
11 any others?

12 MR. JOHN ATHAS: Yeah. A fa -- a wind  
13 project that's that's less than 100 megawatts I know  
14 first hand that is -- that it's owned by the Green  
15 Mountain Power, the utility in Vermont. They go --  
16 they would -- had direct ownership. I -- I think  
17 there's -- that they are other utilities studying  
18 ownership in -- in their IRPs that we've reviewed, but  
19 I -- as well.

20 THE CHAIRPERSON: I think that's it for  
21 the questions from the panel. So I'm prepared to turn  
22 over the microphone to you, Mr. Williams. Good  
23 morning.

24

25 CROSS-EXAMINATION BY MR. BYRON WILLIAMS:

1 MR. BYRON WILLIAMS: Good morning,  
2 members of the panel, and good morning, La Capra.

3 MR. DANIEL PEACO: Good morning.

4 MR. BYRON WILLIAMS: Mr. Chair, there  
5 are two (2) exhibits that we'd like to submit to assist  
6 the discussion this morning and, perhaps, early  
7 afternoon. One (1) is an excerpt from the Brattle  
8 Group's Integrated Resource Plan for Connecticut. It's  
9 a four (4) page document. And we would suggest that be  
10 marked as CAC Exhibit 45-12.

11

12 --- EXHIBIT NO. CAC-45-12: Excerpt from the Brattle  
13 Group's Integrated Resource  
14 Plan for Connecticut

15

16 CONTINUED BY MR. BYRON WILLIAMS:

17 MR. BYRON WILLIAMS: And I just note  
18 that -- and earlier we had submitted a bit more of this  
19 document in our discussion with the good doctor from  
20 the Brattle Group way back in week 2.

21 And the other document is just an  
22 excerpt from the Hyd -- Hydro Exhibit 87. It's a  
23 single page. I'm going to be doing some handwriting on  
24 it; I don't know if you will choose to or not. But we  
25 would suggest that be marked as CAC Exhibit -- Exhibit

1 45-13.

2

3 --- EXHIBIT NO. CAC-45-13: One (1) page excerpt from  
4 Hydro Exhibit 87

5

6 CONTINUED BY MR. BYRON WILLIAMS:

7 MR. BYRON WILLIAMS: And if Diana could  
8 -- just to start with, I'd like to have near at hand La  
9 Capra's Exhibit from this -- yesterday, 12-2, which is  
10 the addendum, page 9U-24; as well as Manitoba Hydro  
11 Exhibit 104-2. And maybe if we could pull up page 9U-  
12 24 from the Exhibit, being La Capra Associates Exhibit  
13 12-2.

14

15 (BRIEF PAUSE)

16

17 MR. BYRON WILLIAMS: Mr. Athas, I  
18 suspect you recognize the -- this -- this page?

19 MR. JOHN ATHAS: Yes.

20 MR. BYRON WILLIAMS: And I'm just going  
21 to follow-up a bit of a discussion you had with Board  
22 Member Kapitany and the Chairperson Gosselin --  
23 Chairperson Gosselin this morning. And I've just been  
24 trying to wrap my head around the derivation of -- of  
25 the numbers here.

1                   And let's just start on the extreme --  
2 we note that in the note in the middle of this figure,  
3 this looks to be an update responding to the six (6)  
4 plans analyzed in the Manitoba Hydro 2014 update.

5                   Is that right, sir?

6                   MR. JOHN ATHAS:     Correct.

7                   MR. BYRON WILLIAMS:   And that update  
8 would be Manitoba Hydro Exhibit 104-2.

9                   Would that be fair, sir?

10                  MR. JOHN ATHAS:     I believe so.

11                  MR. BYRON WILLIAMS:   Subject to check.

12 Okay. And let's start with the -- the figure for the  
13 NFAT PDP (phonetic) in the extreme right -- right hand.  
14 You're suggesting a net present value of \$798 million.

15                  Is that right, sir?

16                  MR. JOHN ATHAS:     That's correct.

17                  MR. BYRON WILLIAMS:   Now, if we could  
18 just flip to Manitoba Hydro Exhibit 104-2 for a moment,  
19 page 2, and scroll down to the -- the bottom. Keep  
20 scrolling, please -- oops -- perfect.

21                  And, sir, if we look in the bottom  
22 right-hand corner of this Exhibit 104-2, page 2, we'll  
23 see under the column for Plan 14, that exact same 798  
24 million figure.

25                  Is that right, sir?

1 MR. JOHN ATHAS: That's correct.

2 MR. BYRON WILLIAMS: And that is the  
3 net present value for Plan 14, taking into account the  
4 WPS sale, correct?

5 MR. JOHN ATHAS: Correct.

6 MR. BYRON WILLIAMS: And it would also  
7 be taking into account the updated capital estimates,  
8 correct?

9 MR. JOHN ATHAS: Correct.

10 MR. BYRON WILLIAMS: And the other  
11 thing that would be in there would be the -- what used  
12 to be the proposed investment by WPS in the  
13 transmission line south of the border, agreed?

14 MR. JOHN ATHAS: That -- that's my  
15 understanding.

16 MR. BYRON WILLIAMS: Okay. So if I  
17 just compare that Plan 14 to the Plan 15 -- excuse me,  
18 Plan 5, immediately adjacent to it we'll see -- you'll  
19 accept, subject to check, if I was to subtract the  
20 seven hundred and ninety-eight (798) NPV minus the six  
21 sixty-seven (667) NPV, I'd get a figure of \$131  
22 million, agreed?

23 MR. JOHN ATHAS: Agreed.

24 MR. BYRON WILLIAMS: And again, that's  
25 looking at Plan 5 including the WPS sale, agreed, sir?

1 MR. JOHN ATHAS: Agreed.

2 MR. BYRON WILLIAMS: And we'll come  
3 back to this, but if we could just flip over to 12-2,  
4 La Capra Exhibit, page 9U-24 for a second. And, sir,  
5 moving over to the blue column -- blue bar above  
6 Conawapa, I see that exact same \$131 million figure.

7 Do you see that, sir?

8 MR. JOHN ATHAS: Yes.

9 MR. BYRON WILLIAMS: And presumably,  
10 that would represent the difference between Plan 14 and  
11 Plan 5, agreed?

12 MR. JOHN ATHAS: That's correct.

13 MR. BYRON WILLIAMS: And again, it  
14 would include in this analysis the WPS sale?

15 MR. JOHN ATHAS: That's correct.

16 MR. BYRON WILLIAMS: If we can flip  
17 back to Exhibit 104-2 for a moment, sir...

18

19 (BRIEF PAUSE)

20

21 MR. BYRON WILLIAMS: In terms of the  
22 ref/ref/ref figures, the highest under this result,  
23 being Hydro Exhibit 104-2, is from Plan 4 at \$917  
24 million NPV, sir? Is that right?

25 MR. JOHN ATHAS: That's correct.



1 MR. BYRON WILLIAMS: And if I were to  
2 compare that to Plan 5, two (2) -- two (2) columns  
3 over, of 667 million, would that suggest a difference,  
4 sir, of roughly 250 million?

5 MR. JOHN ATHAS: That looks about  
6 right.

7 MR. BYRON WILLIAMS: So if we could  
8 just flip back to the other page, 9U-24, the red bar,  
9 sir, of 256 million, you know, give -- give or take 6  
10 million, would be representative of the difference in  
11 value between Plan 4 and Plan 5?

12 Would that be fair, sir?

13

14 (BRIEF PAUSE)

15

16 MR. BYRON WILLIAMS: In -- in essence,  
17 sir, you're going --

18 MR. JOHN ATHAS: Yeah.

19 MR. BYRON WILLIAMS: -- you're looking  
20 -- comparing the value of a plan with 250 megawatts  
21 versus a plan with 750 megawatts?

22 MR. JOHN ATHAS: That -- that's  
23 correct. We looked at the -- for the value of these  
24 components, multiple comparisons, with and without the  
25 components, to try to not -- not isolate one (1)

1 sequence of additions, because they weren't necessarily  
2 -- the sequence wasn't as critical to try to get here  
3 as -- as just the general value.

4 MR. BYRON WILLIAMS: And -- and, sir,  
5 that's fair enough, and you've -- you've made it clear  
6 it's illustrative. But there were some questions by  
7 the Chair earlier on about whether the WPS sale was --  
8 was in here.

9 And -- and it is in here, first of all,  
10 agreed?

11 MR. JOHN ATHAS: Yes, it's in the  
12 comparisons at some point.

13 MR. BYRON WILLIAMS: And just finally,  
14 sir, we don't need to do the -- the math, but the \$459  
15 million difference in the second column between the new  
16 250 megawatt and the -- and the Keeyask by itself would  
17 in essence be a comparison between Plan 4 and Plan 2,  
18 agreed?

19 MR. JOHN ATHAS: I believe that's -- I  
20 believe that's correct. The -- the -- well, the four  
21 fifty-nine (459) -- I would have to see the other  
22 chart, if you want -- if we could put up the other  
23 chart right now.

24 MR. BYRON WILLIAMS: We could go back  
25 to that, for sure. And here, sir, you'll see in the --

1 we're comparing the Plan 4, 917 million, minus the Plan  
2 2, forty-nine (49). I might get a -- a slightly  
3 smaller figure of 428 -- 28 million.

4 But, in essence, that's the two (2)  
5 plans that you're comparing.

6 MR. JOHN ATHAS: And generally that's  
7 the effect -- the same effect, because the difference  
8 in the Keeyask in-service dates makes it not a direct  
9 comparison.

10 MR. BYRON WILLIAMS: And -- and that's  
11 helpful. And, again, we were just trying to understand  
12 that exhibit for our client's benefit. Mr. Peaco, I  
13 want to focus on the -- one (1) of the main messages of  
14 your reports for a moment.

15 Would it be fair to say that even before  
16 the significantly increased capital estimates for  
17 Keeyask and Conawapa, it was the view of La Capra that  
18 the economic case for the Preferred Development Plan  
19 was marginal and required a very long-term perspective?

20 MR. DANIEL PEACO: Yes, it sounds like  
21 a quote from our first report.

22 MR. BYRON WILLIAMS: An staying in that  
23 pre-\$800 million capital estimate update --

24 MR. DANIEL PEACO: Okay.

25 MR. BYRON WILLIAMS: -- based upon your

1 sensitivity analysis, it was your view that the  
2 economics of the business case were not robust.

3 MR. DANIEL PEACO: That's correct.

4 MR. BYRON WILLIAMS: And if we could  
5 turn to page 72 of your exhibit from yesterday. I  
6 believe it's La Capra 45. And if we could pull that up  
7 on the screen. Thank you. And I want to direct your  
8 attention to the third and fourth series of bar graphs  
9 on the right-hand side.

10 Sir, would it be fair to say -- and to  
11 back up, sir, the -- the third bar graph over captures  
12 the updated capital costs and removes the WPS  
13 investment, correct? The -- the third row of bar  
14 graphs?

15 MR. DANIEL PEACO: That -- that's  
16 correct. Yeah. It's stated right below that group of  
17 bars.

18 MR. BYRON WILLIAMS: And how would you  
19 des -- is it okay with you, sir, if I call it the third  
20 set of bar graphs?

21 Or is there -- is there something more  
22 elegant that you can suggest?

23 MR. DANIEL PEACO: No, given that we --  
24 we culled this together over the weekend, there wasn't  
25 much elegant about it. But go ahead.

1 MR. BYRON WILLIAMS: An the fourth or  
2 the -- on the ext -- extreme right-hand side you're  
3 putting in some estimates of what the impact of adding  
4 Level 2 DSM would be.

5 MR. DANIEL PEACO: Yeah, that's  
6 correct.

7 MR. BYRON WILLIAMS: And focussing on  
8 the Hydro perspective, the Manitoba Hydro view, rather  
9 than the provincial perspective, it would be fair to  
10 say that the -- adding increased capital costs and  
11 review -- removing the WPS investment is relatively bad  
12 news for the Preferred Plan in comparison to the other  
13 plans presented here?

14 MR. DANIEL PEACO: The -- that's  
15 correct. Obviously, taking -- adding cost in the -- in  
16 the form of the WPS investment to the Preferred Plan is  
17 obviously negative to that plan. And the -- relative  
18 to the -- the plan as postulated in the prior bars.  
19 And the analysis that -- that Hydro has presented on  
20 the plans showing that DSM has -- has benefit in that  
21 plan, but it has more benefit in the plans it's being  
22 compared to. So it's a -- it -- it ends up in a net  
23 move -- negative movement for the Preferred Development  
24 Plan when compared to the others.

25 MR. BYRON WILLIAMS: And so if -- if

1 your perspective pre-significant updates was -- was  
2 that the -- the economic case for the PDP was marginal  
3 and not robust, would it be fair to say that your  
4 confidence in the Preferred Plan has been further  
5 shaken, sir?

6 MR. DANIEL PEACO: Well, the economics  
7 clearly have eroded.

8

9 (BRIEF PAUSE)

10

11 MR. BYRON WILLIAMS: Sir, have you  
12 memorized the plans? Do you have them off in the --

13 MR. DANIEL PEACO: We sill have a  
14 scorecard here, but close -- we're -- we're getting  
15 close.

16 MR. BYRON WILLIAMS: Okay. Well,  
17 rather than flip back and forth, let's stay on this  
18 page and -- and see how good my memory is, and yours.

19 Would it be fair to -- to say that, when  
20 we look at this -- this page 72, when we see Plan 5,  
21 that is Keeyask with gas, a 750 megawatt  
22 interconnection, and both the Minnesota Power and  
23 Wisconsin Public Service sales?

24 MR. DANIEL PEACO: It's my  
25 understanding, yes.

1 MR. BYRON WILLIAMS: And when we see  
2 Plan 6, that contains the 750 megawatt interconnection  
3 and the Minnesota Power sale, but it can be  
4 distinguished from Plan 5 in that gas comes at a later  
5 date and that it does not include the WPS sale?

6 Would that be fair?

7 MR. DANIEL PEACO: That's my  
8 understanding as well, yes.

9 MR. BYRON WILLIAMS: And Plan 4  
10 features a 250 megawatt interconnection and a 250 watt  
11 -- megawatt Minnesota Power sale, agreed?

12 MR. DANIEL PEACO: Yes.

13 MR. BYRON WILLIAMS: It does not  
14 include the bigger interconnection or the WPS sale,  
15 correct?

16 MR. DANIEL PEACO: Correct.

17 MR. JOHN ATHAS: Just -- just for  
18 clarity. When you -- every place that you said, "WPS  
19 sale," it's sale and the WPS investment on the -- on  
20 the US side.

21 MR. BYRON WILLIAMS: Fair enough. But  
22 not on -- not on this particular graph, in the third,  
23 inelegantly stated, set of bar graphs to the -- to the  
24 right?

25 MR. JOHN ATHAS: At that point, the

1 effect is removed.

2 MR. BYRON WILLIAMS: Okay. Thank you.

3 Now, Mr. Peaco, you referenced this yesterday, but  
4 there's some evidence on the record that -- that Plan 4  
5 has either -- either Hydro has committed suicide with  
6 it or Minnesota Power has offered the death knell to  
7 it.

8 You've -- you've heard some evidence to  
9 that effect?

10 MR. DANIEL PEACO: I've heard it's --  
11 it's been deemed hypothetical.

12 MR. BYRON WILLIAMS: Yes, and whether  
13 it's a self-inflicted hypothetical, I guess, is -- is  
14 the question. But if we focus on that -- the third bar  
15 to the right, that would -- would suggest that if Plan  
16 4 in the dark blue was still in play, it -- it has  
17 become quite attractive from the Hydro view.

18 Would that be fair?

19 MR. DANIEL PEACO: It's -- it's the --  
20 of the plans featuring hydro investment, it's the --  
21 it's the best -- has the best economic performance of  
22 the -- of their plans at this -- at -- at that  
23 juncture, yes.

24 MR. BYRON WILLIAMS: And using this  
25 analysis --



1 THE CHAIRPERSON: Sorry, Mr. Williams,  
2 could you repeat the question, please?

3

4 CONTINUED BY MR. BYRON WILLIAMS:

5 MR. BYRON WILLIAMS: I'll do my best.  
6 I was suggesting that -- that Plan 4 in the dark blue,  
7 if it is still in play, would be quite attractive from  
8 the Hydro view.

9 MR. DANIEL PEACO: Well, quite  
10 attractive at diff -- being -- than being the best  
11 here, so I'm -- as long as we're clear that it's  
12 attractive relative to the other plans that feature  
13 hydro.

14 MR. BYRON WILLIAMS: Yeah, and I had  
15 your answer. Is that -- that satisfactory, Chair --  
16 Mr. Chair?

17

18 (BRIEF PAUSE)

19

20 MR. BYRON WILLIAMS: Focussing on the  
21 plans that are presented here with -- all with hydro  
22 components, and again on the third set of bar -- bars  
23 to the right, after Plan 4 under this analysis, the  
24 next most attractive for this particular scenario would  
25 be Plan 6.

1 Am I right, sir?

2 MR. DANIEL PEACO: That's correct.

3 MR. BYRON WILLIAMS: And we've got the  
4 approximations of adding Level 2 DSM in the far right  
5 series of graphs. And again, sir, Plan 6, at least on  
6 -- on a estimated look, appears relatively attractive  
7 in comparison to Plan 5 and -- and also Plan 14?

8 Would that be fair? Again from the  
9 Hydro view.

10

11 (BRIEF PAUSE)

12

13 MR. JOHN ATHAS: The -- what -- in  
14 looking at the fourth set of --

15 MR. BYRON WILLIAMS: Yeah.

16 MR. JOHN ATHAS: Yeah, so that -- that  
17 shows that under this metric that there's more value  
18 for -- for Plan 6 than the -- than 5 and 14.

19 MR. BYRON WILLIAMS: And our clients  
20 were certainly glad to hear that. They remain  
21 interested in this plan.

22 I -- I wonder if I could ask, Diana, to  
23 pull up Hydro Exhibit 129-7? And go to the next page.

24 And I don't know if La Capra's had a  
25 chance to see this exhibit or not. Is this one

1 familiar to you?

2

3 (BRIEF PAUSE)

4

5 MR. JOHN ATHAS: I have not seen this  
6 exhibit, but many of the numbers were represented in --  
7 in the -- except for Plan 6, I believe, and would have  
8 been represented in one of the other -- various other  
9 exhibits.

10 MR. BYRON WILLIAMS: Are you okay, sir,  
11 with me running through a little bit of this with you  
12 and then getting some -- some commentary from you?

13 MR. JOHN ATHAS: Yeah. I won't comment  
14 on what I am not comfortable with.

15 MR. BYRON WILLIAMS: What this -- if we  
16 go to the Level 2 DSM column and leave -- leave out the  
17 pipeline added category, you'll agree with me that  
18 there is a comparison of three (3) of the plans, being  
19 Plan 6, Plan 5, and Plan 14?

20 Would that be fair?

21 MR. JOHN ATHAS: That's correct.

22 MR. BYRON WILLIAMS: And focussing  
23 simply on this review of these three (3) plans, this  
24 would suggest that the lowest net present value would  
25 be the Hydro Preferred Plan at \$45 million?

1 MR. JOHN ATHAS: That's correct.

2 MR. BYRON WILLIAMS: And one would see  
3 Plan 6 at about 386 million net present value, agreed?

4 MR. JOHN ATHAS: Yeah, that's the  
5 number there from Hydro's analysis.

6 MR. BYRON WILLIAMS: And Plan 5 at --  
7 at four hundred and ten (410) NPV?

8 MR. JOHN ATHAS: Correct.

9 MR. BYRON WILLIAMS: And -- and so,  
10 sir, would this suggest to you that, again, at the two  
11 (2) times DSM level, Plan 6 and -- and Plan 5 are --  
12 are relatively stronger in comparison to the Preferred  
13 Plan?

14 MR. JOHN ATHAS: At the Level 2 DSM in  
15 the 2013 analysis, that's correct.

16

17 (BRIEF PAUSE)

18

19 MR. BYRON WILLIAMS: And we'll see  
20 Hydro has gone on to perform some Level 2 DSM analysis  
21 with pipeline load added for Plan 5 and Plan 14,  
22 agreed?

23 MR. JOHN ATHAS: That's correct.

24 MR. BYRON WILLIAMS: But not for Plan  
25 6?

1 MR. JOHN ATHAS: It doesn't show up  
2 here.

3 MR. BYRON WILLIAMS: And again, for  
4 Level 3 DSM, we'll see that analysis has been prepared  
5 for Plans 5 and 14 with and without pipeline --  
6 pipeline load, agreed?

7 MR. JOHN ATHAS: That's -- that's  
8 correct.

9 MR. BYRON WILLIAMS: But none for Plan  
10 6?

11 MR. JOHN ATHAS: That's correct.

12 MR. BYRON WILLIAMS: And I guess -- or,  
13 I know, the -- the question to you is: Based on the  
14 results of Level 2 DSM, would -- would Plan 6 be a plan  
15 that you would like to see some more analysis of,  
16 compared to these other -- other plans, sir?

17 MR. JOHN ATHAS: It probably isn't the  
18 plan that I would want to see more analysis of. But --  
19 but Plan 6, the -- and there may be more analysis than  
20 what's on that, than what's even on the chart that is  
21 for some of the other -- other boxes, but I -- I would  
22 certainly -- if -- if one was going to use the pipeline  
23 load cases as -- as having importance versus the no  
24 pipeline load it would probably be a good -- a good  
25 idea to see Plan 6 analyzed with the pipeline load.

1 MR. BYRON WILLIAMS: And I was  
2 intrigued by your -- the first few words of your  
3 response. I think you said it -- or you suggested that  
4 there might be another plan you'd like more analysis  
5 on, sir.

6 Did I -- or did I mishear you?

7 MR. JOHN ATHAS: The -- the first level  
8 of analysis that I wish I had time to do, as -- as  
9 opposed to doing the addendum, would have been to see  
10 if there -- if there's any implication that other plans  
11 are -- would be -- it would be very important to do  
12 those -- that -- that analysis. I have not done that  
13 comparison to say -- to do inferences to the other  
14 plans. So I think that the -- that this -- it's an  
15 important step at least to eliminate the -- whether the  
16 other plans need -- need the detailed analysis.

17 MR. BYRON WILLIAMS: And so what I  
18 think I hear you saying, sir, is that with these  
19 material changes in circumstances, being both the  
20 change in capital plans and the changes in DSM  
21 estimates, that there is further evaluation of -- of  
22 some of the other plans that you would have wanted to  
23 see to elim -- either in -- include them as contenders  
24 or eliminate them?

25 MR. JOHN ATHAS: Well, just to make

1 sure, there -- there isn't a charge for us to conclude  
2 of -- of a plan. In the -- there is a charge of us to  
3 provide a full array of metrics, so that decision  
4 makers can see as much information that they want to  
5 place importance on for making their decision and  
6 conclusion. So that -- that filling out more -- on a  
7 more consistent basis the same metrics for more plans  
8 is -- is generally what I wish I had time to do.

9 MR. DANIEL PEACO: If I could add to  
10 that. In the presentation yesterday, you know, we --  
11 we went through an exercise to use the information that  
12 we did have in hand from the analyses to triangulate as  
13 close as we could to what would be -- in -- in this  
14 case I think we kept Plan 6 in because if you -- if you  
15 recall the discussion I had yesterday afternoon  
16 regarding the pathways. I think what you're saying  
17 about Plan 6 is that it excludes the -- the WPS  
18 investment and the WPS contract.

19 And to my understanding the --  
20 basically, the -- the refined asset that Hydro has on  
21 the table today is closer to Plan 6 than other of their  
22 other plans. And so we were -- we were kind of hoping  
23 we would have had Plan 6 to work our stuff together for  
24 the -- for the presentation, because that is the  
25 closest approximation to what we understand they're not

1 putting forward, given that the -- the WPS contract is  
2 contingent on Conawapa. And I don't know if that's  
3 where you're going, but that -- I just wanted to tie it  
4 back to that discussion yesterday.

5 MR. BYRON WILLIAMS: Fair enough. I'm  
6 -- I'm going in a couple different places, but let's --  
7 we'll come back to that thought in just a -- a couple  
8 of moments. Let's go back to slide 72 of La Capra-45  
9 for a moment.

10 And, Mr. Athas, with the additional  
11 information from Hydro Exhibit 129-7, would it be  
12 possible to update the extreme right series of columns  
13 at least for Plan 14, Plan 5, and Plan 6?

14

15 (BRIEF PAUSE)

16

17 MR. JOHN ATHAS: I'm not -- I'm not  
18 sure if I could do it for Plan 6 because it did not  
19 have the base -- the base DSM amount in that -- in that  
20 exhibit. So I'd have to -- have to think about how to  
21 get that.

22 Because these are -- the effect that I  
23 put -- you put into Lev -- DSM Level 2 is, in this  
24 comparison, is the change in economics of -- I -- I  
25 guess -- I think -- yes, you're right. You would be



1 able to do -- I'd be able to fill in the numbers from  
2 that -- that exhibit into these bars.

3 MR. BYRON WILLIAMS: But you would not  
4 be able to fill in Plan 4, because it does not appear  
5 that there was a -- a two (2) times DSM for Plan 4 on  
6 the record.

7 MR. JOHN ATHAS: Actually, can we go  
8 back to exhibit -- I think that the -- the answer is I  
9 can only do it by approximation versus put it in,  
10 because I believe the other exhibit that -- that  
11 Manitoba Hydro filed --

12 MR. BYRON WILLIAMS: The 29-7, sir.

13 MR. JOHN ATHAS: -- filed is 2013  
14 information. This -- this bar chart on -- on page --  
15 on slide 72 is 2012 information, so that it's not a  
16 direct one (1) for one (1) insert. There has to be  
17 approximations and judgment placed to get -- to make  
18 the change from the third set of bars to the fourth set  
19 of bars.

20 MR. BYRON WILLIAMS: Fair enough, sir.  
21 And just so I understand, would that be any more  
22 precise than the striped bars that currently appear in  
23 La Capra 45, slide 72, on the extreme right?

24 Would this information assist, or -- or  
25 not?

1 MR. JOHN ATHAS: Yeah, I'm not sure if  
2 much would change, but I don't -- I haven't focussed on  
3 the Plan 6 information as much that -- that's in that  
4 exhibit.

5 MR. BYRON WILLIAMS: Okay. I -- I may  
6 have a conversation with your counsel offline at the  
7 break, and I'll reflect on that.

8

9

10 (BRIEF PAUSE)

11

12 THE CHAIRPERSON: Just from the  
13 standpoint of my understanding with respect to Plan 6,  
14 the introduction of wind in the generation mix in lieu  
15 of gas, what -- what would it -- it would have -- it  
16 would have the effect of increasing the gains, wouldn't  
17 it?

18 So -- so Plan 6 involves introducing gas  
19 in '31. You know, there's some adjustments have been  
20 made by Hydro, and I guess I'm asking a question:

21 If you introduce gas into this mix as --  
22 I'm sorry, if you introduce wind into this generation  
23 mix as opposed to gas, would it have the effect of  
24 increasing the -- the values that -- the NPVs of all  
25 the -- of Plan 6, or the other plans?

1 MR. DANIEL PEACO: Well, it's -- it's a  
2 little hard to know because what we have -- the only --  
3 the only case we really -- well, we have the wind with  
4 Conawapa, and we really haven't -- we'd have to kind of  
5 look at that case to see what wind in combination with  
6 incremental hydro would -- would do, as compared to the  
7 -- the Wind/Gas case that we -- that we've looked at.

8 So -- but it does also come with the  
9 expanded transmission, which gives the system more  
10 flexibility obviously if its -- when its got surplus  
11 energy. So, you know, it's -- it's -- there's a few  
12 things that would be different from -- from the Wind  
13 case that we've looked at that, you know, I hesitate to  
14 speculate too far on that but those are the things we  
15 didn't look at.

16 But I think that there's a -- maybe the  
17 -- the Wind/Conawapa combination case is probably the  
18 closest thing to that, and we'd have to take a look at  
19 that and see if we could learn something about how that  
20 would work together.

21

22 CONTINUED BY MR. BYRON WILLIAMS:

23 MR. BYRON WILLIAMS: Just before we  
24 leave this slide -- I'm assuming the Chair was...

25 THE CHAIRPERSON: I think I'm done.

1 CONTINUED BY MR. BYRON WILLIAMS:

2 MR. BYRON WILLIAMS: Before we leave  
3 this slide, is the inference I can draw from the last  
4 two (2) sets of bars that Plan 5, including the WPS  
5 sale, and Plan 6, excluding the WPS sale, are quite  
6 competitive?

7 MR. DANIEL PEACO: I think the -- the  
8 economic results of those two (2) cases are -- are  
9 similar because the -- basically what you're doing in  
10 the case that you keep the contract in is you're  
11 advancing the combined cycle unit to basically supply  
12 that energy. And so that obviously adds some cost that  
13 -- that is making it more or less offsetting so that  
14 they're -- they end up performing fairly similarly.

15 MR. BYRON WILLIAMS: Okay. And if we  
16 could turn to slide 68 of La Capra Exhibit 45.

17 And you set out a variety of pathways on  
18 this page, correct?

19 MR. DANIEL PEACO: Yes.

20 MR. BYRON WILLIAMS: And the first one,  
21 Path 1, includes DSM Level 2, the advancement of  
22 Keeyask, Minnesota Power 250, and the 750 megawatt  
23 transmission, agreed?

24 MR. DANIEL PEACO: Yes.

25 MR. BYRON WILLIAMS: It excludes the

1 WPS contract?

2 MR. DANIEL PEACO: Yes, in the sense  
3 that -- as I explained yesterday, I know you sort of --  
4 my understanding of the -- the WPS contract that's now  
5 signed is -- is specifically structured to be  
6 contingent on both Keeyask and Conawapa. So it -- in  
7 my mind it -- it doesn't go away -- it's -- but it's an  
8 option for -- for a layer step in the pathway.

9 MR. BYRON WILLIAMS: Okay. Yeah, and I  
10 did listen in --

11 MR. DANIEL PEACO: Yeah.

12 MR. BYRON WILLIAMS: -- yesterday from  
13 afar. In essence, it looks a lot like Plan 6?

14 MR. DANIEL PEACO: Through -- through  
15 the -- the second resource that they add, yes.

16 MR. BYRON WILLIAMS: and certainly,  
17 based upon your striped bar analysis up from slide 72,  
18 additional DSM makes this a pretty attractive option?

19 MR. DANIEL PEACO: Relative to the  
20 Preferred Development Plan, yeah.

21 MR. BYRON WILLIAMS: Now, turning to  
22 slide 70 for a moment and -- yeah, scroll down --  
23 that's great -- you'll recall that you had some  
24 conversation about this slide with Board Member  
25 Kapitany yesterday?

1 MR. DANIEL PEACO: Yes.

2 MR. BYRON WILLIAMS: And as I  
3 understand it, this slide based upon the 2012 reference  
4 case assumptions?

5 MR. DANIEL PEACO: That's correct.

6 MR. BYRON WILLIAMS: And it includes  
7 the updated capital costs, agreed?

8 MR. DANIEL PEACO: Yes.

9 MR. BYRON WILLIAMS: It does not update  
10 to two (2) times DSM, agreed?

11 MR. DANIEL PEACO: Correct. The only -  
12 - the only change in here is the updated capital costs.

13 MR. BYRON WILLIAMS: And it -- so it  
14 does not include the 2013 updates?

15 MR. DANIEL PEACO: Yes. If you recall  
16 Mr. Athas's presentation this morning, we circled the -  
17 - the green circle with the capital costs. This is the  
18 first table -- actually, it's -- it's corrected because  
19 the -- the first -- the first column is now in -- in  
20 the slide is correct. And it needs to be supple -- an  
21 errata needs to be in the -- in the package. But this  
22 is the update -- only updated exactly as Mr. Athas  
23 described this morning of -- on the updates in -- in  
24 the tables in 9U.

25 MR. BYRON WILLIAMS: So if I look at

1 this table, I should be aware of course that it still  
2 includes the WPS transmission in -- investment?

3 MR. DANIEL PEACO: In those plans it  
4 included, yes.

5 MR. BYRON WILLIAMS: And -- and that,  
6 of course, that investment is no more, agreed? It's  
7 not -- not in plan anymore?

8 MR. DANIEL PEACO: The --

9 MR. BYRON WILLIAMS: The -- there's no  
10 longer the WPS...

11 MR. DANIEL PEACO: Oh, the W -- WPS  
12 participation in the transmissions, correct.

13 MR. BYRON WILLIAMS: So the results  
14 when I look at the NPV -- or -- or the -- in terms of  
15 Plan 14, which includes that transmission investment --  
16 would be somewhat overstated, agreed?

17 MR. DANIEL PEACO: Yes. And that's --  
18 that's kind of why we went through the whole waterfall  
19 yesterday, to -- to show the rest of that.

20 MR. BYRON WILLIAMS: And just to  
21 finish, the same would be true of Plan 5, where those  
22 results would be somewhat overstated, agreed?

23 MR. DANIEL PEACO: Yes, 'cause it only  
24 considers the -- it only changes the updated capital  
25 cost.

1 MR. BYRON WILLIAMS: Going back to a  
2 discussion I had with Mr. Athas earlier this morning,  
3 and acknowledging that this based upon 2012  
4 assumptions, how important for a final determination in  
5 this proceeding, in your view, would it be to up --  
6 update this material to the 2013 assumptions?

7 MR. DANIEL PEACO: Well, we -- we  
8 believe that -- it was our understanding the panel  
9 would prefer to have all of current information on  
10 cases. And -- and as we discussed yesterday, much of  
11 what we did, including the -- the lightly shaded bars  
12 on the DSM, we were trying to infer as much as we could  
13 about what today's look looks like from what the  
14 information that we have, which -- which is less than  
15 the -- the inf -- the entirety of the information you -  
16 - you'd want to have. And so we would -- we would --  
17 so we were seeking to -- to help the Board get as close  
18 to that as -- as possible. So that's the -- the  
19 attempt that we were trying to make at putting the --

20 MR. BYRON WILLIAMS: And I'm --

21 MR. DANIEL PEACO: -- detail together.

22 MR. BYRON WILLIAMS: -- not being  
23 critical, I'm just trying to get your sense of the  
24 judgement. Is it a -- a big deal that we -- we don't  
25 have this updated for 2013 -- a medium size deal --



1 MR. DANIEL PEACO: Well, if we go back  
2 -- yeah, if we go back to the...

3

4 (BRIEF PAUSE)

5

6 MR. DANIEL PEACO: If you go to page 18  
7 of our -- our slide def -- of the same document.

8 MR. BYRON WILLIAMS: So you're  
9 referring to page 18 of La Capra Exhibit 45?

10 MR. DANIEL PEACO: Yes. Everything  
11 that we've talked about in that prior table is --  
12 relates to the one (1) change that shows the -- the red  
13 bar labelled eight one eight (818). So that's the  
14 change in capital cost.

15 And what we've mapped in here is our  
16 best judgment of the change in expected value of -- of  
17 the Preferred Development Plan as a result of all of  
18 the changes. So you can see, in addition to the Level  
19 2 DSM and the capital cost, the change in discount  
20 rate, which is part of the 2013 assumptions, and the  
21 decrease in load, the combination of those take the  
22 expected value result for the Preferred Dev --  
23 Development Plan to be less favourable than the All Gas  
24 alternative with Level 2 DSM.

25 So this -- this is sort of our depiction

1 of what we currently understand the -- the nature of  
2 the changes as in -- in that one (1) plan relative to  
3 All Gas. That's enough of a change to say a lot of the  
4 other alternatives really come into economic parity, or  
5 better, with the Preferred Development Plan from --  
6 from Hydro's analysis.

7 And so at that point, it's -- it's a  
8 different -- it's a different discussion than you had  
9 with the 2012 information, right.

10 MR. BYRON WILLIAMS: Stay on this page  
11 for a minute, because we're -- I was going to ask this  
12 of you a little later --

13 MR. DANIEL PEACO: Okay.

14 MR. BYRON WILLIAMS: -- while we're  
15 here. Would it be possible to get a -- a footnote or a  
16 derivation for this -- this slide, being slide 18,  
17 showing the -- the sources of your -- of your  
18 calculations individually?

19 MR. DANIEL PEACO: Sure.

20 MR. BYRON WILLIAMS: And likewise, if I  
21 could get that for slide 17?

22 MR. DANIEL PEACO: Yeah, they would be  
23 similar, but we could do that.

24 MR. BYRON WILLIAMS: So you would  
25 undertake to provide a footnoted explanation with

1 sources of the derivation of the calculations  
2 underlaying slide 18 and slide 17 of La Capra Exhibit  
3 45?

4 MR. JOHN ATHAS: One (1) question I was  
5 going to ask is I know you've been discussing a lot  
6 focussed on the Manitoba Hydro view, so do you -- do  
7 you mean slide 16 as the other slide?

8 MR. BYRON WILLIAMS: Do you know what,  
9 sir, you're right; I meant slide 16 and slide 18. I  
10 apologize.

11 MR. JOHN ATHAS: Yes, we can provide  
12 derivation work papers.

13 MR. BYRON WILLIAMS: And just for the  
14 reporter, if I misspoke previously, it would be for  
15 slide 16 and 18, but the undertaking would be the same  
16 apart from that. I'll confirm that with Me. Monnin.

17 MR. CHRISTIAN MONNIN: Fine. Thank  
18 you, Mr. Williams.

19

20 --- UNDERTAKING NO. 104: La Capra to provide a  
21 footnoted explanation with  
22 sources of the derivation  
23 of the calculations  
24 underlaying slide 16 and  
25 slide 18 of La Capra

1 Exhibit 45

2

3 CONTINUED BY MR. BYRON WILLIAMS:

4 MR. BYRON WILLIAMS: Now, Mr. Peaco, I  
5 -- I think I heard you yesterday suggesting you're an  
6 engineer, amongst your many skills?

7 MR. DANIEL PEACO: Yes.

8 MR. BYRON WILLIAMS: And, Mr. Athas, as  
9 well, you are an engineer amongst --

10 MR. JOHN ATHAS: That's correct.

11 That's correct.

12 MR. BYRON WILLIAMS: -- your -- amongst  
13 your many skills? And I think I over-spoke you, and  
14 the court reporter will yell at me, so I'll just get  
15 you to confirm that.

16 MR. JOHN ATHAS: Yes, I -- yes, I am an  
17 engineer.

18 MR. BYRON WILLIAMS: And going back to  
19 another main message from your reports, but without  
20 asking you to elaborate, it would be fair to say that  
21 you characterize the need date in the arisen --  
22 original Hydro business case as very conservative?

23 MR. DANIEL PEACO: Yes.

24 MR. BYRON WILLIAMS: And, again,  
25 without asking you to elaborate, but asking you to

1 confirm, in terms of the alternatives considered, you  
2 described them as narrow and suggested that they were  
3 not fully optimized?

4 MR. DANIEL PEACO: Correct.

5 MR. BYRON WILLIAMS: And generally --  
6 and my -- and My Friend Mr. Gange -- My Learned Friend  
7 Mr. Gange went over a little bit with you, it would be  
8 fair to say that you offer a number of criticisms of  
9 Hydro's resource planning analytic framework relating  
10 both to the assessment of the need date and the  
11 examination of alternatives?

12 MR. DANIEL PEACO: Yes.

13

14 (BRIEF PAUSE)

15

16 MR. BYRON WILLIAMS: Now, I'm going to,  
17 in the next couple of moments, examine some of your  
18 analysis of the Hydro resource planning. And I was  
19 hoping to use the term 'chicken soup' improvement to  
20 suggest an amendment to the planning or decision making  
21 pro -- process that would make it better, but be  
22 unlikely to make a material difference. And I was  
23 hoping to use the word 'magic vaccination' to suggest  
24 an -- an improvement to the planning process that would  
25 make a material difference to the overall analysis.

1 But, Mr. Peaco, would chicken soup and  
2 magic vaccination be terms that you would normally use  
3 an engineer?

4 MR. DANIEL PEACO: Not one I've used  
5 lately.

6 MR. BYRON WILLIAMS: Are there other  
7 terms you could suggest that we use? I'm trying to get  
8 at criticisms that would be an improvement to the  
9 planning process, but not materially change the  
10 analysis versus criticisms that could materially change  
11 the analysis.

12 Are there terms you're more comfortable  
13 with than chicken soup and vaccination?

14 MR. DANIEL PEACO: Material and non-  
15 material works for me.

16 MR. BYRON WILLIAMS: So if I...

17

18 (BRIEF PAUSE)

19

20 MR. BYRON WILLIAMS: Okay. And we'll  
21 come to that in a few moments. I'm not sure if we'll  
22 get to it before the break or not. I was hoping we  
23 could work with chicken soup, but material and non --

24 MR. DANIEL PEACO: I'm -- I'm happy to  
25 -- I'm happy to work with your -- your terminology, if

1 you'd prefer.

2 MR. BYRON WILLIAMS: Well, we'll --  
3 we'll play around with that a little bit. But just  
4 going back to 68, page 68 of La Capra Exhibit 45, for a  
5 moment.

6 I -- I see that your Path 2 is DSM Level  
7 2 and -- and then Keeyask in 2023.

8 Is that right?

9 MR. DANIEL PEACO: Yes.

10 MR. BYRON WILLIAMS: Presumably there's  
11 no Minnesota sale in there?

12 MR. DANIEL PEACO: That's my  
13 understanding.

14 MR. BYRON WILLIAMS: And no expanded  
15 interconnection?

16 MR. DANIEL PEACO: Correct.

17 MR. BYRON WILLIAMS: And would you  
18 accept that that sounds a lot like Manitoba Hydro Plan  
19 2?

20 MR. DANIEL PEACO: Yes. With the  
21 exception of the DSM.

22 MR. BYRON WILLIAMS: So to your  
23 knowledge, is there analysis on the record which  
24 addresses the question of Plan 2 results at a Level 2  
25 DSM?

1 MR. JOHN ATHAS: I'm not sure that they  
2 -- that that case exists. I have to -- I have to check  
3 through the exhibits. I -- the exhibit that you had up  
4 before might --

5 MR. BYRON WILLIAMS: 129-7?

6 MR. JOHN ATHAS: -- I'd verify that it  
7 exists right there.

8 MR. BYRON WILLIAMS: I think it -- I  
9 think it might do the opp -- opposite.

10 MR. JOHN ATHAS: Yeah. Okay. So I --  
11 the fact that it's not there would make me believe that  
12 there's not information on that -- on that case.

13 MR. BYRON WILLIAMS: Okay. And so,  
14 subject to check, and of course we're rel -- would you  
15 recommend that analysis be undertaken on Plan 2 at  
16 Level 2 DSM before the -- the Board reaches a  
17 determination in terms of its advice to the -- to the  
18 province?

19 MR. DANIEL PEACO: Given that it's one  
20 (1) of three (3) paths that Hydro has left on the  
21 table, and we -- and we've included it in our table as  
22 well, obviously that's -- that's a plan that you'd want  
23 to have as much information as you -- as -- as is  
24 possible.

25 MR. BYRON WILLIAMS: I wonder if we can



1 turn to your evidence, App -- Appendix 9B, page 84.

2

3 (BRIEF PAUSE)

4

5 MR. BYRON WILLIAMS: We'll come to this  
6 information in just a second, Mr. Peaco, but I believe  
7 I heard you -- you can scroll down on this page,  
8 please.

9 MS. ODETTE FERNANDES: Sorry, Mr.  
10 Williams, if I could just have a moment with Mr. Peters  
11 before you continue?

12

13 (BRIEF PAUSE)

14

15 MR. BOB PETERS: Mr. Chairman, in light  
16 of the hour might this be an opportune time to recess a  
17 few minutes early for lunch, so I can continue my  
18 discussion?

19 THE CHAIRPERSON: Is your  
20 recommendation that we take forty-five (45) minutes?

21 MR. BOB PETERS: That would be  
22 satisfactory from our --

23 THE CHAIRPERSON: Okay. Let's do  
24 forty-five minutes, which would take us to twenty-five  
25 (25) to -- to 1:00. So have a good lunch, everyone.

1 --- Upon recessing at 11:53 a.m.

2 --- Upon resuming at 12:44 p.m.

3

4 THE CHAIRPERSON: I believe that  
5 everybody is in position, so we can resume the  
6 proceedings. Hope everybody had a good lunch. And I  
7 think we have some documents to acknowledge.

8 MS. PATTI RAMAGE: Yes, we do.  
9 Manitoba Hydro has three (3) exhibits to file. The  
10 first one (1) is Exhibit number 163. And this is a  
11 written response. It was -- it's provided in response  
12 to a question of Mr. Williams. It wasn't recorded as a  
13 formal undertaking. But you may recall when Manitoba  
14 Hydro's partners were here, Mr. Williams invited the  
15 representative, TCN, if he wished to elaborate on TCN's  
16 experiences in relation to employment and ongoing  
17 training and the challenges they face. And TCN has  
18 provided its response, and that's being distributed and  
19 marked as Exhibit 163.

20

21 --- EXHIBIT NO. MH-163: TCN's experiences in  
22 relation to employment and  
23 ongoing training and the  
24 challenges they face

25

1 MS. PATTI RAMAGE: The next is a  
2 question again not formally marked as an undertaking.  
3 But I certainly believe you, Mr. Chair, intended it to  
4 be one. It is -- we're suggesting it be Exhibit 164.  
5 It's from transcript page 2,763, and that was your  
6 question: Can Manitoba Hydro extrapolate the extent to  
7 which a homeowner can reduce his or her bill by  
8 adopting DSM? And so the response to that question has  
9 been provided.

10

11 --- EXHIBIT NO. MH-164: Manitoba Hydro's response  
12 to the question: Can  
13 Manitoba Hydro extrapolate  
14 the extent to which a  
15 homeowner can reduce his or  
16 her bill by adopting DSM?

17

18 MS. PATTI RAMAGE: And then finally, as  
19 Exhibit number 165 is a copy of the correspondence from  
20 Manitoba Hydro to BBE Hydro Constructors Limited  
21 Partnership. And that is the -- the April -- I'm  
22 looking for the date. It's -- it's actually dated  
23 April 7th, and that's the confirmation of notice to  
24 proceed with Phase 2 site work.

25

1 --- EXHIBIT NO. MH-165: Confirmation of notice to  
2 proceed with Phase 2 site  
3 work  
4

5 THE CHAIRPERSON: Thank you. I believe  
6 that we're ready to turn over the microphone to Mr.  
7 Williams, please.  
8

9 CONTINUED BY MR. BYRON WILLIAMS:

10 MR. BYRON WILLIAMS: I think we had a  
11 moment of excitement with this page, but my  
12 understanding is that we can proceed. So we're looking  
13 at page 84 of Appendix 9B of Manitoba Hydro's -- excuse  
14 me, of La Capra's evidence.

15 And Mr. -- Mr. Athas, just first to you.  
16 I'm -- I'm sorry I have mispronounced your name all  
17 this morning, so I apologize for that. I blame Mr.  
18 Peters for -- for no reason in particular, but I'm  
19 looking for a scapegoat. I'll -- I'll endeavour to do  
20 better this afternoon.

21 Before we turn to this specific  
22 paragraph, Mr. Peaco, you -- I believe you interest --  
23 indicated yesterday that you've been staying pretty  
24 apace of the hearing, staying up to date with it to the  
25 best of your ability?

1 (BRIEF PAUSE)

2

3 MR. DANIEL PEACO: Yeah. I -- I'm not  
4 so current with the last couple of weeks, but prior to  
5 that, yes.

6 MR. BYRON WILLIAMS: Okay. And -- and  
7 if you're not familiar your -- with -- with anything,  
8 you'll -- you will just indicate that?

9 But you -- you are aware also -- are --  
10 are you aware of evidence from Potomac suggesting that  
11 carbon pricing -- that the carbon price scenario and  
12 the no carbon price scenario are equally likely?

13 MR. DANIEL PEACO: I am not. Was that  
14 evidence he gave in -- in oral testimony? Yeah, I  
15 haven't reviewed the transcript from that.

16 MR. BYRON WILLIAMS: And again, sir,  
17 are you aware whether or not Meyers -- MNP indicated  
18 that -- that it was a roughly a 50/50 whether there  
19 would be carbon pricing over the first twenty (20)  
20 years of the forecast?

21 MR. DANIEL PEACO: I'll take your  
22 representation. I'm not -- I'm not -- I was here for  
23 part of their -- their appearance, and I don't recall  
24 whether that was discussed when I was in the room or  
25 not.

1 MR. BYRON WILLIAMS: Okay. And fair  
2 enough. And would you be aware of any views expressed  
3 by the CAC (Manitoba) witness, Dr. -- Dr. Doug Gotham,  
4 regarding the prospects for carbon pricing?

5 MR. DANIEL PEACO: No.

6 MR. BYRON WILLIAMS: Well, that didn't  
7 get us very far. But that's...

8 It would be La Capra's view, though,  
9 that al -- although it is not the largest determinant  
10 of potential export revenues for new hydro development,  
11 carbon pricing is an important assumption, with  
12 significant uncertainty?

13 MR. DANIEL PEACO: Yes.

14 MR. BYRON WILLIAMS: An in order to  
15 test the impact of a change in reference scenario  
16 pricing as a result of there being no cost for carbon  
17 emissions, you undertook an exercise to determine the  
18 percent reduction in opportunity export prices, and  
19 adjusted your economic analysis to match that.

20 Is that fair?

21 MR. JOHN ATHAS: That's correct.

22 MR. BYRON WILLIAMS: And so just so I  
23 understand your methodology, you -- you focussed on the  
24 opportunity export, rather you -- you didn't look to  
25 firm contract sales?

1 (BRIEF PAUSE)

2

3 MS. MARY NEAL: I believe we looked at  
4 non-committed firm sales as well as opportunity sales.  
5 But the actual firm contract sales where they have a  
6 signed contract, we wouldn't have done anything with  
7 those.

8 MR. BYRON WILLIAMS: Just to make sure  
9 I understand, the committed firm contracts were  
10 excluded from the analysis; included would be  
11 opportunity sales and non-committed firm?

12 MS. MARY NEAL: Yes.

13 MR. BYRON WILLIAMS: And you concluded,  
14 with regard to the -- a comparison between the  
15 Preferred Development Plan and the All Gas Plan over  
16 seventy-eight (78) years, that the re -- results were  
17 significant, dropping the relat -- the relative  
18 Preferred Development Plan benefits by about \$340  
19 million.

20 Is that correct?

21 MR. JOHN ATHAS: I was looking for a  
22 table if you had -- if we had -- yes.

23 MR. BYRON WILLIAMS: I don't think I  
24 can look at the tables that you can look at, sir, so.  
25 Now, it -- it looks to me that you may have conducted

1 an analysis for all fifteen (15) development plans.

2 Is that right?

3 MR. JOHN ATHAS: That's correct.

4 MR. BYRON WILLIAMS: So would you be in  
5 a position to provide a -- a relative comparison of the  
6 impact of a no carbon pricing scenario comparing, for  
7 example, Plan 5 against All Gas?

8 MR. JOHN ATHAS: Yes.

9 MR. BYRON WILLIAMS: Okay. Through  
10 your counsel, I'm going to ask you to consider an  
11 undertaking to provide a comparable analysis for Plans  
12 5, 6, and 2, as was undertaken between the Preferred  
13 Plan and All Gas on page 9B -- excuse me, page 84 of  
14 Appendix 9B.

15

16 (BRIEF PAUSE)

17

18 MR. CHRISTIAN MONNIN: We undertake to  
19 do so, Mr. Williams.

20 MR. BYRON WILLIAMS: Is that  
21 satisfactory for the reporter?

22

23 --- UNDERTAKING NO. 105: La Capra to provide a  
24 comparable analysis for  
25 Plans 5, 6, and 2, as was



1 undertaken between the  
2 Preferred Plan and All Gas  
3 on page 84 of Appendix 9B  
4

5 CONTINUED BY MR. BYRON WILLIAMS:

6 MR. BYRON WILLIAMS: Mr. Peaco, this  
7 can probably go to you. You've already shared your  
8 prelimin -- preliminary thoughts on the Hydro need  
9 analysis and alternatives analysis.

10 Do you remember that conversation we had  
11 earlier this -- today?

12 MR. DANIEL PEACO: Yes.

13 MR. BYRON WILLIAMS: Would it also be  
14 fair to say that La Capra formed the opinion that  
15 options such as wind and solar, whose economics can be  
16 expected to materially improve over the planning  
17 horizon, were handicapped in Manitoba Hydro's  
18 alternative analysis by outdated, conservative, and  
19 static economic analysis?

20 MR. DANIEL PEACO: It was clearly our  
21 view that they did not look at any indications that --  
22 that assumed any -- any current or prospective  
23 expectations of cost for wind and solar that are  
24 consistent with what we've -- we've seen and -- and see  
25 in the -- in the industry literature.

1                   So those -- those types of scenarios  
2 were not tested in anything that was included in the  
3 NFAT submission.

4                   MR. BYRON WILLIAMS:   And you formed the  
5 opinion that this was handicap -- handicapping these  
6 technologies in the -- in the analytical exercise?

7                   MR. DANIEL PEACO:    Yeah, because the  
8 only cases presented were ones that we felt were --  
9 were conservative, but they never got...

10

11                                       (BRIEF PAUSE)

12

13                   MR. BYRON WILLIAMS:   I'd like to get  
14 some advice from La Capra in terms of future regulatory  
15 examination. To do so, I'd like to give you some  
16 context from some references from the transcript. I'm  
17 hoping that your legal counsel will let me draw -- draw  
18 you through them simply for the purposes of background  
19 context. And -- and we'll see where -- where we go.

20                   MR. CHRISTIAN MONNIN:   We certainly  
21 will see where you go.

22

23 CONTINUED BY MR. BYRON WILLIAMS:

24                   MR. BYRON WILLIAMS:    If -- if we could  
25 turn to page 4,239 of the transcript. Oh, dear Lord,

1 the date.

2

3 (BRIEF PAUSE)

4

5 MR. BOB PETERS: Oh, thank goodness for  
6 Mr. Hacault. It's the 27th of March, 4,239. And if  
7 we'll scroll down to the bottom of the page. Right  
8 there's fine. You'll see, starting at about line 18,  
9 we're chatting about the -- the need to decide by early  
10 2018 if we're going to be building Conawapa for 2026.

11 Do you see that reference?

12 MR. DANIEL PEACO: I do.

13 MR. BYRON WILLIAMS: And the question  
14 that I'm posing to Mr. Wojczynski, who I welcome to the  
15 hearing this afternoon, is trying to clarify in this  
16 discussion whether we were talking about the province  
17 deciding after getting independent advice from a  
18 tribunal, such as the Public Utilities Board.

19 Do you see that reference? If you flip  
20 to the next --

21 MR. DANIEL PEACO: Yes.

22 MR. BYRON WILLIAMS: -- we can... And  
23 just bear with me for a couple more seconds. If we'll  
24 scroll down to page 4,240, lines 5 through 12, you'll  
25 see a discussion from Manitoba Hydro's perspective of

1 the decision involving Hydro's planning process,  
2 Hydro's executive committee, Hydro's board, and the  
3 provincial gov -- government.

4 Do you see that?

5 MR. DANIEL PEACO: I do.

6 MR. BYRON WILLIAMS: And finally, if we  
7 can turn to page 4,243. Scrolling down towards the  
8 bottom, lines 22 to 25, and then onto the next page.  
9 You'll see a suggestion that the schedule that Hydro's  
10 been working with does not currently envision another  
11 NFAT.

12 Do you see that, sir?

13 MR. DANIEL PEACO: I see that.

14 MR. BYRON WILLIAMS: So if you feel  
15 comfortable giving advice to my clients, feel free to.  
16 If not, you'll let me know.

17 But you're well aware that the  
18 investment in Conawapa may be over \$10 billion?

19 MR. DANIEL PEACO: Yes.

20 MR. BYRON WILLIAMS: And you'd  
21 expressed some commentary in this proceeding that the  
22 need analysis undertaken by Hydro was very  
23 conservative, agreed?

24 MR. DANIEL PEACO: Yes.

25 MR. BYRON WILLIAMS: You've expressed

1 some commentary in this hearing that the alternatives  
2 analysis was overly narrow, agreed?

3 MR. DANIEL PEACO: Yes.

4 MR. BYRON WILLIAMS: You've suggested  
5 as well that the business case for the Preferred  
6 Development Plan is not robust?

7 MR. DANIEL PEACO: Yes.

8 MR. BYRON WILLIAMS: Given these  
9 factors, would you suggest it's important to have some  
10 mechanism for independent advice to the government  
11 prior to making a decision about Conawapa?

12 And - -and if you feel uncomfortable,  
13 Mr. Monnin, that's fine.

14 MR. CHRISTIAN MONNIN: I'm just not  
15 sure that it's within his scope.

16

17 CONTINUED BY MR. BYRON WILLIAMS:

18 MR. BYRON WILLIAMS: Fair enough. Let  
19 -- let me ask a different question, sir. What are the  
20 key steps La Capra might offer, in terms of improving  
21 the hydro planning process, that you would recommend  
22 prior to a future NFAT?

23 MR. DANIEL PEACO: Distinguishing  
24 between the planning process and -- and the review  
25 process?

1 MR. BYRON WILLIAMS: Exactly.

2 MR. DANIEL PEACO: Okay. Well, if...

3

4 (BRIEF PAUSE)

5

6 MR. DANIEL PEACO: Well, I -- I guess  
7 it's --

8 THE CHAIRPERSON: I wonder if I could -  
9 - I could intervene at this point. I'll -- you know, I  
10 -- given the scope of that -- that question, I wonder  
11 if it wouldn't be wise to ask Mr. Peaco to think about  
12 that overnight.

13 MR. BYRON WILLIAMS: For sure.

14 THE CHAIRPERSON: Yeah. I think that  
15 would generate probably a response that is more  
16 thorough, and probably be added to weight, I think.

17 MR. DANIEL PEACO: So I was in the  
18 process of formulating, I think, what was going to be  
19 some clarifying question. Something that might be  
20 helpful, and then I can -- then I'll take the thought  
21 problem.

22 And so -- and I guess I was in part  
23 trying to think of ways to answer your question. And I  
24 guess one way to do it would say, What would -- would  
25 we have expected to see, what we would like to have

1 seen in the process that's led to where we are today?

2 So if we had a do over of this process, what -- what

3 could be done differently?

4

5 CONTINUED BY MR. BYRON WILLIAMS:

6 MR. BYRON WILLIAMS: Yeah. You've --

7 you've framed the question than I would. So what I am

8 asking you to do by -- by way of written undertaking,

9 if you're prepared to accept it, would be to articulate

10 steps, if -- if one was re-envisioning this analytic

11 process, of -- of how you would redo it, or do over.

12

13 (BRIEF PAUSE)

14

15 MR. DANIEL PEACO: And you know what?

16 We -- we talk -- you talk about me providing a response

17 early in the morning. Do you want it as written, as

18 well, or do you want oral -- an oral response in the

19 morning, as well?

20 MR. BYRON WILLIAMS: You know, I -- I

21 think probably -- it's up to the Chair, but written is

22 -- is fine from my client's perspective.

23 THE CHAIRPERSON: And I think it would

24 be fine for us, as well.

25 MR. DANIEL PEACO: We'll take it as an

1 undertaking.

2 MR. BYRON WILLIAMS: The undertaking is  
3 to identify measures that would have improved the  
4 planning process leading up to the current NFAT.

5 Is that satisfactory, sir?

6 MR. DANIEL PEACO: Yes.

7 MS. MARILYN KAPITANY: Just a question,  
8 Mr. Peaco. Would you see that being done this week  
9 while you're still in Winnipeg? I'm just wondering in  
10 case we have any questions about it.

11 MR. DANIEL PEACO: Well, that's kind of  
12 why I thought was maybe -- was suggesting it to -- to  
13 come back in the morning with an oral response, but I'm  
14 -- and if -- if that's your pleasure, I'd be happy to  
15 do that. I'm not necessarily prepared to -- to do --  
16 do the written piece. But if -- but if you'd like sort  
17 of my -- my thoughts that I can follow in writing later  
18 on, I'm happy to do that.

19 THE CHAIRPERSON: I think it would  
20 merit an off-ramp discussion amongst counsel and so on,  
21 just to --

22 MR. DANIEL PEACO: Yeah, just for --  
23 you know --

24 THE CHAIRPERSON: -- if that's okay  
25 with you, Mr. Williams, just to make sure that -- that



1 it's framed appropriately and generates the most  
2 available information.

3 MR. DANIEL PEACO: Whatever your --  
4 whatever your pleasure is.

5 MR. BYRON WILLIAMS: Okay. So what I'm  
6 going to suggest, and I'll ask Ms. Menzies to remind me  
7 at the break, or -- is that before I -- I leave to go  
8 home to bed that we -- we have a discussion to just --  
9 we'll withdraw this undertaking and we'll -- we'll put  
10 a -- a more carefully articulated one on the record  
11 after the -- after the break.

12

13 CONTINUED BY MR. BYRON WILLIAMS:

14 MR. BYRON WILLIAMS: Mr. Peaco, I  
15 believe that in outlining your qualifications  
16 yesterday, you commented upon your thirty-five (35)  
17 years of experience with integrated resource planning.

18 Would that be fair?

19 MR. DANIEL PEACO: Thirty-five (35)  
20 year experience. Integrated resource planning hasn't  
21 existed my entire career, but I have -- have a lot of  
22 experience with -- with integrated resource planning,  
23 yes.

24 MR. BYRON WILLIAMS: And, Mr. Athas,  
25 you as well have significant experience with integrated

1 resource planning, or IRP?

2 MR. JOHN ATHAS: That's correct.

3 MR. BYRON WILLIAMS: Would it be fair  
4 to design -- to define 'integrated resource planning'  
5 as a plan for meet -- for a -- let's say a utility to  
6 meet forecast annual peak and energy demand, plus some  
7 established reserve margin through a combination of  
8 supply-side and demand-side resources over a specified  
9 future period?

10 MR. DANIEL PEACO: That's a reasonable  
11 definition.

12 MR. BYRON WILLIAMS: So it's a  
13 definition we can work with for the purposes of our  
14 discussion?

15 MR. DANIEL PEACO: Yes.

16 MR. BYRON WILLIAMS: And would I be  
17 fair to suggest that among the steps taken in the  
18 creation of an integrated resource plan would include  
19 the forecast of future loads, the identification of  
20 potential resource options to meet those future loads,  
21 and the determination of the optimal mix of resources  
22 based upon the goal of minimi -- minimizing future  
23 electric system costs?

24 MR. DANIEL PEACO: That's actually  
25 probably a -- a narrower definition than I would use,

1 because the -- sort of it's what -- I mean, some --  
2 some folks in the industry will use the term 'least  
3 cost planning' as a -- as -- as that definition, as --  
4 as apart from integrated resource planning, which  
5 considers, perhaps, not necessarily that particular  
6 cost minimization focus, because there are issues other  
7 than cost minimization that come into play in making a  
8 -- making a decision.

9 MR. BYRON WILLIAMS: So what will -- so  
10 the more expanded steps that you would in -- you're  
11 taking issue, I take it then, with the suggestion of  
12 the determination of the optimal mix using a goal of  
13 minimizing future electrical system costs?

14 MR. DANIEL PEACO: Yeah, minimizing  
15 cost and meeting reliability are two (2) important  
16 metrics or criteria that you would -- you would expect  
17 to see in any IRP. But there -- there are also other  
18 objectives that -- that come into play, in terms of  
19 emissions reductions or other -- other considerations,  
20 that are also part of that process. And so there are  
21 attributes other than minimizing cost and meeting  
22 reliability that typically come into play.

23 MR. BYRON WILLIAMS: So I thank you for  
24 that. So what I believe, in terms of that third step  
25 of optimization, it could be directed at, in part,

1 minimization of cost, in part reliability, and you're  
2 also referencing a potential other major component such  
3 as emission reductions.

4 MR. DANIEL PEACO: Correct.

5 MR. BYRON WILLIAMS: I want to talk  
6 about the integration of DSM into the Hydro planning  
7 process in just a couple of seconds. But before we do,  
8 I won -- I wonder if we can turn to the -- give a  
9 practical example from the Connecticut integrated  
10 resource plan excerpt. And -- and I'll refer you first  
11 of all to CAC-45-12.

12 MR. DANIEL PEACO: I have that.

13 MR. BYRON WILLIAMS: And then I'll ask  
14 Diana to have up as -- ready to bring up CAC-45-3, page  
15 58. I'll come to that in a moment. And I can put this  
16 to either of the witnesses.

17 If -- if memory serves me right, Mr.  
18 Athas, you reviewed this IRP as part of your work for  
19 the regulator in that jurisdiction?

20 MR. JOHN ATHAS: The -- a large La  
21 Capra team that included Mr. Peaco, as well, reviewed  
22 that. I -- I appeared for the hearing.

23 MR. BYRON WILLIAMS: Okay. So either  
24 of you feel welcome to -- to answer.

25 MR. DANIEL PEACO: Yeah, just -- just

1 to be clear, so -- we -- our client in Connecticut, in  
2 this context, was an -- an organization called  
3 Connecticut Energy Advisory Board. And they had --  
4 they had governmental responsibility for the IRP from  
5 the 2008 to 2010 period. And the -- the utility -- the  
6 utilities collectively had responsibilities to do an  
7 analysis, for which they hired Brattle. And we -- our  
8 client was the CEAB, and so we were working in tandem  
9 with the Brattle work for the utilities in that  
10 process.

11 MR. BYRON WILLIAMS: Okay, thank you  
12 and thank you for that clarification. If we just turn  
13 to page 2 of CAC-45-12 for a moment -- and right  
14 there's fine. And then we'll scroll down to the  
15 alternative resources strategies in a moment.

16 But, generally, I would be correct in  
17 suggesting to you that fo -- in -- in 2010, the  
18 Connecticut integrated resource plan included six (6)  
19 alternative resource strategies?

20 MR. DANIEL PEACO: Yes, I see where  
21 you're at -- see that.

22 MR. BYRON WILLIAMS: And they were  
23 looking at various issues, including mixes of energy  
24 efficiency, development of renewable generation, and  
25 the development of traditional generation.

1 Would that be fair?

2 MR. DANIEL PEACO: Yes.

3 MR. BYRON WILLIAMS: And if we scroll  
4 down to the bottom of the page, you'll see reference to  
5 a -- a reference strategy, which contained a --  
6 contemplated cur -- current funding for DSM, or desa --  
7 demand-side management, but no more?

8 Would that be fair?

9 MR. DANIEL PEACO: I'm sorry, say that  
10 again.

11 MR. BYRON WILLIAMS: Yes, I'm refer --  
12 I'm referring you to the reference strategy.

13 And you would agree that in terms of  
14 DSM, the reference strategy focussed on current funding  
15 for DSM --

16 MR. DANIEL PEACO: Yes.

17 MR. BYRON WILLIAMS: -- but no  
18 additional funding?

19 MR. DANIEL PEACO: Okay, thank you. I  
20 -- I'm with you, I see that.

21 MR BYRON WILLIAMS: Agreed?

22 MR. DANIEL PEACO: Yes.

23 MR. BYRON WILLIAMS: And in addition,  
24 there was another portfolio with a different mix of DSM  
25 in it ter -- called the targeted DSM expansion

1 portfolio, agreed?

2 MR. DANIEL PEACO: Yes.

3 MR. BYRON WILLIAMS: And there they  
4 focussed on implementing four (4) specific high  
5 potential new energy efficiency initiatives, agreed?

6 MR. DANIEL PEACO: Correct. Correct.

7 MR. BYRON WILLIAMS: And -- and  
8 finally, on the -- scrolling down to the next page, we  
9 see that there was a -- a third mix of DSM within the  
10 resource plans, one including all achievable cost-  
11 effective DSM.

12 Would that be fair?

13 MR. DANIEL PEACO: Yes.

14 MR. BYRON WILLIAMS: And if we could  
15 pull up CAC-45-3, page 58.

16 And Mr. Peaco, I'll -- I'll ask you to  
17 accept, subject to check, that this is again an excerpt  
18 from the Connecticut integrated resource plan.

19 MR. DANIEL PEACO: Okay.

20 MR. BYRON WILLIAMS: Do you accept  
21 that, sir?

22 MR. DANIEL PEACO: Yes. The form of  
23 the chart looks familiar.

24 MR. BYRON WILLIAMS: You don't need to  
25 turn there, but if -- if you would flip back to page

1 52, you'd see the cover page of the -- for this same --  
2 same document.

3 But in -- in essence, what we see here  
4 is an examination of all six (6) resource plans against  
5 a number of scenarios relating to load growth, gas  
6 prices and CO2 pricing, agreed?

7 MR. DANIEL PEACO: Yes.

8 MR. BYRON WILLIAMS: And -- and not  
9 that it matters that much for our discussion today, but  
10 under the particular analysis undertaken in Connecticut  
11 under that IRP, we see, in terms of lower costs, all  
12 achievable cost-effective DSM fighting it out with  
13 efficient gas expansion on the far right.

14 Would that be fair?

15 MR. DANIEL PEACO: That's correct.

16 MR. BYRON WILLIAMS: And going from the  
17 specifics of Connecticut to both your and Mr. Athas's  
18 extensive experience with integrated resource planning,  
19 would it be common in an integrated resource plan to  
20 see a -- a number of DSM scenarios?

21 MR. DANIEL PEACO: Yeah, you would --  
22 you would look at -- it would be typical to do a -- a  
23 potential study that broadly casts the net, in terms of  
24 what resource -- what the scale of the resource could  
25 be potentially be. And then you would structure some -



1 - some amount of scenarios in combination with -- with  
2 other resources to get an understanding of where --  
3 what levels of DSM could provide the most value.

4 MR. BYRON WILLIAMS: And as I  
5 understand it, sir, you would -- you would look at  
6 attempting to optimize different portfolios with a mix  
7 of DSM and some different supply-side options?

8 There would be an -- that type of an  
9 effort that would be undertaken?

10 MR. DANIEL PEACO: Typically there  
11 would be, yes.

12 MR. BYRON WILLIAMS: And I ask you  
13 these questions because I'm not sure that integrated  
14 resource planning is as much a part of our conversation  
15 here in Manitoba as -- as we might like. And  
16 presumably, within different portfolios you might see,  
17 in an effort to optimize, they might have, I don't  
18 know, a mix of gas and wind and -- and solar, for  
19 example?

20 Those -- is that the type of  
21 optimization we might see?

22 MR. DANIEL PEACO: Well, yeah, and I  
23 think that you would -- you know, there's always the --  
24 the tradeoff between -- you know, there isn't any --  
25 any process that sort of has an elegant model that can

1 in -- in real time -- or in reasonable time solve for  
2 all -- all possible permutations and combinations of  
3 resources. But there's usually a structured discussion  
4 about the viable resources and how they might -- how  
5 you might structure an analysis to see how they would  
6 best knit together into a plan.

7 MR. BYRON WILLIAMS: Fair enough.  
8 Thank you. And we'll go to some specifics with -- with  
9 regard to hydro in just a moment.

10 But can La Capra advise me whether, in  
11 preparing for this assignment, you would have reviewed  
12 the advice from the Clean Environment Commission to the  
13 province with regard to the Wuskwatim generating  
14 station Need For and Alternatives analysis?

15 MR. DANIEL PEACO: The -- the document  
16 again?

17 MR. BYRON WILLIAMS: It's a report from  
18 the Clean Environment Commission to the -- its  
19 recommendations with regard to the Wuskwatim generating  
20 station?

21 MR. DANIEL PEACO: I don't know.

22 MR. BYRON WILLIAMS: That's fine, if...

23 MR. DANIEL PEACO: I don't -- I don't  
24 recall seeing that document.

25 MR. BYRON WILLIAMS: Okay. And you

1 don't recall those recommendations coming up in the  
2 course of your conversations with Hydro?

3 MR. DANIEL PEACO: We -- we were  
4 pointed -- we were pointed to the governing statutes of  
5 -- of the process, but...

6 MR. BYRON WILLIAMS: Fair enough. I  
7 wonder if we could turn to CAC book of documents, 45-  
8 13, page 2. Mr. -- Mr. Peaco or -- or Mr. Athas, in  
9 -- in the course of your exhaustive review of the trans  
10 -- of the record, this -- this page, being an excerpt  
11 from Hydro Exhibit 87, page 50, no doubt came to your  
12 attention?

13 MR. DANIEL PEACO: Yes.

14 MR. BYRON WILLIAMS: And you see this  
15 is described as Hydro's DSM IRP process?

16 Do you see that description?

17 MR. DANIEL PEACO: Yes.

18 MR. BYRON WILLIAMS: And I -- I'm going  
19 to explore this for a few moments with you in terms of  
20 your analysis of the Hydro approach to examining the  
21 Need For and Alternatives To.

22 But -- but generally -- and before we  
23 get into the specifics of your examination, if we -- if  
24 we look at what Hydro has depicted here, would you  
25 suggest -- agree that it looks like they've used a

1 single DSM plan to feed into their supply-side option  
2 mixes?

3 MR. DANIEL PEACO: That's what this  
4 depicts, yes.

5 MR. BYRON WILLIAMS: And they're  
6 considering it against -- notionally against a number  
7 of options: different hydro options, different wind  
8 options, gas options, biomass options, and co-  
9 generation options, agreed?

10 MR. DANIEL PEACO: That's what -- yes,  
11 that's what it shows.

12 MR. BYRON WILLIAMS: Ultimately  
13 creating a resource plan with a mixture of hydro, gas,  
14 and DSM. That's what it depicts?

15 MR. DANIEL PEACO: That's my  
16 understanding of it, yes.

17 MR. BYRON WILLIAMS: So I want to use  
18 this picture to -- to discuss certain limitations of  
19 the Hydro Resource Plan as presented in the original  
20 NFAT business case. And I'd ask you to keep in mind  
21 our chicken soup magic vaccine discussion, or your --  
22 your words, your non-material/material discussion.

23 Would you be okay with that, Mr. Peaco?

24 MR. DANIEL PEACO: Okay. I'll -- I'll  
25 -- hang with you.

1 MR. BYRON WILLIAMS: And you don't need  
2 to use chick --

3 MR. DANIEL PEACO: -- hang with you --

4 MR. BYRON WILLIAMS: -- chicken soup.

5 Let's start with DSM. It -- it is La  
6 Capra's analysis that -- that the Hydro resource  
7 planning only involved, in any particular year, one (1)  
8 particular DSM plan, whether it was Power Smart 2012,  
9 or Power Smart 2013.

10 Would that be fair?

11 MR. DANIEL PEACO: Yes, all the -- all  
12 the development plans had the same level of DSM.

13 MR. BYRON WILLIAMS: Okay. So if we  
14 were looking at this funnel, we wouldn't see in here at  
15 this point in time DSM scemar -- Scenarios 1, 2, or 3,  
16 agreed?

17 MR. DANIEL PEACO: So I'm not sure if I  
18 followed your question.

19 MR. BYRON WILLIAMS: Okay. So, sir,  
20 you've confirmed for me at the time that the Hydro  
21 business case was presented for any pre -- for either  
22 the 2012 reference case or the 2013 update, there was  
23 only one (1) DSM plan in play and it was applied  
24 equally to all plans.

25 MR. DANIEL PEACO: Yes.

1 MR. BYRON WILLIAMS: And you're aware,  
2 in February of 2014 Hydro presented three (3)  
3 additional DSM scenarios, being Scenario 1, Scenario 2,  
4 and Scenario 3.

5 MR. DANIEL PEACO: That's correct.

6 MR. BYRON WILLIAMS: It would be your  
7 understanding that for the purposes of the business  
8 case analysis, the earl -- the preliminary analysis or  
9 the -- the filed analysis, those Scenarios 1, 2, and 3  
10 were not considered.

11 MR. DANIEL PEACO: Yes, that's correct.

12 MR. BYRON WILLIAMS: Okay. So I'm  
13 going to write those outside the funnel. And, sir, if  
14 I recall your evidence yesterday in terms of DSM  
15 Scenario 2, you described it as being about four (4)  
16 times the level in the reference case.

17 Does that ring a bell?

18 MR. DANIEL PEACO: Yes, and that's my -  
19 - that's my -- my understanding of how Hydro described  
20 -- characterizes it.

21 MR. BYRON WILLIAMS: And we're going to  
22 come back to this page, but if we could flip for a  
23 moment to Manitoba Hydro Exhibit slide 4.

24 Oh, sorry, I misspoke. Manitoba Hydro  
25 Exhibit 95, slide 4.

1 (BRIEF PAUSE)

2

3 MR. BYRON WILLIAMS: Slide 4. And,  
4 sir, if we focus on the DSM 2 scenario you'll see here  
5 that based upon that analysis filed in -- in this  
6 hearing, Hydro's evidence is that that would move the  
7 need date both for dependable energy and winter peak  
8 capacity out to 2031/'32, agreed?

9 MR. DANIEL PEACO: Yes.

10 MR. BYRON WILLIAMS: And even with  
11 increased pipeline load it would move the dependable  
12 energy date out to 2027/'28, agreed?

13 MR. DANIEL PEACO: That's correct.

14

15 (BRIEF PAUSE)

16

17 MR. BYRON WILLIAMS: And -- and so,  
18 sir, that type of alternative DSM analysis in essence  
19 opens up an important analytical issue in terms of  
20 whether a construction of Keeyask can be deferred out  
21 to the 2027/'28 period, agreed?

22 MR. DANIEL PEACO: With -- with respect  
23 to the need for new dependable energy and capacity  
24 supplies, yes. There -- I mean, obviously advancing --  
25 the advancing of that construction could be done for

1 other economic reasons like export market  
2 opportunities. But in terms of domestic requirements  
3 that would be the case.

4 MR. BYRON WILLIAMS: And it -- it  
5 changes the analytic equation, does it not?

6 MR. DANIEL PEACO: Yes. And -- and  
7 just to -- to be -- to be clear, this outcome is very  
8 similar to the outcome that we saw in our no generation  
9 case where we postulated something that's somewhat  
10 different than this, but it -- it has about the same  
11 effect in moving the -- the year of need for capacity  
12 in -- in dependable energy.

13 MR. BYRON WILLIAMS: And that has now  
14 become this kind of suggested need to analyze this has  
15 become a -- a potential pathway: Pathway 3, as set out  
16 at page 68 of your PowerPoint, La Capra 45.

17 MR. DANIEL PEACO: Well, that was --  
18 Pathway 3 was put out there to say if -- if you  
19 determine that -- if you do the DSM Level 2, if you  
20 move the year nearer need for domestic capa -- capacity  
21 and dependable energy out to 2028 to 2030 time frame,  
22 and then you consider timing Keeyask addition to that  
23 need day, that would be what this pathway would look  
24 like.

25 Obviously, as opposed to Path 1 where we



1 say -- advancing Keeyask, obviously going along with a  
2 -- with a export contract is another plausibility. But  
3 this was -- this pathway would be is if you're doing  
4 Keeyask standalone as was conceived in Plan 2, then the  
5 question is, is there -- is there a domestic -- absent  
6 the transmission and export contracts, is there a  
7 reason to do it before the year of need.

8

9 (BRIEF PAUSE)

10

11 MR. BYRON WILLIAMS: And, sir, that  
12 type of analysis, the deferral analysis, was not  
13 considered in the original business case, presumably  
14 because we were working on -- under the apprehension  
15 that Keeyask was needed for 2022 or 2023, agreed?

16 MR. DANIEL PEACO: My understanding of  
17 why Hydro chose to do those cases, I -- I can't speak  
18 to that. But those are the only cases that were  
19 provided.

20 MR. BYRON WILLIAMS: Okay. Sir, we've  
21 -- we've talked a little bit about the -- how the  
22 absence of DSM alternatives may affect the need  
23 analysis. I -- I want to chat with you a little bit  
24 about how DSM could affect the optimization of  
25 portfolios.

1 Okay. Is that fine with you?

2 MR. DANIEL PEACO: Sure. Fair enough.

3 MR. BYRON WILLIAMS: It is your  
4 understanding that Hydro did not develop assumptions  
5 and perimeters for additional DSM resources in its  
6 original business case and did not incorporate  
7 additional DSM into any of the alternative development  
8 plans?

9 MR. DANIEL PEACO: Yes.

10 MR. BYRON WILLIAMS: And it would be  
11 fair to say that a more robust consideration of DSM in  
12 the alternatives analysis could have led to an  
13 optimization of other scenarios.

14 Would that be fair?

15 MR. DANIEL PEACO: Yes.

16 MR. BYRON WILLIAMS: And just to give  
17 an example of that if we could, if we could turn to  
18 Hydro Exhibit 95, page 130.

19

20 (BRIEF PAUSE)

21

22 MR. BYRON WILLIAMS: Sir, this would be  
23 a -- a slide you would be familiar with from your  
24 review of the record?

25 MR. DANIEL PEACO: Yes.

1 MR. BYRON WILLIAMS: And you see on the  
2 left-hand side, the comparison of Plan 5 versus Plan 14  
3 at base DSM.

4 Do you see that, sir?

5 MR. DANIEL PEACO: I do.

6 MR. BYRON WILLIAMS: And they're --  
7 they're roughly equivalent, correct?

8 MR. DANIEL PEACO: Yes.

9 MR. BYRON WILLIAMS: And, sir, if we  
10 move two (2) columns over to the Level 2 DSM, we see a  
11 -- a dramatic difference, I'll suggest to you, between  
12 the plans due to DSM optimization.

13 Would that be fair?

14 MR. DANIEL PEACO: They -- they could -  
15 - in one (1) case Plan 5 improves somewhat relative to  
16 All Gas and Plan -- Plan 14 obviously erodes by more  
17 than \$300 million.

18 MR. BYRON WILLIAMS: And, likewise,  
19 sir, you'll recall from our discussion -- I don't think  
20 we need to turn there, but certainly from Hydro Exhibit  
21 129-7 this morning, that the economics of Plan 6 as  
22 compared to those of Plan 14, Hydro's Preferred Plan,  
23 become more attractive under DSM Scenario 2, agreed?

24 MR. DANIEL PEACO: The Plan -- Plan 6  
25 would perform more like Plan 5 in this -- if it were on

1 this table than -- than Plan 14, because it -- it only  
2 -- it does not feature Conawapa, and so that we have a  
3 distinction between them.

4 MR. BYRON WILLIAMS: Thank you. Just -  
5 - in the initial business plan, would it be fair to  
6 describe the -- the failure to contemplate all --  
7 alternative DSM scenarios as having a material impact,  
8 both on the need determination and the alternative  
9 analysis?

10 MR. DANIEL PEACO: Yes, I think -- I  
11 think the -- the change in the year of need by  
12 implementing this level of DSM effectively moving it  
13 the better part of a decade is -- is a significant  
14 timing change. And given that some of the plans are  
15 moving relative to one another by \$300 million when  
16 we're looking at plans with benefits of, you know, in -  
17 - in the range of, you know, several hundred million  
18 dollars to a little over a billion dollars, that --  
19 that's a fairly significant ratio of those overall  
20 benefit values.

21 So it -- it's -- and it -- and it  
22 clearly would change -- in some cases it changes the  
23 rank, depending on how you look at the DSM.

24 MR. BYRON WILLIAMS: Now, sir, I'm sure  
25 you had a far more enjoyable conversation this morning

1 with My Learned Friend Mr. Gange.

2 Do you recall that conversation?

3 MR. DANIEL PEACO: Yes.

4 MR. BYRON WILLIAMS: And he is quite  
5 enjoyable.

6 MR. DANIEL PEACO: Okay. I'll take --  
7 I'll take that.

8 MR. BYRON WILLIAMS: And you're aware  
9 that Mr. Gange's client, the Green Action Centre, has a  
10 great deal of interest in -- in pursuing a renewable  
11 portfolio in -- including wind?

12 MR. DANIEL PEACO: I -- I would surmise  
13 that from his cross, yes.

14 MR. BYRON WILLIAMS: Now, sir, the  
15 improved economics of the wind portfolio, wind/gas  
16 portfolio, that -- that you brought forward in this  
17 hearing, would it have taken into account Level 2 DSM?

18 MR. DANIEL PEACO: No. No, all -- all  
19 the development plans that -- that were put forward in  
20 the NFAT prior to -- to these -- these analyses coming  
21 forward were -- were done with the same reference case  
22 DSM.

23 MR. BYRON WILLIAMS: And to your  
24 knowledge, on the record there is no Level 2 DSM --  
25 analysis of Level 2 DSM coupled with the wind plan?

1 MR. DANIEL PEACO: Not to my knowledge,  
2 no.

3 MR. BYRON WILLIAMS: And would it be  
4 fair to say for -- for that renewable portfolio, or  
5 partially renewable portfolio, sir, that it, too, may  
6 have been disadvantaged by the non-inclusion of DSM  
7 within its portfolio?

8 MR. DANIEL PEACO: It's sure -- surely  
9 conceivable.

10

11 (BRIEF PAUSE)

12

13 MR. BYRON WILLIAMS: Going back to CAC  
14 Exhibit 45-13, sir, would it be fair to say that one  
15 (1) renewable that we do not see within that funnel is  
16 solar?

17 MR. DANIEL PEACO: I -- I don't see it  
18 there.

19 MR. BYRON WILLIAMS: And it was La  
20 Capra's evidence, I'll suggest to you, that solars --  
21 the solar renewable option was screened out of the  
22 alternative's analysis based on today's costs with no  
23 consideration being given in the NFAT screening  
24 analysis to projected future significant cost declines?

25 MR. DANIEL PEACO: That's correct.

1 MR. BYRON WILLIAMS: Just to look at  
2 the big picture for solar, sir, it would be fair to say  
3 that it has experienced significant declines in cost  
4 over the last fifteen (15) years, correct?

5 MR. DANIEL PEACO: Yes.

6 MR. BYRON WILLIAMS: And those --

7 MR. DANIEL PEACO: Fifteen (15), yeah.

8 MR. BYRON WILLIAMS: And those costs  
9 declines, it was the evidence of La Capra, continued  
10 into the 2013 year, agreed?

11 MR. DANIEL PEACO: They've been --  
12 they've been prominent very recently, yes.

13 MR. BYRON WILLIAMS: And it's also your  
14 view that we -- that we can expect those costs to  
15 decline out to 2020.

16 Would that be fair? The -- the more  
17 likely case?

18 MR. DANIEL PEACO: Well, I -- I think  
19 there's -- there's a lot of expectation of improvement  
20 in the technology. And -- and 'expectation' is -- is  
21 probably not exactly the word I would use, but -- but  
22 looking at a case and say if that happens does it  
23 change your planning assumptions, would be something  
24 that you'd -- you'd be interested in -- you might be  
25 interested in knowing, because of the -- because of the

1 information out there suggesting that there would be  
2 there's -- there's potential for there to be  
3 substantial improvement over time.

4 MR. BYRON WILLIAMS: And in -- and  
5 indeed there -- there's evidence that you've cited in  
6 your evidence suggesting that -- that at some future  
7 point solar could be extremely cost competitive with  
8 other energy resources?

9 MR. DANIEL PEACO: Yeah.

10 MR. BYRON WILLIAMS: And it would be  
11 fair to say -- and -- and if you need a reference, sir,  
12 it's page 2-18 of your evidence -- that along with wind  
13 La Capra describes solar as being one (1) of the  
14 technologies that is handicapped by the Hyd -- Hydro  
15 analysis? Page 2-18 at the top, if you're looking.  
16 Appendix 2.

17 MR. DANIEL PEACO: Yeah, it --  
18 essentially they were -- in their screening process,  
19 they -- they looked at it and ruled it out without  
20 considering. And I guess the thing that's particularly  
21 important that -- that we note there, the consideration  
22 is given that they're looking at a seventy-eight (78)  
23 year planning horizon. If you're looking at long-term,  
24 as opposed to, say, what am I going to do the next five  
25 (5) years, you would say -- you know, you might use



1 information based upon what you know today.

2 But if you're -- if you're making a plan  
3 where the benefits largely accrue in forty (40), fifty  
4 (50), sixty (60) years from now, you'd have to say is  
5 there -- is there something, you know, in the category  
6 of emerging technologies that could undercut that  
7 benefit package. And that's -- so that's -- that's the  
8 -- the concept that we're driving at here.

9 MR. BYRON WILLIAMS: And I appreciate  
10 that. And just going back to my chicken soup question,  
11 I think we've agreed that the -- the treatment of DSM  
12 had a material effect on the -- the ultimate anal --  
13 analysis?

14 MR. DANIEL PEACO: Right.

15 MR. BYRON WILLIAMS: In terms of the --  
16 the screening out of solar, how would you characterize  
17 the materiality of that, sir?

18 MR. DANIEL PEACO: It's hard to -- it's  
19 hard to -- we -- we don't have any hard information on  
20 the potential on how would -- the application would be  
21 in -- in Manitoba. So there -- I don't believe there's  
22 enough information to know whether it was material.

23 But I think the -- the point you're just  
24 saying here is having some information that would sort  
25 of probe that question, to say is there -- is -- if --

1 if some of this expectation, or this anticipation of  
2 improvement in solar were to come to pass, at what  
3 point would that -- what point would that have to reach  
4 in order for it to be in the pos -- in the position to  
5 offer a material change. And if the answer is it would  
6 have to be something that's beyond what you can  
7 imagine, then -- then you're -- then -- then it  
8 wouldn't be material.

9 But I think that that would be one (1)  
10 of the emerging technology tests that you'd want to  
11 apply to a plan that -- that has this kind of a -- a  
12 time horizon to it.

13 MR. BYRON WILLIAMS: Okay. So that --  
14 that would have been an option that you would have at  
15 least like to have seen explored?

16 MR. DANIEL PEACO: Yeah, I think -- you  
17 know, the -- there should have been some exercise to  
18 sort of test, you know, is -- is there any way that --  
19 that solar could emerge as being something that's going  
20 to undercut what we think is a good plan, absent that  
21 being in the mix.

22 MR. BYRON WILLIAMS: And -- and just so  
23 I understand solar in the mix, sir, that wouldn't  
24 necessarily mean a plan dominated by solar; it -- it  
25 could -- it could involve a plan with solar in -- in

1 combination with other technologies, renewable or non-  
2 renewable, and DSM?

3 MR. DANIEL PEACO: That's correct.

4 MR. BYRON WILLIAMS: And so conceivably  
5 you could have had other alternatives that were both  
6 cost con -- cost competitive, but also environmentally  
7 competitive with the -- with the -- the hydro dominated  
8 plan?

9 MR. DANIEL PEACO: Perhaps, yeah.

10 MR. BYRON WILLIAMS: I think you've had  
11 probably as much discussion after dealing with Mr.  
12 Gange as you wanted, in terms of -- of wind, but the --  
13 would I be fair in suggesting that the treatment of  
14 wind in the initial analysis was -- let me try this  
15 again.

16 You went over with Mr. Gange your  
17 differences with Manitoba Hydro in the treatment of  
18 wind in the original business case analysis, agreed?

19 MR. DANIEL PEACO: Yes.

20 MR. BYRON WILLIAMS: And it would be  
21 fair to say that -- that what I'll -- I'll characterize  
22 as prejudicial treatment could have a material impact  
23 upon the business case?

24 MR. DANIEL PEACO: Well, obviously, we  
25 illustrated with a -- with a alternative set of

1 assumptions that we produced, that those assumptions  
2 were sufficient to take the wind case from being dead  
3 last in their list to something that was better than  
4 the Gas Plan, and -- and particularly with the change  
5 in the -- in the cost in the -- in the hydro plans  
6 economically competitive with the others. And so the -  
7 - what we felt is that by testing that -- that  
8 alternative set -- set of assumptions that we  
9 postulated showed enough improvement in the plan to  
10 make it in some sort of parity with the other plans  
11 that we're being considered.

12 MR. BYRON WILLIAMS: Okay. Thank you.  
13 I -- I think I have your points on -- on gas and  
14 import, so I won't walk through the same conversation  
15 with you. I have some short snappers, a bit of a  
16 change of pace, and I'd like --

17 MR. DANIEL PEACO: Should I get up and  
18 stretch first?

19 MR. BYRON WILLIAMS: Now, if we can  
20 turn to La Capra Exhibit 45, slide 10, at the -- the  
21 third bullet.

22 Sir, you make the point that a full  
23 update of the PDP economics is not available, agreed?

24 MR. DANIEL PEACO: Yes.

25 MR. BYRON WILLIAMS: And -- and we've

1 had a bit of a conversation about this before. I just  
2 want to make sure my client understands your point.  
3 Does La Capra have enough information on the  
4 implications of the updated capital and DSM to have  
5 confidence in its analysis of the plans?

6

7 (BRIEF PAUSE)

8

9 MR. DANIEL PEACO: This -- what we --  
10 in our presentation we attempted to characterize every  
11 ounce of information that we have, or we can -- or we  
12 can infer from what -- what's been done today to -- to  
13 characterize our best understanding of where that  
14 leaves us, including -- the waterfall chart was our  
15 attempt to cobble together inferring from cases that  
16 have been done, how that change is likely to occur.  
17 That's the best information we have. A -- I have no  
18 reason to think it's unreasonable but it's not based  
19 upon a full sort of -- a full redo with -- of -- of the  
20 -- of the plan analysis that would be comparable to the  
21 -- the analysis of the fifteen (15) plans that Hydro  
22 did when they -- when they included -- filed their  
23 NFAT.

24 So our only point here is to say, We --  
25 we're making our best effort to share with the panel

1 our best understanding of where those economics are  
2 heading with the information we have. And with the  
3 qualifier that, in an ideal world, we would have hit  
4 redo on the analysis, so we'd actually see what the  
5 plan analysis was -- was like.

6 I -- you know, with the number of  
7 changes that have occurred, the -- the set of analyses  
8 that are done and the inferences we have to make are --  
9 are probably less than satisfying in terms of piece of  
10 information to rely on to make a decision of this  
11 magnitude. But -- but we wanted to at least give an  
12 indicator of -- with the information at hand what --  
13 what do we -- what do we believe the best information  
14 available is.

15 MR. BYRON WILLIAMS: And I'm certainly  
16 not critical of that point. You said "the number of  
17 changes," but might you have phrased it better and  
18 said, The number and materiality of the changes, sir?

19 MR. DANIEL PEACO: Yeah, and the -- the  
20 intent we -- with our initial waterfalls and -- and the  
21 discussion of where we saw the case travel, having the  
22 -- the value of the Preferred Development Plan move to  
23 the point of being beneficial in the excess of a  
24 billion dollars to being negative is clearly a  
25 substantial change in the outlook for that plan.

1 MR. BYRON WILLIAMS: Okay. Thank you.

2 Short snapper number 2, page -- slide 26, the last --  
3 last bullet.

4 You make the suggestion that these cases  
5 show import limitations -- I'll insert the word 'as' --  
6 as a factor in the economics.

7 Do you see that?

8 MR. DANIEL PEACO: Yes.

9 MR. BYRON WILLIAMS: And to clarify for  
10 our client, are you referring to the tie-line  
11 limitation or the reliability criteria limitation, or  
12 both?

13 MR. DANIEL PEACO: It's perhaps some of  
14 both. But I think, in particular, looking at these  
15 cases we could observe, for example, comparing the --  
16 the gas plans to the No Generation Plan, we can see how  
17 the expanded access to imports improves the economics.  
18 And I think that using gas to the extent that it --  
19 that -- that the -- either of the -- either of the gas  
20 portfolios do is -- is exacerbated by the fact as you  
21 build gas there's -- there's very limited opportunities  
22 to supplement that with imports.

23 When if -- with the -- with the cases  
24 where there was the Preferred Development Plan, or --  
25 or the -- the no gen case, the cases with expanded

1 transmission import capability, showed added benefit  
2 during dry conditions to supplement the gas and -- and  
3 undercut that. So that was the observation.

4 MR. BYRON WILLIAMS: Okay. So -- and -  
5 - and we'll come to slide 30 in a couple moments. But  
6 -- so primarily that was focussed on the -- the tie-  
7 line limitation and the opportunity to improve the  
8 economics through enhanced importing transmission?

9 MR. DANIEL PEACO: Yes.

10 MR. BYRON WILLIAMS: Slide 67, please,  
11 the second bullet.

12 You make the reference to defer cases  
13 showing similar N -- NPVs to advance cases, correct?

14 MR. DANIEL PEACO: Yes.

15 MR. BYRON WILLIAMS: And could you, for  
16 the benefit of my client and our analyst Mr. Harper,  
17 clarify what you mean by the defer cases?

18 MR. DANIEL PEACO: Yeah. They're -- so  
19 there -- there's two (2) cases that were included in  
20 the initial submission. You have -- where is it? Is  
21 it seven (7) and ten (10)? No.

22

23 (BRIEF PAUSE)

24

25 MR. BYRON WILLIAMS: Mr. Peaco, if it -



1 - if you'd like -- if you can answer that right now,  
2 great. Oh, you can?

3 MR. DANIEL PEACO: Well, I was trying  
4 to recall, and I was having trouble. But there are  
5 cases with different timings of Conawapa. And we --  
6 when you compare them and say, Well, the only thing  
7 that's different is the timing of Conawapa, we looked  
8 at those to say, you know, does the economics of the  
9 plan change materially with the delay? And we were --  
10 so imperfect, because we don't have exactly the case  
11 that says, Do Conawapa 'X' versus 'Y'. But we were  
12 inferring from cases where they were different to see  
13 whether that timing difference was material to the  
14 economics, and we didn't -- we weren't seeing them --  
15 you know, a big change in the present value of the  
16 plans with a delay.

17 In the case of Keeyask, we have only --  
18 we have only one (1) case in here which is by itself,  
19 Keeyask22. I think I described yesterday, you may  
20 recall, that in the interest of understanding that  
21 case, we -- we took the -- the detailed results from  
22 Plan 1 and Plan 2, and combined those in a way to give  
23 us some insight as to what a delay Keeyask result would  
24 look like.

25 And when we did that, we found that a --

1 that a plan that had Keeyask in '28 with -- with gas  
2 first was about the same result as the Plan 2. So  
3 that's -- that's what we're referring to there.

4 So we inferred as best we could from the  
5 information that was in these plans as to whether there  
6 was a material advantage or disadvantage to timing on  
7 Keeyask independent of the export contracts, which is  
8 obviously what Plan 2 contemplates.

9 MR. BYRON WILLIAMS: Thank you. And  
10 just to make sure I -- I have your point, in terms of  
11 Conawapa, in terms of the defer cases, you're referring  
12 to those that have a start date later than 2026?

13 MR. DANIEL PEACO: Yes.

14 MR. BYRON WILLIAMS: And in terms of  
15 Keeyask, the analysis you undertook, which you  
16 described yesterday, was you looked at the results of  
17 Plan 2, and then drawing some insights from a more  
18 detailed examination of Plan 1 and Plan 2, you  
19 constructed a Keeyask28 scenario?

20 MR. DANIEL PEACO: Yes.

21 MR. BYRON WILLIAMS: And that Keeyask28  
22 scenario is the other defer case that you're referring  
23 to?

24 MR. DANIEL PEACO: That's right. And  
25 again that's -- that's in the category of what we can

1 infer from information we have.

2 MR. BYRON WILLIAMS: Well, let's take  
3 that point one (1) step further. How important would  
4 it be to look more deeply into the pathway where  
5 Keeyask is deferred out to 2028?

6 MR. DANIEL PEACO: I guess that's how  
7 important -- that's more for the panel to judge than  
8 for me as to how important it is to them. But the --  
9 the information -- you know, we rec -- our sense, we  
10 did that analysis because we received interrogatory  
11 questions along those lines, and we -- and we realized  
12 that, particularly with the introduction of DSM Plan 2,  
13 that that was something that was -- it's a logical  
14 question to ask: What -- you know, what does that do  
15 with respect to the timing of Keeyask? And if -- if  
16 you're contemplating as -- one of Hydro's paths is --  
17 is Keeyask alone, then the question is what timing.

18 MR. BYRON WILLIAMS: Okay. Thanks. I  
19 think my last -- second last short snapper, slide 71,  
20 La Capra Exhibit 45, you portrayed the results for  
21 Plans 3, 5, 16, and 17, correct?

22 MR. DANIEL PEACO: Yes.

23 MR. BYRON WILLIAMS: Is there a reason  
24 Plan 6 was not included?

25 MR. DANIEL PEACO: We -- as you went --

1 you discussed with Mr. Athas, we did not have that  
2 information.

3 MR. BYRON WILLIAMS: Okay.

4 MR. DANIEL PEACO: That was -- that was  
5 our initial mission, but then we realized we didn't  
6 have the data. The one thing we did -- we do say is,  
7 at least for purposes of gross comparisons, Plan 5 and  
8 6, in -- in many of the cases, performs similarly  
9 enough that to first order, the results you see here  
10 for Plan 5, Plan 6 would come somewhere in the  
11 neighbourhood of that.

12

13 (BRIEF PAUSE)

14

15 MR. BYRON WILLIAMS: Fair enough. But  
16 the -- the differences between Plan and 5 -- Plan 5 and  
17 Plot -- Plan 6 invite, or offer some insight into the -  
18 - the value of the WPS sale, do they not?

19 MR. DANIEL PEACO: The WPS sale in  
20 conjunction with the -- the Hydro investment in the  
21 transmission, yes.

22 MR. BYRON WILLIAMS: Finally, just on  
23 the short snappers and then after that, Mr. Chair, I do  
24 have a few more question, but not that, many you'll be  
25 relieved to know.

1 MR. CHAIRPERSON: I think you missed  
2 that, Mr. Peaco. They're more like short punts than  
3 they are short snappers.

4 MR. BYRON WILLIAMS: Well, here's a  
5 longer snapper, Mr. Peaco. Slide 30, you discussed  
6 this at length with the Chair yesterday, and I just  
7 want to make sure that -- that I understand this.

8 Am I correct that's the -- the analysis  
9 portrayed on slide 30 examines the impact of two (2)  
10 factors affecting imports: the inclusion of the 750  
11 megawatt interconnection and -- and the relaxation of  
12 the limit on using imports as a source of dependable  
13 energy for the purposes of meeting the energy  
14 reliability planning criteria?

15 MR. DANIEL PEACO: Yes.

16 MR. BYRON WILLIAMS: And the red line  
17 is your No New Gen -- Generation option, correct?

18 MR. DANIEL PEACO: That's the -- the  
19 results here -- you may recall the discussion  
20 yesterday. We re -- we received data from Manitoba  
21 Hydro on each of these cases that was disaggregated.  
22 Much of the analysis originally provided for the SPLASH  
23 results, SPLASH model results, were presented as the  
24 average of ninety-nine (99) different runs with  
25 different water configurations.

1                   So we actually got the data for each of  
2 those ninety-nine (99) runs. And what we -- what we  
3 looked at in having that granularity, we said, What's  
4 the -- what's the maximum extent to which imports show  
5 up, in any of those ninety-nine (99) draws, so that we  
6 could sort of see the -- the extent to which these  
7 plans might -- might or might not be looking at  
8 imports.

9                   So it's not a -- it's not an average  
10 condition. This is sort of the -- the boundary  
11 condition. But at least we wanted to see to what  
12 extend the import limits were being exercised.

13                  MR. BYRON WILLIAMS:    Okay. And just so  
14 I understand it, so the red presents the results in --  
15 or the -- your expectations in -- in terms of the La  
16 Capra No New Generation?

17                  MR. DANIEL PEACO:     Yes.

18                  MR. BYRON WILLIAMS:    And the grey  
19 represents the Preferred Development Plan?

20                  MR. DANIEL PEACO:     That's correct.

21                  MR. BYRON WILLIAMS:    And so the bump I  
22 see in -- from 4,000 gigawatt hours to over 6,000  
23 gigawatt hours on or about 2019/2020, for the grey  
24 plan, or the Preferred Plan, -- would be the -- the new  
25 interconnection?

1 Is that right?

2 MR. DANIEL PEACO: Yes, in conjunction  
3 with -- it -- it comes in at the same time that Keeyask  
4 is introduced into the plan.

5 MR. BYRON WILLIAMS: And if I go across  
6 to 2029, that's when the introduction of the -- the new  
7 transmission for the La Capra No New Generation comes  
8 into effect?

9 MR. DANIEL PEACO: That's right. So  
10 the tra -- and as we talked about earlier, because of  
11 our assumptions about fuel switching and DSM, that --  
12 in that case, it extended the year of need to 2029.  
13 And so the timing of the new transmission was at that  
14 date for that reason.

15 MR. BYRON WILLIAMS: Okay. Just so I  
16 understand the -- the -- obv -- obviously on the red  
17 scenario, you're going not from four thousand (4,000)  
18 to six thousand (6,000), but from four thousand (4,000)  
19 to -- to over 10,000 gigawatt hours, correct?

20 MR. DANIEL PEACO: Correct.

21 MR. BYRON WILLIAMS: And part of that  
22 is the influence of the -- the new transmission line,  
23 and part of that is the influence of the relaxation of  
24 the 10 percent limit?

25 MR. DANIEL PEACO: Yes.

1 MR. BYRON WILLIAMS: So is -- is the  
2 place on the line where the red intersects the grey --  
3 can I understand that to be the impact of the  
4 transmission line?

5 Sir, I'm trying to get a -- a sense of  
6 the relative impact of the interconnection versus...

7 THE CHAIRPERSON: Wouldn't it be the  
8 relaxation of the import limit?

9 MR. BYRON WILLIAMS: I don't know.  
10 I'm...

11 MR. DANIEL PEACO: I -- I got lost at  
12 the intersection between the two (2).

13 MR. BYRON WILLIAMS: Okay, sorry. Sir,  
14 I'm trying to get a sense of what's the relative impact  
15 of the relaxation of the import limit versus what's the  
16 relative impact of the transmission line?

17 MR. DANIEL PEACO: Oh, that I don't  
18 know. And I -- I would not sort of suggest that you  
19 merely take the difference between the grey and the  
20 red, because the -- I mean, clearly from this data it  
21 shows that the Preferred Development Plan is taking  
22 advantage of -- of the availability of the extra import  
23 capa -- capability in dry years to supplement Hydro in  
24 those years.

25 It -- it's not clear to me that it's



1 necessarily max -- you know, maxing out there by  
2 clearly util -- utilizing it significantly more than --  
3 than the Gas Plan is able to. But we didn't -- you  
4 know, we didn't have the luxury of doing a test as  
5 saying transmission line 10 percent, transmission line  
6 20 percent, so I really -- you know, it's -- it's -- we  
7 had -- we had one (1) arrow to shoot to test a bunch of  
8 things and so we included them together. So we don't  
9 have the information all bundled, that question.

10 MR. BYRON WILLIAMS: Just turning to La  
11 Capra Exhibit 12-2, your addendum.

12

13 (BRIEF PAUSE)

14

15 MR. BYRON WILLIAMS: Actually, you know  
16 what, I've ask -- I asked those questions earlier. I  
17 apologize. Appendix 9B, I have just -- if we can turn  
18 to page 9B-22.

19

20 (BRIEF PAUSE)

21

22 MR. BYRON WILLIAMS: And I want to show  
23 Figure 9.94. That's right there. That's lovely right  
24 there.

25 And, sir, just a -- a small question of

1 clarification, I see for Plan 16 you have the figure of  
2 -- at seventy-eight (78) years an NPV of minus one  
3 hundred and thirty-six (136).

4 Am I right?

5 MR. DANIEL PEACO: Yes.

6 MR. BYRON WILLIAMS: If -- if you could  
7 go to Figure 9 -- 9-5 on the next page, right there.  
8 You'll see the -- for Plan 16 in the top right corner  
9 of the -- or the -- in the right corner for ref/ref/ref  
10 NPV, the -- the figure is 116 million -- excuse me, one  
11 hundred (100) -- minus 111 million, correct?

12 MR. DANIEL PEACO: Yes.

13 MR. BYRON WILLIAMS: And, sir, we  
14 looked at the -- the other two (2) figures being for  
15 thirty-five (35) years and for fifty (50) years and the  
16 numbers were the -- the same for Plan 16.

17 Is there any explanation or could you  
18 find out why the figure is a \$5 million difference  
19 between the Figure 9.94 and Figure 9.95?

20

21 (BRIEF PAUSE)

22

23 MR. JOHN ATHAS: Just for a -- just for  
24 a quick clarification, I don't think I'm there yet and  
25 I have an answer to your question, but you said the

1 difference is five (5) between --

2 MR. BYRON WILLIAMS: Oh, I misspoke,  
3 sir. I should have said 25 million. And, sir, what  
4 I'm referring you to is for Plan 16 on page 9b-22. At  
5 seventy-eight (78) years I see a minus 136 million for  
6 --

7 MR. JOHN ATHAS: And -- and the minus  
8 one eleven (111) on --

9 MR. BYRON WILLIAMS: And -- and the  
10 minus one eleven (111), the -- the \$25 million  
11 difference, sir.

12 MR. JOHN ATHAS: Those -- those should  
13 be the same number. I'm not sure what the difference  
14 is. So I have to -- I have to check on that for you.

15 MR. BYRON WILLIAMS: So I'll ask you to  
16 undertake to provide the correct figure for Figure 9. -  
17 - or 9-94 and Figure 9-95 relating to the seventy-eight  
18 (78) year NVP for Plan 16. And then if there are any  
19 necessary reconciliations, you'll undertake to do that?

20 MR. DANIEL PEACO: Yes.

21 MR. BYRON WILLIAMS: And I see Mr.  
22 Monnin nodding his head.

23 MR. CHRISTIAN MONNIN: It's not because  
24 I'm falling asleep. I accept the -- the undertaking.

25

1 --- UNDERTAKING NO. 106: La Capra to provide the  
2 correct figure for Figure  
3 9-94 and Figure 9-95  
4 relating to the seventy-  
5 eight (78) year NVP for  
6 Plan 16; and then if there  
7 are any necessary  
8 reconciliations to do that  
9

10 CONTINUED BY MR. BYRON WILLIAMS:

11 MR. BYRON WILLIAMS: On pages 23 and 24  
12 of Appendix 9B I see 'S' curves comparing Plans 1, 17,  
13 and 16, correct? On the various figures, being Figure  
14 9.95, 9.96, and 9.97?

15 MR. DANIEL PEACO: Yes.

16 MR. BYRON WILLIAMS: Would I be correct  
17 in suggesting that these 'S' curves were -- were pre --  
18 developed using a -- La Capra's regret approach?

19 MR. JOHN ATHAS: They -- they used the  
20 La Capra methodology we described that has been  
21 categorized by others as a regret approach.

22 MR. BYRON WILLIAMS: Oh, I -- I didn't  
23 mean to be pejorative, sorry. The La Capra  
24 methodology. And I'll withdraw the word 'regret'. But  
25 there has been some debate between you and your friends

1 at Hydro about which approach should be used in terms  
2 of the 'S' curves.

3 Would that be fair?

4 MR. JOHN ATHAS: Yes.

5 MR. BYRON WILLIAMS: And given that  
6 debate I wonder if you would undertake to provide the  
7 same graphs using Manitoba Hydro's methodology?

8 MR. DANIEL PEACO: These two (2)  
9 graphs?

10 MR. JOHN ATHAS: Yes, we can do that.

11

12 (BRIEF PAUSE)

13

14 MR. CHRISTIAN MONNIN: We'll accept  
15 that undertaking.

16 MR. BYRON WILLIAMS: Before you finish,  
17 Mr. Monnin, in -- in doing so would you -- if there are  
18 -- if there are any observations as to whether this  
19 alternative methodology would change your conclusions,  
20 if you'd be prepared to offer a commentary on how, if  
21 at all, they affect your conclusions?

22 MR. JOHN ATHAS: Well, I -- I think  
23 with -- with the way you've asked the question, it's  
24 not a problem. But the -- but as I think we've  
25 mentioned and in discussion and, like, they try to

1 answer two (2) different questions. So -- so to the --  
2 to the extent that our observations are on the question  
3 that we asked, using their methodology isn't going to  
4 change our perspective on the question we asked.

5 MR. BYRON WILLIAMS: Fair enough.  
6 Well, I -- maybe I worded it cleverly then. But you'll  
7 -- you'll provide the alternative Hydro methodology?

8 MR. JOHN ATHAS: Yes.

9 MR. BYRON WILLIAMS: Okay.

10

11 --- UNDERTAKING NO. 107: La Capra to provide 'S'  
12 curve graphs using Manitoba  
13 Hydro methodology

14

15 MR. BYRON WILLIAMS: And just one (1)  
16 second, Mr. Chair.

17

18 (BRIEF PAUSE)

19

20 MR. BYRON WILLIAMS: I just have a  
21 couple questions about the financial analysis. If we  
22 can turn to pa -- Appendix 10, page A-7, footnote 4.

23

24 (BRIEF PAUSE)

25

1 MR. BYRON WILLIAMS: You -- you see  
2 here in footnote 4 a reference to a IFPS and a  
3 financial model?

4 MR. JOHN ATHAS: Yes.

5 MR. BYRON WILLIAMS: And is that your  
6 understanding of the -- the model Manitoba Hydro uses  
7 for its interactive financial planning?

8 MR. JOHN ATHAS: yes.

9 MR. BYRON WILLIAMS: And are you  
10 suggesting, sir, in this footnote that this model has  
11 been surpassed by -- or supplanted by more  
12 sophisticated programming?

13 MR. JOHN ATHAS: I might use the word  
14 "intricate" instead of "sophisticated." I'm not sure  
15 how I would apply that to the -- that word to a model.

16 MR. BYRON WILLIAMS: Fair enough. In -  
17 - in terms of the more intricate current methodolo --  
18 technology, sir, would it be -- would it be fair to  
19 suggest that it -- it might lead to -- well, what would  
20 be the implications of -- of a different technology?  
21 Would it be speedier assessment? What -- what would it  
22 be; more complicated assessment, sir?

23 MR. JOHN ATHAS: It depends on the  
24 question. If you -- if you ask questions that require  
25 broad changes and you have to change a lot of things

1 from a more intricate model, it'll mean -- it'll be --  
2 it'll be slower to do than a -- than a simpler model.  
3 If it's -- if you're look -- if you're looking for a  
4 very refined number of -- to make a very distinct  
5 decision, it might be more accurate.

6 MR. BYRON WILLIAMS: Okay. Just finally  
7 turning you to page 10A-19, Figure 10-8, you set out  
8 here your calculations in terms of total annual revenue  
9 increases by development plan 2012/'13 to 2031/'32,  
10 agreed?

11 MR. JOHN ATHAS: Yes.

12 MR. BYRON WILLIAMS: And we're still  
13 awaiting Hydro revised financial analysis, is that your  
14 understanding?

15 MR. JOHN ATHAS: Yes.

16 MR. BYRON WILLIAMS: Does La Capra  
17 anticipate updating this figure upon receipt of the  
18 revised Manitoba Hydro financial analysis?

19 MR. JOHN ATHAS: It's not on our to-do  
20 list right now.

21 MR. BYRON WILLIAMS: How big is your  
22 to-do list, sir?

23 MR. JOHN ATHAS: It's a very dynamic  
24 list, given the proceedings.

25 MR. BYRON WILLIAMS: I'm just trying to



1 --

2 MR. JOHN ATHAS: Right now -- right now  
3 we -- we are at -- at the stage of the hearings we do -  
4 - we have not -- our -- our to-do list was minimal  
5 walking in here on Monday.

6 MR. DANIEL PEACO: Put another way --  
7 put another way, we -- we don't have a specific list of  
8 additional work to do after the hearings in terms of  
9 further updating our analysis of this, subject to  
10 whatever we -- whatever is defined in -- in  
11 undertakings or other requests that we would get from  
12 the PUB going forward.

13 MR. BYRON WILLIAMS: Okay.

14 MR. DANIEL PEACO: So, I mean, I'm not  
15 trying to be difficult but -- but we don't want to sort  
16 of -- we don't want to commit to doing substantial  
17 additional analysis without -- without understanding  
18 that that's -- that's what ever -- you know, the PUB  
19 wishes us to do.

20 MR. BYRON WILLIAMS: Okay. Perhaps  
21 I'll discuss this, as well as figures -- some other  
22 figures with counsel off line. I'd certainly like to  
23 on behalf of our clients thank La Capra for the  
24 fantastic work that you've -- you've done in this  
25 proceeding. We're very grateful. It's been a great

1 resource for the intervenors, and we're very  
2 appreciative. And we thank you for your time today.

3 MR. DANIEL PEACO: You're welcome.

4 THE CHAIRPERSON: Mr. Williams, I know  
5 you're not feeling well, so hence your numerous  
6 references to chicken soup, so I -- I hope that you  
7 have time to -- to take some of that this afternoon.

8 MR. BYRON WILLIAMS: I -- I intend to,  
9 thank you, sir.

10 THE CHAIRPERSON: I think it's an  
11 appropriate time to take a break before we start the  
12 cross by Me. Hacaault.

13

14 --- Upon recessing at 2:12 p.m.

15 --- Upon resuming at 2:31 p.m.

16

17 THE CHAIRPERSON: I believe that we're  
18 ready to resume the proceedings, so I'll turn the  
19 microphone over to Me. Hacaault.

20

21 CROSS-EXAMINATION BY MR. ANTOINE HACAULT:

22 MR. ANTOINE HACAULT: Good afternoon,  
23 everybody. I'll start by backing up just a little bit  
24 with respect to what we're looking at in -- as far as  
25 the overall plan. And if Diana could bring up Manitoba

1 Hydro's business case. The first slide would be  
2 Chapter 5, page 3 of 61.

3 So when we're talking about various  
4 alternatives we're talking about those alternatives in  
5 the context of the generation sources that exist. And,  
6 Diana, if you could just bring it up a bit.

7 So -- so, firstly, that's where we're  
8 starting from, correct?

9 MR. DANIEL PEACO: Yes.

10 MR. ANTOINE HACAULT: And we've heard  
11 throughout this hearing, and if you look at hydro  
12 generation total, we've talked about dependable energy  
13 and -- and how Manitoba Hydro calculates that  
14 dependable energy.

15 And the existing system has some 22,420  
16 gigawatt of dependable energy, correct?

17 MR. DANIEL PEACO: Gigawatt hours, I  
18 think?

19 MR. ANTOINE HACAULT: Gigawatt hours,  
20 yeah.

21 MR. DANIEL PEACO: I hate to be picky,  
22 but...

23 MR. ANTOINE HACAULT: No, absolutely.  
24 But this hydraulic system on average produces over  
25 31,000 gigawatt hours of energy, correct?

1 MR. DANIEL PEACO: Yes, that's what it  
2 says.

3 MR. ANTOINE HACAULT: And when we are  
4 doing all these analysis, we're not doing the  
5 calculations based on what the dependable is going to  
6 give us, correct?

7 MR. DANIEL PEACO: The economic  
8 analysis considers the dependable energy number for  
9 purposes of reliability planning. But -- but the  
10 entirety of the energy production is considered in --  
11 in their analysis, looking at the ninety-nine (99)  
12 different perturbations of stream flow.

13 MR. ANTOINE HACAULT: So that all the -  
14 - when we're going to be looking at graphs on  
15 dependable, there's nearly a 50 percent increase in --  
16 in the amount of energy that's going to be -- have to  
17 be disposed somewhere. And that forms part of the  
18 economic --

19 MR. DANIEL PEACO: In the wettest -- in  
20 the wettest years, yes.

21 MR. ANTOINE HACAULT: Now, the wettest  
22 years would bring us right up to the maximum, at 37,000  
23 gigawatt hours, correct? So when we consider the  
24 analysis, we're considering the good years and the bad  
25 years.

1 But we've got a lot of opportunity  
2 product that is pretty important in our calculations,  
3 correct?

4 MR. DANIEL PEACO: Yes.

5 MR. ANTOINE HACAULT: Some of it'll be  
6 off peak and some will be on peak, correct?

7 MR. DANIEL PEACO: Correct.

8 MR. ANTOINE HACAULT: And that part of  
9 the energy is not part -- a part of the energy that  
10 we're -- we can talk about doing firm contracts on a  
11 long-term basis, correct?

12 MR. DANIEL PEACO: The long-term form.  
13 I think that there are sort of intermediate steps along  
14 the way where those -- tho -- there's opportunities for  
15 shorter-term firm contracts, but not multiple years.

16 MR. ANTOINE HACAULT: Understood. And  
17 we've had some talk about, in the hearing, about how to  
18 mitigate the uncertainty with respect to adding future  
19 generation. And part of the discussion was, Well, we  
20 can enter into some long-term contracts, maybe not over  
21 the life of the generating station.

22 But with respect to the dependable  
23 portion, we can do some mitigation by entering into  
24 context -- contracts, such as the WPS contract that  
25 we're talking about, correct?

1 MR. DANIEL PEACO: Correct.

2 MR. ANTOINE HACAULT: Now, Diana, if  
3 you can go to Chapter 2, page 4 of 59. The one (1)  
4 generating station that we've been talking about to a  
5 certain eme -- quite a bit is the Keeyask generating  
6 station.

7 And if we go further down in the graph,  
8 we'll see again the difference between the annual  
9 dependable energy of that facility being about 3,000  
10 gigawatt hours, correct?

11 MR. DANIEL PEACO: Yes.

12 MR. ANTOINE HACAULT: And the average  
13 annual energy being higher than that, at 4,400 gigawatt  
14 hours, correct?

15 MR. DANIEL PEACO: Correct. Yes.

16 MR. ANTOINE HACAULT: And finally, with  
17 respect to -- at page 38 of 59 of that same chapter,  
18 with respect to Conawapa, the dependable energy is some  
19 4,650 gigawatt hours.

20 And depending on your metric, the  
21 average annual energy is somewhere between 7,000  
22 gigawatt hours and 8,000 gigawatt hours, correct?

23 MR. DANIEL PEACO: Correct.

24 MR. ANTOINE HACAULT: So with respect  
25 to the Conawapa, depending on the view that you take,

1 you've got somewhere around 3,000 gigawatt hours over  
2 the dependable energy metric that you've got to deal  
3 with somehow, correct?

4 MR. DANIEL PEACO: Yes.

5 MR. ANTOINE HACAULT: And you've  
6 explained, Well, that -- all you can do with that to a  
7 certain extent, maybe a bit more, but probably more on  
8 short-term contracts and off-peak and opp -- on-peak  
9 opportunity.

10 MR. DANIEL PEACO: Yeah, there's a mix  
11 of those opportunities, correct.

12 MR. ANTOINE HACAULT: And...

13 MR. JOHN ATHAS: If I could just inject  
14 one thing, if you go back to that first table that you  
15 have there...

16 MR. ANTOINE HACAULT: Yes, that's at --  
17 at Chapter 5, page 3 of 61. The very first one?

18 MR. JOHN ATHAS: You referenced the --  
19 the difference between the total -- hydro total  
20 generation, dependable and average, and you, I believe,  
21 categorized it as -- categorized where the -- there's  
22 nothing else -- we'll comment on -- after the questions  
23 from -- answer from us.

24 There's nothing else you do. You have  
25 to figure out how to dispose of the -- the difference

1 in those two (2) numbers. I just would point out that  
2 the -- the dependable energy is a lot -- in its  
3 calculation, is a lot like capacity. And the system  
4 depends -- when it's planning on the thermal  
5 calculation dependable energy right below there so that  
6 it has 26,000 gigawatt hours of dependable energy and  
7 the -- and so instead of that -- instead of like a nine  
8 (9) excess of hydro, that -- from the average to the --  
9 it's more like five (5). And that -- because the --  
10 because the -- on average, the thermal generation  
11 barely runs.

12 MR. ANTOINE HACAULT: Yes, and - and  
13 that's a good point. And -- and that's when we're  
14 talking about integration of different resources, and  
15 we see how having some thermal generation in the mix  
16 lessens the proportion of, I'm going to say, non-  
17 dependable or capacity, as compared to if you had just  
18 a hydraulic system, correct?

19 MR. DANIEL PEACO: Yes.

20 MR. ANTOINE HACAULT: So you correctly  
21 point out, if we look at all of Manitoba Hydro operated  
22 resources total, just above the 'Wind and Exports'  
23 title, or blue line, we see that there's a range of  
24 between, as you said, some 5,000 gigawatts up to about  
25 11,000 gigawatts range between the average and the



1 maximum, correct?

2 MR. DANIEL PEACO: Gigawatt hours?

3 MR. ANTOINE HACAULT: Gigawatt hours.

4 Yup.

5 MR. DANIEL PEACO: Yes.

6 MR. ANTOINE HACAULT: Now, if we can

7 look at MIPUG volume -- oh, I guess we need to mark it

8 -- I've distributed -- sorry, I didn't do that as a

9 preliminary matter -- a small book of documents.

10 Volume VII, which is subject to confirmation by Mr.

11 Simonsen, we would have marked as Exhibit 20-7.

12 MR. KURT SIMONSEN: That's correct.

13 Thank you.

14

15 --- EXHIBIT NO. MIPUG 20-7: Volume VII book of

16 documents

17

18 CONTINUED BY MR. ANTOINE HACAULT:

19 MR. ANTOINE HACAULT: If we can go to

20 page 4 of that book of documents, we see Manitoba

21 Hydro's view of where Manitoba firm energy would be

22 with a DSM Level 2.

23 Do you see that, sir?

24 MR. DANIEL PEACO: Yes.

25 MR. ANTOINE HACAULT: And that's

1 indicated in grey on this slide that they've produced,  
2 correct?

3 MR. DANIEL PEACO: I see that, yes.

4 MR. ANTOINE HACAULT: And then the top  
5 line, the -- entitled 'Dependable Supply', do you see  
6 that, sir?

7 MR. DANIEL PEACO: Yes, I do.

8 MR. ANTOINE HACAULT: Yeah. And if we  
9 were designing a system based on Manitoba need, if we  
10 draw a line before we add the first big supply, which  
11 is Keeyask, as shown on the top of the diagram at  
12 Keeyask19.

13 Do you see that, sir? Top of the  
14 diagram --

15 MR. DANIEL PEACO: Oh, the -- the  
16 subtitle?

17 MR. ANTOINE HACAULT: Yes.

18 MR. DANIEL PEACO: Yes.

19 MR. ANTOINE HACAULT: So we're adding  
20 Keeyask19 there. We're adding dependable supply. But  
21 if we look at where the supply is before we start  
22 adding Keeyask19, we're basically around 30,000  
23 gigawatt hours with the existing system.

24 Do you see that?

25 MR. DANIEL PEACO: Yes.

1 MR. ANTOINE HACAULT: And if we go to  
2 the extreme right of the diagram, we can see that we're  
3 maybe a little bit higher than that, as far as the  
4 Manitoba firm energy need as of 2035/2036?

5 MR. DANIEL PEACO: I see that.

6 MR. ANTOINE HACAULT: And one (1) of  
7 the things I've been exploring with other panels was do  
8 we take a need approach or an opportunity approach?  
9 And our -- should our metrics be different if we're  
10 investing in export opportunity?

11 Sir, we have in blue the signed exports  
12 and the -- in yellow the new WPS 308 megawatt. Have  
13 you, in your experience, had to deal with utilities  
14 that are building solely for export and not even  
15 confirmed exports? We see that big, big white gap for  
16 Conawapa, which wouldn't be needed. We could -- we've  
17 got plenty of dependable supply when we've built 'K' --  
18 Keeyask19. It's at 34,000 gigawatt hours, and the  
19 yellow line doesn't even get there.

20 How does this panel deal with building a  
21 Conawapa when none of the contracts that are signed  
22 require it, and building a Conawapa some ten (10) years  
23 out?

24

25 (BRIEF PAUSE)

1 MR. DANIEL PEACO: It's -- it's my  
2 understanding it's a fairly broad question. So let me  
3 see if -- make sure I understand what you're asking me  
4 to do. Is -- is your question pertaining to the -- the  
5 extent to which the -- the build relies on export  
6 markets as opposed to domestic requirements?

7 MR. ANTOINE HACAULT: Should -- should  
8 we look at evaluating the plans in a different way if  
9 we don't need them for Manitoba firm energy, but we're  
10 being asked, as Manitoba ratepayers, to invest in an  
11 opportunity where none of the contracts have been  
12 signed?

13 MR. DANIEL PEACO: Yeah, that's -- I  
14 mean, it's a fair point and I think one (1) of the  
15 things that we've been asked to do in our scope of work  
16 is to look at the -- the analysis from the perspective  
17 of the impact on -- on the -- on the domestic  
18 ratepayers in particular.

19 And from that perspective, clearly, as  
20 you're -- as this chart and your line of questioning  
21 points out, a substantial fraction of -- of the  
22 production from that -- those facilities are -- are  
23 dependent upon for their value over the export markets  
24 as opposed to domestic supply, at least in their  
25 initial phases.

1                   And with -- with DSM -- with a lower  
2   load forecast and DSM Level 2, the gap between -- this  
3   chart indicates that there's a substantial gap between  
4   a dependable supply that these provide and -- and the  
5   domestic supply. It does put a substantial weight on  
6   the evaluation, in terms of the understanding of the  
7   risks that -- that are taken in the export markets and  
8   how those risks translate to the -- sort of the  
9   backstopping of that investment by domestic ratepayers  
10   if -- if the market isn't -- isn't sufficient to  
11   support the investment.

12                   MR. ANTOINE HACAULT:    So thank you for  
13   that answer. So there's a couple components here.

14                   Are you able to tell me, sir, with any  
15   certainty, when we start to pay for Conawapa and take  
16   loans out, what the interest rates are going to be in  
17   about ten (10) years?

18                   MR. DANIEL PEACO:     Can I? No.

19                   MR. ANTOINE HACAULT:   Are you able to  
20   tell me with any amount of certainty, with respect to  
21   all the opportunity sales over and above the dependable  
22   energy, what those prices are going to be?

23                   MR. DANIEL PEACO:     No.

24                   MR. ANTOINE HACAULT:   Are you able to  
25   tell me what the contract price is going to be for that

1 big white space for exports?

2 MR. DANIEL PEACO: No, there -- there  
3 aren't any firm contracts for that at this point, to my  
4 understanding.

5 MR. ANTOINE HACAULT: Now, if we go to  
6 the next slide, it's page 5, we see that Manitoba Hydro  
7 has done a second view of the world, which I -- I think  
8 the numbers are somewhere between 1,300 gigawatt hours  
9 and 1,700 gigawatt hours of potential pipeline load.

10 With respect to the dependable supply  
11 that's added by Keeyask19, we're still a little bit  
12 over 34,000 gigawatt hours, correct?

13 MR. DANIEL PEACO: Yes.

14 MR. ANTOINE HACAULT: And it's hard to  
15 see exactly where Manitoba firm energy ends up, but it  
16 looks like it's somewhere around 32,000 gigawatt hours?  
17 We'd be able to get the exact numbers from the -- the  
18 financial pro formas. That's about it?

19 MR. DANIEL PEACO: The -- the -- you're  
20 talking about the -- the level -- I'm sorry?

21 MR. ANTOINE HACAULT: In 2035/2036, on  
22 the extreme right.

23 MR. DANIEL PEACO: Okay. Yeah, I see  
24 that. It -- it reaches up to about thirty-four  
25 thousand (34,000) at the very end. Is that where

1 you're talking?

2 MR. ANTOINE HACAULT: Well, that's the  
3 yellow, you're correct. If we look at the grey, which  
4 is Manitoba firm energy, it seems to be about some  
5 2,000 gigawatts lower than that.

6 MR. DANIEL PEACO: Oh, I see. Okay.  
7 I'm with you.

8 MR. ANTOINE HACAULT: Does that change  
9 your view on whether or not that white space that's  
10 afforded by Conawapa in 2026 and '27, where it bumps up  
11 is -- we're being asked to invest in that white space?

12

13 (BRIEF PAUSE)

14

15 MR. DANIEL PEACO: So -- so what you're  
16 -- you're -- if I understand your question, you're  
17 saying basically in the dependable supply, by virtue of  
18 adding -- Conawapa kicks in and takes it form thirty-  
19 four thousand (34,000) to above thirty-eight thousand  
20 (38,000), the --

21 MR. ANTOINE HACAULT: Correct.

22 MR. DANIEL PEACO: -- Conawapa  
23 increase, all of that's in the white space for the  
24 balance of this curve.

25 MR. ANTOINE HACAULT: As it relates to

1 Manitoba firm energy.

2 MR. DANIEL PEACO: That's correct. And  
3 so it's -- at least from this depiction, that  
4 dependable energy would all be surplus of any of the  
5 firm commitments that -- that are currently in place.

6 MR. ANTOINE HACAULT: And for  
7 2034/2035, and some time before that, we can see that  
8 we'd be hitting really -- there wouldn't be any room  
9 left if we had just built Keeyask. Or very little room  
10 in the dependable --

11 MR. DANIEL PEACO: All right. So  
12 you're -- so you're saying if dependable supply holds  
13 at thirty-four thousand (34,000), that would -- the  
14 load would catch up with that by -- by the right-hand  
15 side of the curve.

16 MR. ANTOINE HACAULT: If we add the  
17 signed exports, and the WPS 308.

18 MR. DANIEL PEACO: Right.

19 MR. ANTOINE HACAULT: Now, we've been  
20 talking somewhat with respect to deferral. And, Diana,  
21 could you bring up Exhibit 104-1, which I believe is  
22 the most current information that we have, and bring it  
23 down to Level 2 DSM?

24 We can see on the left-hand side Level 2  
25 DSM, that's what we've been talking about, Plan 1 is



1 the All Gas Plan.

2 And were you aware, sir, that Manitoba  
3 Hydro was projecting that if we did Level 2 DSM we  
4 would only have to add the first thermal generation in  
5 2031 as opposed to 2028, as you've been talking about?

6 MR. DANIEL PEACO: You're referring to  
7 the -- the list in the -- is this the fourth column?  
8 Is this twenty (20) --

9 MR. ANTOINE HACAULT: That's correct.

10 MR. DANIEL PEACO: -- 2031, 107FA? So  
11 I assume that's a reference to a -- a --

12 MR. ANTOINE HACAULT: We can go back to  
13 the top. It's a CGT (sic) column.

14 MR. DANIEL PEACO: Oh, okay. Yeah,  
15 that's what I was assuming, but...

16 MR. ANTOINE HACAULT: Okay.

17 MR. DANIEL PEACO: And -- and this  
18 document, I -- I missed the reference as to what this  
19 document is?

20 MR. ANTOINE HACAULT: This is Manitoba  
21 Hydro's analysis of when new resources would be  
22 required assuming different DSM levels, sir.

23 MR. DANIEL PEACO: Okay.

24 MR. ANTOINE HACAULT: And you've talked  
25 about 2028 for new gas. Were you aware that Manitoba

1 Hydro's view, as updated in this particular exhibit,  
2 was that gas was only required in 2031?

3 MR. DANIEL PEACO: Right. From a --  
4 from a different chart, or a different piece of  
5 information earlier in the hearings. It was a -- a  
6 table and I think it was up in evidence earlier today.  
7 So depending on whether the pipeline load is there or  
8 not, it goes from late '20s to -- to 2031. So I'm  
9 familiar with that.

10 And I think -- I think this -- as I  
11 understand this table, this case would be not presuming  
12 the pipeline load.

13 MR. ANTOINE HACAULT: That's right. So  
14 without the pipeline load we're at 2014 now, we're  
15 actually being asked, as Manitoba ratepayers, to make a  
16 decision to add new generation, some seventeen (17)  
17 years in advance of when it's projected to be needed?

18 MR. DANIEL PEACO: In seventeen (17)  
19 years?

20 MR. ANTOINE HACAULT: Being the  
21 difference between 2014, this Board has to make a  
22 decision today with respect to --

23 MR. DANIEL PEACO: Oh, so you're not  
24 tying it to the in-service date, you're tying it to --  
25 to this decision this year. Okay. I'm with you.

1 Yeah.

2 MR. ANTOINE HACAULT: And with respect  
3 to Keeyask this Board is being asked to approve a  
4 Keeyask in 2019 as an opportunity when the Manitoba  
5 need is twelve (12) years further out than that,  
6 assuming no pipeline load.

7 MR. DANIEL PEACO: Yeah. And the  
8 twelve (12) years comes from...?

9 MR. ANTOINE HACAULT: The difference  
10 between an in -- in-service date of twelve (12) -- 2019  
11 for Keeyask shown on Plan 5, versus putting Keeyask as  
12 of 2031.

13 MR. DANIEL PEACO: Okay. All right.  
14 I'm with you.

15 MR. ANTOINE HACAULT: And with respect  
16 to Conawapa, this Board is being asked to make a  
17 decision in 2014. If we look at Level 2 DSM, Plan 14-  
18 2, so make a decision in 2014 as to whether or not,  
19 under that level of DSM, we need to build something as  
20 far as Conawapa in 2031, assuming the contracts that  
21 are put --

22 MR. DANIEL PEACO: Yes.

23 MR. ANTOINE HACAULT: -- and the new  
24 interconnection, correct?

25 MR. DANIEL PEACO: Yes, I see that.

1 MR. ANTOINE HACAULT: How many times  
2 during your career, sir, have you seen a Board being  
3 asked to make a decision in 2014 with respect to new  
4 generation going out as far as 2031?

5 MR. DANIEL PEACO: Well, I guess we're  
6 generally -- do you want to limit that to the things  
7 I've seen in 2014 decision making, or -- or throughout  
8 my -- my career? This is -- obviously it's an unusual  
9 situation. I mean, to my experience -- and I think it  
10 came up yesterday morning -- obviously I'm familiar  
11 with -- with Hydro-Quebec and their plans to advance,  
12 being on the -- working with utilities that are -- have  
13 been on the -- on the buying side of -- of their plans.  
14 They've been -- they've been in a similar mode for  
15 quite some time. So it's -- it's analogous to Hydro-  
16 Quebec's mode of -- of doing business with New England  
17 in partic -- and New York, but it's -- it's not so  
18 typical of -- of the industry generally.

19 MR. ANTOINE HACAULT: Have you seen the  
20 latest report that came out in February with respect to  
21 Hydro-Quebec's -- or somebody's view of what's happened  
22 in the Hydro-Quebec opportunity ventures?

23 MR. DANIEL PEACO: I haven't seen that  
24 report, no.

25 MR. ANTOINE HACAULT: Now, I'm going

1 from the subject of need and opportunity. I just want  
2 to understand a bit, with respect to the story that  
3 some of the slides that you've indicated -- or updated  
4 tell us, and what's perhaps missing from that. And to  
5 be able to do that -- I don't know if possible, Diana,  
6 to put on half of the screen from Exhibit 104-8, page  
7 3?

8

9 (BRIEF PAUSE)

10

11 THE CHAIRPERSON: Me. Hacault, do you  
12 mind if I ask a few questions that are related to what  
13 you've been asking, before you get into this new topic,  
14 I think? And it has to do with the -- the views that  
15 some people have expressed that building generation  
16 capacity in advance of domestic need means in fact that  
17 you're building a merchant generation facility.

18 And the question I had would -- would  
19 relate to the criteria that one would use to make a  
20 decision about a merchant generation plant versus the  
21 criteria that one would use to evaluate a plant to meet  
22 domestic need. And could you -- can you talk -- could  
23 you explain to me, and perhaps the rest of the panel,  
24 how the criteria would -- would vary between those two  
25 (2) kinds of scenarios? In other words, it's assuming

1 that our merchant generation scenario would probably  
2 require more equity than would be the case if you're  
3 trying to build generation to meet domestic need.

4 Am I -- am I wrong, or...?

5 MR. DANIEL PEACO: You know what --  
6 yeah, I -- I don't know if there's any extent to which  
7 the analogies to the -- the merchant market in the US  
8 applies here. But clearly if -- if you're a gener --  
9 and there's any number of markets in the US now that --  
10 that either have some or all of their generation  
11 basically in merchant mode. But in -- in the case of  
12 merchant investments where you typically don't have --  
13 unless you have an opportunity to get a long-term  
14 contract for a substantial fraction of the output, you  
15 know, the -- the financing proposition for a major  
16 capital investment in -- in generation has -- is -- is  
17 much more difficult than one where you have either firm  
18 revenue from a contract, or a -- a firm obli -- you  
19 know, a -- a clear understanding that there's cost  
20 recovery through some sort of regulatory mechanism, so  
21 -- which is sort of antithetical to the concept of a  
22 merchant generation.

23 I think in this case, as I understand  
24 the construct, it -- it's an investment by the province  
25 in -- and depending on where the load -- load grows it

1 depends on how -- how much you're exposed to the -- to  
2 the market, but the -- the risk of -- of any of -- any  
3 portion of the production that's exposed to the market  
4 that's not covered by a long-term firm contract would  
5 ultimately flow back to the domestic ratepayers, or the  
6 province, in the event that there's a -- a return in  
7 the market against the project.

8                   So if it was -- if it was a straight  
9 commercial investment going to a lender, they're  
10 clearly going to see that risk. And if -- if the  
11 revenue stream is significantly exposed to market  
12 conditions as opposed to con -- either locked up in  
13 some sort of contractual firm -- firm contractual  
14 revenue stream or something. Then -- then it -- then  
15 it becomes very difficult to -- to finance that on a --  
16 on a very strict merchant basis. So in this case --  
17 and it's -- it's because there's inherent risk in the  
18 markets relative to a specific investment.

19                   I don't know if that -- if that helps  
20 where -- where you're going, but --

21                   THE CHAIRPERSON: Well, I think it  
22 does. I think we're just having a general discussion  
23 around the difference between a merchant generation  
24 facility and one that -- a domestic need facility. And  
25 I'm just trying to understand from a technical

1 standpoint how the criteria would vary, leaving alone -  
2 - you know, leaving aside all of the -- the political  
3 issues there's really -- if you -- if you were to -- to  
4 evaluate a -- a merchant facility, are the criteria  
5 that are used to evaluate different than what otherwise  
6 would be the case?

7 MR. DANIEL PEACO: Well, let's put it  
8 this way. If -- if you're asking what the financial  
9 institution that's a lender to a merchant generator,  
10 what criteria would they apply, you know, we've --  
11 we've worked for some folks and they take pro formas  
12 into lenders, they're always, like, What's your lowest  
13 price case, and, you know, can -- can you -- does that  
14 support the project? You know, they're -- so they'll -  
15 - they'll take a -- the lenders obviously are very risk  
16 averse, and so they'll take -- so the -- they'll look  
17 at pro formas that have, you know, a very pessimistic  
18 view of the market opportunity, and -- and consider  
19 that as of, like, you know, how -- What can we consider  
20 firm about the revenue stream from this project?

21 And then they'll -- then they'll look at  
22 the potential upside and -- and factor that in. But  
23 banks aren't -- aren't ris -- in the business of taking  
24 risk, and so they're -- they're going to lend to a  
25 project that's, you know, doesn't expose them to a lot



1 of that risk.

2                   So if -- if you're asking how would a  
3 bank look at it, they're going to look at it in a -- in  
4 a very risk averse perspective. Obviously, a merchant  
5 investor's going to take a different view; they're in  
6 the business in the market and they're going to -- but  
7 -- but to do a pure mer -- I mean, to be honest there  
8 haven't been very many pure merchant generation  
9 facilities built in the US since Enron collapsed in  
10 2003. I mean, the -- it's very difficult to do without  
11 some sort of -- at least some -- some material fraction  
12 of the output being committed to, and some -- some  
13 reasonably longer term commitment.

14                   A lot of the -- the wind development  
15 that's been done in the US is all third party, but it's  
16 sold -- sold to counterparties in long -- you know, at  
17 least fifteen (15) or twenty (20) year, you know,  
18 output -- output contracts for most or all of the --  
19 the output of the facilities, as an example.

20                   So I would say I'd characterize the  
21 merchant market in -- in the US today generally fairly  
22 -- fairly difficult to -- to move forward in terms of  
23 getting on unless there's an opportunity to take a, you  
24 know, to -- to have a counterparty that's willing to  
25 take on a long-term contract.

1 THE CHAIRPERSON: But is it a case that  
2 the -- that the bankers or the -- the financial markets  
3 won't support it? Or is it a case where the investor  
4 or the -- the merchant generator doesn't see it as an  
5 opportunity? I mean, the -- or is it -- I mean, I --  
6 it's hard to know...

7 MR. JOHN ATHAS: Yeah, I think -- I  
8 think there's -- you're -- you're right about where you  
9 were just going that there is this difference between  
10 the merchant being una -- able to go forward with  
11 something that they might want to go forward because of  
12 the financing, versus -- versus -- their -- their  
13 decision that they don't like this investment.

14 The -- there is one (1) difference that  
15 I want to just point out, that in a merchant  
16 opportunity you are -- you have the option, the true  
17 option, to do nothing in your investment. So you're --  
18 you're sitting there with -- and by -- by --  
19 especially with the do nothing. Unless you're going to  
20 -- unless you have an either/or with capital in a  
21 merchant, but just assume that it's -- that they don't  
22 have that -- that either/or with capital, they -- when  
23 they make -- look at a decision they can revisit that  
24 decision again in a year, or in two (2) would be -- and  
25 be in a very similar situation. They don't have a -- a

1 investment commitment that they have to make in the  
2 alternative to the merchant plant.

3                   So that they're not looking at -- in --  
4 let's look -- let's take the simplest case in a utility  
5 where both of them have -- both options would have  
6 similar lead times and both options would be coming in  
7 at the right time -- right with your need. There  
8 you're looking at where do I invest either a lot of  
9 money, or a medium amount of money, or maybe less money  
10 to make my commitment? But the -- the non-investment  
11 case, or the non -- in this case, like the non-hydro  
12 case, is -- is one where you might have to make another  
13 commitment that has a long li -- long-lived impact.

14                   If you -- but a merchant, the decision -  
15 - their alternative to the -- you know, to the -- to  
16 the S-curve look, when they have had that investment,  
17 might play out similar to what we're looking at here,  
18 is, No, let's look at it next year. And the S-curve's  
19 the same. It's a very different decision when it's --  
20 but if the -- if the answer is, No, let's look at it  
21 next year but I -- say I have to commit to the -- to  
22 something else today in a -- in the year of need  
23 thinking.

24                   So that -- that's one of the main  
25 differences that I see in how -- what could cause a

1 decision-maker to have a different propensity to accept  
2 certain elements of risk. If they know that they have  
3 to make a alternative decision that has -- puts plant  
4 in the ground for thirty (30) years and -- and that --  
5 it could make a difference on how they look at the risk  
6 profile.

7                   But if they can -- if they have the  
8 merchant opportunity that says, I'll go to the -- maybe  
9 I'll go to the bankers next year and it'll be a lot  
10 easier to convince them to do it; I'll pay -- much less  
11 interest rate when the market improves, like I know  
12 it's going to improve and -- and it'll be a much more  
13 favourable project to me. So the do-nothing option,  
14 which -- which in the -- in the merchant case I think  
15 is -- is one that can certainly drive a decision-maker  
16 to be viewing something differently.

17                   THE CHAIRPERSON: But in case of  
18 merchant generation, the merchant generator would be  
19 looking at IRR of various projects, to make a decision  
20 about which one to pick, right? And it would also  
21 establish the -- the risk benefit profile before  
22 undertaking an investment, right? I mean, it -- it...

23                   MR. DANIEL PEACO: Sure. Yeah, they  
24 would do -- I mean, obviously it would be a much  
25 different financial calculation in terms of what their

1 rates are, what they -- what they can earn in an adverse  
2 outcome versus what they could expect to earn if the  
3 market turns, you know, to -- to their favour. So --  
4 so sort of a private equity investment decision making  
5 process a little bit.

6                   They're not going to consider some of  
7 the other intangibles that -- that a provincial  
8 government or state government or any other kind of  
9 government entity might look at, in terms of the  
10 ancillary benefits to the economy and -- and those  
11 kinds of things. But the merchant would -- would  
12 clearly either have to have very big pockets on his own  
13 or be able to -- to firm up in some way the -- the  
14 downside sufficiently so -- so the lenders are willing  
15 to participate in -- in the debt portion of the -- of  
16 the project.

17                   MR. JOHN ATHAS: Which -- which is one  
18 of the reasons why you have new nuclear considerations  
19 be in -- having to almost -- everyone talking about it,  
20 that it would have to be some sort of government-backed  
21 loan.

22

23 CONTINUED BY MR. ANTOINE HACAULT:

24                   MR. ANTOINE HACAULT: Now, there's two  
25 (2) concepts that I'm going to follow up with respect

1 to the -- the Chairperson's comments. The first one  
2 deals with the -- the risk profile. And that -- part  
3 of that risk profile is in your Exhibit 45 at slide 48,  
4 I believe, which has, at least, updated capital costs.

5 Am I right in understanding, if I look  
6 at that graph, that if we take a twenty (20) year  
7 outlook, the project doesn't look too good from an  
8 opportunity perspective?

9 The dotted line, compared to All Gas, is  
10 fairly significantly to the left all the time.

11 MR. DANIEL PEACO: Yes, so -- so what  
12 that says is if you would -- if you have Plan 1 and  
13 Plan 14 and you choose one or the other paths and you  
14 go forward with that, looking at the -- the net costs  
15 and benefits on a cashflow basis through time, as of  
16 year '20, given the range of uncertainties captured in  
17 the analysis, the Gas plan will always be further ahead  
18 at that point in time relative to the Preferred  
19 Development Plan, because you've -- it's really the  
20 first twenty (20) years captures the years of -- of  
21 spending and -- and not many years of operating the  
22 facilities that you've -- you're investing in.

23 MR. ANTOINE HACAULT: And if we change  
24 that outlook to thirty-five (35) years, we're still  
25 close to 90 percent of the time, as I understand your

1 graph, that the Preferred Development Plan with  
2 Conawapa -- so that's kind of -- the merchant part of  
3 it -- really doesn't look that great compared to All  
4 Gas either?

5 MR. DANIEL PEACO: That's correct.

6 MR. ANTOINE HACAULT: And even the  
7 fifty (50) year outlook, 70 percent of the time, if  
8 you're comparing, it to All Gas it doesn't look that  
9 great either.

10 MR. DANIEL PEACO: Just to be clear, 70  
11 percent of the -- the range of scenarios looked at on -  
12 - on a probability weighted basis, correct.

13 MR. ANTOINE HACAULT: Yeah. So if I  
14 was going to a bank with this kind of a slide and said,  
15 Well, I want to invest in -- in this plan and in  
16 Conawapa, would they be inclined to look at it  
17 favourably?

18 MR. DANIEL PEACO: Well, I mean, and  
19 it's kind of our point we want to make, and this --  
20 this -- your line of questioning kind of gets to where  
21 we -- we did, is that clearly you have to -- you have  
22 to be a very long-term prospective investor to -- to be  
23 looking at -- at this kind of an investment with these  
24 kinds of numbers.

25 I mean, banks don't -- don't tend to

1 look -- look at that -- that longer term. But it would  
2 -- it would clearly be if you were -- if you were using  
3 the merchant example, the merchant would have to be  
4 convinced that over time it could -- it could do that.

5                   So my experience is only governments  
6 make investments of that duration. You -- if you go to  
7 the merchant market, you're not going to find an  
8 example that's, you know, someone who's making an  
9 investment that's -- that's beneficial only if you look  
10 at it at a fifty (50), sixty (60), seventy (70) year  
11 basis.

12                   You know, even the -- as John mentioned,  
13 nuclear plants are -- are hard to finance, and any --  
14 any real -- it's difficult enough in the merchant  
15 markets for combustion turbines and combined cycles to  
16 get -- and those are usually thirty (30), thirty-five  
17 (35) year life assets financed over twenty (20) years.

18                   Those are -- those are probably the only  
19 things that really have had -- have any evidence of  
20 being successfully done in a -- in a merchant con --  
21 pure merchant context. So it -- this is not sort of  
22 within that framework.

23                   MR. ANTOINE HACAULT: Yeah. And I  
24 guess just as an aside, I've got a four (4) year old  
25 granddaughter -- I'm fifty-three (53) -- that if the



1 same pattern develops, she'll be a grandparent by this  
2 fifty (50) year metric, and there's 70 percent of the  
3 scenarios will tell her that, I still haven't made any  
4 money yet.

5                   Is -- is that just -- like putting it  
6 into real life terms, my grandchild might have to be a  
7 grandmother before she sees some benefits, and -- and  
8 that's not too sure because we've got 70 percent of the  
9 scenarios which would indicate that there wouldn't be  
10 benefits?

11                   MR. DANIEL PEACO:    It's -- you're  
12 understanding the curve as -- as I understand it.

13                   MR. ANTOINE HACAULT:   Now, another  
14 question that the Chairperson asked was, Can we look at  
15 it differently, and -- and how can we look at it? And  
16 if we go back to our book of documents, Volume VII, at  
17 -- we can either look at page 5 with the pipeline load  
18 -- thank you, Diana.

19                   If, in four (4) or five (5) years from  
20 now, Mr. Cormie, who's sitting in the back, is wildly  
21 successful and signs some great export contracts to  
22 fill all that white space which is reflected under the  
23 Conawapa, the dependable supply curve, so that we stack  
24 on top of the WPS 308 megawatt sale, we stack a bunch  
25 of other ones to get close to your dependable supply,

1 does that change your view of the world?

2 Because you said we need to have the  
3 long-term contract that matches with the facility.  
4 We've just looked at fifty (50) years of uncertainty.

5 Do I have to have fifty (50) year  
6 contracts that fill up that gap, or is it sufficient to  
7 have twenty-five (25) year contracts that fill up that  
8 gap and then see what happens in the next twenty-five  
9 (25) years?

10 MR. DANIEL PEACO: Well, I guess  
11 there's -- there's no one (1) answer to that. I think  
12 it's -- it's clearly a judgment that -- that Hydro and  
13 the -- and the panel need to make as to how much -- as  
14 -- as in the case of a merchant example, the investor  
15 and the lender would have to decide how much certainty  
16 is -- is enough to go forward with.

17 I think that you -- you would also want  
18 to know sort of the quality of those kind of tracks,  
19 you know, the -- the more revenue you can get from  
20 export con -- on the front end to sort of mitigate the  
21 -- it's -- it's a question more of what total revenue  
22 you can lock up and no so much the time of the -- of  
23 the duration of the contracts.

24 And so to the extent that there's an  
25 opportunity to do that and something that really

1 mitigates the -- the cost in a substantial way so that  
2 once you're done with those contracts the -- the  
3 balance of the cost of the facilities are -- are  
4 manageable, then that's -- that would be what you'd be  
5 looking at, is sort of how much -- how much firm  
6 revenue you have relative to the expense you're going  
7 to -- you're going to incur.

8 MR. ANTOINE HACAULT: Fair enough, sir.  
9 And we've heard some evidence from another expert, Mr.  
10 John Todd, that Manitoba at one point in time had  
11 signed a contract with a neighbouring province, which  
12 the contract was basically going to pay off Conawapa in  
13 a twenty (20) year range.

14 So if we were abl -- and Mr. Cormie was  
15 able to negotiate over the next three (3) or four (4)  
16 years such a favourable contract that we'd know we'd  
17 have Conawapa paid in twenty (20) some years over the  
18 life of that contract, that would be a material thing  
19 for us to know, wouldn't it?

20 MR. DANIEL PEACO: That's -- I mean,  
21 that's part of sort of understanding what -- what  
22 portion of the revenue stream is firmed up. That's  
23 correct.

24

25 (BRIEF PAUSE)

1 MR. ANTOINE HACAULT: Now, you've  
2 indicated that if it was a merchant facility, we'd look  
3 at how the plans fare on low price cases.

4 The Preferred Development Plan, by and  
5 large, under low price cases doesn't fare well at all  
6 under the updated information, correct?

7 MR. DANIEL PEACO: Well, I think that's  
8 part of the -- the S-curve we were just talking  
9 through. Clearly, the -- tho -- those that are -- that  
10 are more negative are -- are the ones that -- in part  
11 are the ones with the lower prices and the higher  
12 discount rates.

13 MR. ANTOINE HACAULT: So -- and a  
14 visual of that would be if we would go to the fourth  
15 page of Exhibit 104-8. I'm going to get back to that.  
16 So on the left-hand side you see, sir, that we've got  
17 the heading, 'Energy Prices'. And the first three (3)  
18 -- or the first -- third is entitled, 'Low'.

19 These types of quilts are familiar to  
20 her -- to you, sir? This is an updated one.

21 MR. DANIEL PEACO: Yes.

22 MR. ANTOINE HACAULT: And if we look at  
23 the --

24 MR. DANIEL PEACO: Just -- just for  
25 clarif -- the source of this particular one?

1 MR. ANTOINE HACAULT: This is --  
2 actually, it's an updated one which -- it's March 27.  
3 You haven't put that in your particular update. I'll  
4 get to that. In all the different versions of what  
5 you've put in your updated document, sir, they aren't  
6 updated to this table. But we'll get to that.

7 My question was: If we look at energy  
8 prices and look at the Preferred Development Plan,  
9 which is 14 on the very right, there's only two (2)  
10 instances where you might have some kind of a  
11 favourable result in the mix that shows us on low  
12 energy prices?

13 MR. DANIEL PEACO: Yes, I see that.

14 MR. ANTOINE HACAULT: And we've -- we -  
15 - it's when the capital cost would come in at ref, or  
16 the capital cost would come in at low, then over  
17 seventy-eight (78) years we might see an NPV in a  
18 positive way? Thank you.

19 MR. DANIEL PEACO: That -- that's the  
20 way I understand the -- the table, yes.

21 MR. ANTOINE HACAULT: Now -- so again,  
22 with that kind of downside and the low ref/ref/ref, if  
23 we go ref discount rates and ref capital costs, and go  
24 right across the table, we see a negative \$2 billion  
25 amount.

1 Do you see that?

2 MR. DANIEL PEACO: I'm sorry, what --  
3 which -- which line?

4 MR. ANTOINE HACAULT: If we go low  
5 energy prices.

6 MR. DANIEL PEACO: Yes.

7 MR. ANTOINE HACAULT: Reference rates,  
8 discount rates, and reference capital costs.

9 MR. DANIEL PEACO: I'm with you. Okay.

10 MR. ANTOINE HACAULT: And we go right --

11 MR. DANIEL PEACO: Minus -- minus 2010?

12 MR. ANTOINE HACAULT: Yeah.

13 MR. DANIEL PEACO: I got you.

14 MR. ANTOINE HACAULT: So just focussing  
15 on low energy prices, if we were accurate on our  
16 discount rates and we were accurate on our capital  
17 costs, we're looking at, with respect to these tables,  
18 negative 2 billion?

19 MR. DANIEL PEACO: Relative to -- to --

20 MR. ANTOINE HACAULT: To the All Gas.

21 MR. DANIEL PEACO: -- to the All Gas  
22 reference number.

23 MR. ANTOINE HACAULT: Yeah. So now,  
24 the one (1) thing I want to explore is I think this  
25 table, at least the way I read it, tells us a different

1 picture than your graphs in your updated Exhibit --  
2 it's Exhibit 12-2 which you provided.

3 It's dated -- and this is where if we  
4 could have the split screen, Diana. Yeah, that's  
5 great.

6 The one (1) thing that you had commented  
7 on, sir, was that in your updated information when we  
8 compared Keeyask with NPV on -- on your updated  
9 information -- this is page 24, your Figure 99, or 9-99  
10 -- you -- it came in at four hundred and eighty-nine  
11 (489).

12 Do you see that? 489 million?

13 MR. DANIEL PEACO: Yes.

14 MR. ANTOINE HACAULT: And you compare  
15 that to the total revised NFAT PDP at seven-ninety-  
16 eight (798) to come to the conclusion that Keeyask was  
17 a little bit more than half of the value of the PDP.

18 MR. DANIEL PEACO: In that particular  
19 analysis, yes.

20 MR. ANTOINE HACAULT: Now, we've had a  
21 little bit of an update in this Exhibit 104-8, which is  
22 on the left-hand side. And if we got to the bottom of  
23 that graph, the number is fairly small, but we see in  
24 line 2, which is the Keeyask Gas, at the very bottom  
25 it's a ref/ref NPV, and it shows the same number, four

1 hundred and eighty-nine (489).

2 Do you see that, sir?

3 MR. DANIEL PEACO: I do.

4 MR. ANTOINE HACAULT: Okay. So that  
5 number has remained consistent between the previous  
6 analysis which was based on the March 10th. But this  
7 was an update that was provided on March 27, a week  
8 later, so our view of the world changed in a week. Two  
9 (2) weeks, sorry.

10 And if we go to the extreme right-hand  
11 side, the NPV, with Plan 14, and now the WPS investment  
12 is taken out.

13 Do you see that in the heading, under  
14 14? We see, "WPS sale, no WPS investment." And --

15 MR. DANIEL PEACO: Right.

16 MR. ANTOINE HACAULT: -- Hydro  
17 segregated, contrary to what they initially provided,  
18 segregated the WPS investment. So we see the Preferred  
19 Development Plan goes from your number of seven ninety-  
20 eight (798) down to six fourteen (614).

21 MR. DANIEL PEACO: Okay.

22 MR. ANTOINE HACAULT: Do you see that?

23 MR. DANIEL PEACO: I do.

24 MR. ANTOINE HACAULT: Now, if we look,  
25 and we're talking about proportions again, we just saw



1 that Keeyask<sup>22</sup> and Gas have stayed the same at four  
2 eighty-nine (489), correct?

3 MR. DANIEL PEACO: Yes.

4 MR. ANTOINE HACAULT: But the Preferred  
5 Development Plan without the WPS investment is now six  
6 hundred and fourteen (614). So it's almost five-sixths  
7 (5/6s) instead of being half.

8 Do you see that?

9 MR. DANIEL PEACO: Yes.

10 MR. ANTOINE HACAULT: Five-sixths  
11 (5/6s) of the plan's value now is in Keeyask under Plan  
12 2?

13 MR. DANIEL PEACO: Yeah. If you did  
14 the same analysis we did with -- with this new  
15 information. Yeah, I see what you're -- I see -- I see  
16 what you're -- I'm with you.

17 MR. ANTOINE HACAULT: And the other  
18 thing that this updated information that takes out the  
19 WPS investment shows us is that the expected value of  
20 Plan 14 is 120 million.

21 Do you see that on the extreme right-  
22 hand side?

23 MR. DANIEL PEACO: Yes, I do

24 MR. ANTOINE HACAULT: Now, could you  
25 explain, sir -- and in your material and in your

1 testimony you provided some explanation as to why you  
2 thought, as I understood your testimony, expected value  
3 is something we should pay attention to?

4 Now, we see two (2) numbers here. We  
5 see an expected value of Plan 14 at 120 million, and a  
6 ref/ref/ref Plan 14 no WPS investment at six fourteen  
7 (614), about a 500 million, or a half a billion dollar  
8 difference.

9 How do I understand that?

10 MR. DANIEL PEACO: The -- well, two (2)  
11 things. One (1) is that we -- we stated specifically,  
12 because in under -- in understanding -- what we  
13 understand about Hydro's position, they were advocating  
14 that this decision should be made on an expected value  
15 basis.

16 Much of -- a lot of their analysis and  
17 exhibits have -- have shown -- chosen to feature the  
18 reference case scenario, and -- and we've noted that  
19 the parameters that they -- they happen to choose for  
20 their reference case scenario don't tend to line up  
21 very closely to the expected value result from their  
22 own analysis. And, so we -- we wanted to make sure  
23 that we -- we explain the difference and show both of  
24 those in the context of understanding their case.

25 But that doesn't necessarily mean that

1 the panel will chose to make the decision based upon  
2 the expected value, because as we've seen, and we've --  
3 the charts we've been going through, an expected value  
4 of -- whether it's a billion dollars or \$120 million,  
5 whatever, still comes with -- it's not plus or minus 10  
6 percent; it's plus or minus, you know, several hundred  
7 millions to billions of dollars. And so the expected  
8 value of that very broad range of outcomes isn't  
9 necessarily the only thing you're going to consider  
10 making a decision. You're going to think about the  
11 upside and the downside, which are -- which are  
12 substantially variant from the expected value, or the  
13 reference case value.

14                   So -- but we feat -- feature the  
15 expected value 'case we wanted to make sure that when -  
16 - when people are looking at Hydro's information,  
17 they're understanding when they're looking at the  
18 reference case and when they're looking at the expected  
19 value results from their uncertainty analysis. And  
20 then we also -- I feel like you've got a -- you know,  
21 in addition to that you've got to understand how long -  
22 - how long it takes to get to that number, and how much  
23 uncertainty there is around that number in -- in doing  
24 this.

25                   So I think the totality of that

1 information is what would inform a decision as to how  
2 to go forward.

3 MR. ANTOINE HACAULT: Let me take you  
4 to another set on this same table, which was Plan 2  
5 that I've -- we started with. It's got a ref/ref/ref  
6 of four eighty-nine (489), but we don't see a \$500  
7 million difference between the expected value. We see  
8 the expected value coming in at two sixty-eight (268).

9 Do you see that, sir?

10 MR. DANIEL PEACO: I do.

11 MR. ANTOINE HACAULT: How do I as a  
12 panel make sense of this information? How do I -- how  
13 do I use it? Just like, what does it tell me to know  
14 that Keeyask22 with Gas has an expected value of two  
15 sixty-eight (268) versus one twenty (120)?

16 MR. DANIEL PEACO: Well, we kind of  
17 think about it -- in -- in particular look at this.  
18 One (1) of the charts that we did early on where -- if  
19 I remember my -- early in my presentation yesterday,  
20 where we superimposed the benefits number with the  
21 present value of the incremental investment. And so if  
22 you look at the context of two sixty-eight (268) or one  
23 twenty (120) relative to the present value of the  
24 investment you're making, which, I think in the case of  
25 the Preferred Development Plan, is over \$6 billion

1 present value, and in the case of Plan 2 -- I don't  
2 know, do we remember -- do you know the number -- or we  
3 could look?. Slide 13? Can we...

4

5 (BRIEF PAUSE)

6

7 MR. DANIEL PEACO: So this is one way  
8 to look at it, sort of put it in perspective. And so  
9 if you look at Plan 14 that we've highlighted here,  
10 this is the original reference case scenario analysis  
11 as filed in the NFAT submission with the \$1.7 billion  
12 reference case benefit compared to the \$6.2 billion  
13 investment.

14 Now, what you're saying is -- in the  
15 particular case we're looking at, we know that the --  
16 the investment has gone up by eight hundred (800) and  
17 some million dollars. And the -- the benefit numbers  
18 are -- are a lot less than shown there, whether you --  
19 whether you're talking reference case or expected  
20 value. And to us -- to me, that puts -- puts it in the  
21 context of how much benefit are you getting from -- for  
22 -- for investments relative to other things that you  
23 could do. You know, that's -- that's a context within  
24 which to put the numbers.

25 MR. ANTOINE HACAULT: So am I looking

1 it at too simplistically if I say we're close to seven  
2 hundred (700) -- or \$7 billion NPV on Plan 14 now,  
3 because it's gone up about eight (8). I'm expecting to  
4 get 120 million. If I invest that much versus if I  
5 look at Plan 2, which is Keeyask22 with gas, I'm  
6 investing a little bit over \$2 billion, but my expected  
7 value is around a quarter billion dollars.

8 MR. DANIEL PEACO: Something like that.  
9 Of course, the -- the K2 number would go up 'cause  
10 Keeyask costs went up but it won't be to the tune of  
11 800 million. It's -- it's something less than that.  
12 John, did you want to add to that?

13 MR. ANTOINE HACAULT: So -- so what  
14 does that tell us about investing in other -- is it  
15 about \$5 billion? What are we getting for our \$5  
16 billion?

17 MR. DANIEL PEACO: Well, I guess -- I  
18 guess the way -- the way to look at it is what you're  
19 getting is obviously the facilities and -- and -- this  
20 is looking at the straight economics of the deal. So  
21 this -- this clearly doesn't consider all the other  
22 non-economic benefits and costs that go with the  
23 project. But -- and -- but you're getting a  
24 proposition that's expected to -- with...

25 Clearly, what the analysis shows there's

1 some potential upside with some -- and there's -- and  
2 there's some material potential upside and there's some  
3 material potential downside to that. With a -- with an  
4 expectation is over seventy-eight (78) years, it'll be  
5 close to -- close to a breakeven investment.

6 MR. ANTOINE HACAULT: Thank you, sir.  
7 Now, if we could go back to Manitoba Hydro... Oh,  
8 sorry, I think we were going to take a -- a little  
9 break around 3:30.

10 THE CHAIRPERSON: We agreed before we  
11 start -- before Mr. -- Me. Hacault started, we agreed  
12 we would take a -- a stretch. So let's just stay in  
13 the room.

14

15 --- Upon recessing at 3:35 p.m.

16 --- Upon resuming at 3:44 p.m.

17

18 THE CHAIRPERSON: I believe that  
19 everybody is in position, so back to you, Me. Hacault.

20 MR. ANTOINE HACAULT: Thank you very  
21 much, Mr. Peaco, for your responses. I just want to  
22 see what the new quilt, without the WPS investment, is  
23 -- what kind of story it's telling us on a couple other  
24 issues.

25 The first issue I want to focus on is

1 comparing Plan 2, if we go to the bottom, which doesn't  
2 have any kind of interconnection with Plan 4.

3 Am I correct in suggesting that if that  
4 option was still open or could be reopened, the  
5 economics are telling us this is an alternative we have  
6 to seriously consider?

7 MR. DANIEL PEACO: Yes, with the  
8 information that's been updated in the -- in the case  
9 analysis, clearly Plan 2 is-- as an analytical exercise  
10 is -- is better than the other plans.

11 MR. ANTOINE HACAULT: Okay, but I'm  
12 comparing Plan 2 to Plan 4. We're basically -- I know  
13 Keeyask is a little bit different in-service, but Plan  
14 4 we're adding 250 megawatt line. Do you see that --

15 MR. DANIEL PEACO: Yes.

16 MR. ANTOINE HACAULT: -- and the  
17 expected value goes from two sixty-eight (268) to see -  
18 - six fifty-one (651).

19 Directionally, does that tell us if that  
20 plan was still available, we'd have to give some  
21 attention to that alternative?

22 MR. DANIEL PEACO: Yes.

23 MR. ANTOINE HACAULT: And the  
24 ref/ref/ref is also telling us the same story. In Plan  
25 2 without the 250 connection, we're at four eighty-nine



1 (489), and we move up to nine seventeen (917).

2 So that's -- both of them are telling us  
3 the same story, correct?

4 MR. DANIEL PEACO: And to be -- to be  
5 clear, this also includes the Minnesota Power 250  
6 contract.

7 MR. ANTOINE HACAULT: Correct.  
8 Absolutely. Thank you for that precision. Now, the  
9 one thing that we've had to grapple with in this  
10 hearing, what happens if we can't reopen that whole two  
11 fifty (250) scenario, and all we're left with is the  
12 seven fifty (750).

13 Is it still worth thinking about the  
14 seven fifty (750) line with the two hundred and fifty  
15 (250) agreement from Minnesota Power? And let me take  
16 you to -- to these numbers.

17 That would be comparing Plan 2 that has  
18 no interconnection with Plan 6 that has a 750 megawatt  
19 interconnection; we'd still have the 250 Minnesota  
20 Power agreement, correct?

21 MR. DANIEL PEACO: Yes.

22 MR. ANTOINE HACAULT: And  
23 directionally, we're moving from an expected value of  
24 Plan 2 of two sixty-eight (268) and moving up to a  
25 higher expected value of three eighty-six (386).

1 Do you see that? Under Plan 6.

2 MR. DANIEL PEACO: So the two sixty-  
3 eight (268) is -- oh, Plan -- from Plan 2.

4 MR. ANTOINE HACAULT: Plan 2 to Plan 6.

5 MR. DANIEL PEACO: Yes.

6 MR. ANTOINE HACAULT: So -- so you  
7 have to jump over from Plan 2 up to Plan 6. So we're  
8 better on an expected value by about \$100 million by  
9 choosing the 750 megawatt line no WPS investment,  
10 compared to no interconnection.

11 Is -- is that fair?

12 MR. DANIEL PEACO: That's -- that's --  
13 I see that.

14 MR. ANTOINE HACAULT: And the same  
15 thing with respect to the ref/ref/ref. If we compare  
16 Plan 2 to Plan 6 is -- do -- we still do the 750 line  
17 interconnection, we move from Plan 2 of a ref/ref/ref  
18 of 489 million up to 662 million.

19 Do you see that, sir?

20 MR. DANIEL PEACO: I do.

21 MR. ANTOINE HACAULT: So directionally,  
22 is that telling us that it's worth considering Plan 6  
23 and adding the 750 line to -- to Plan 2, rather than  
24 foregoing that opportunity?

25 MR. DANIEL PEACO: Yeah. And I think

1 that we -- we discussed that earlier this morning, is  
2 that when we did the step-wise analysis from two (2) to  
3 four (4) basically to six (6), the -- the 750 line  
4 looked negative but -- but overall if you -- if -- if  
5 two (2) is an intermediate step -- intermediate step in  
6 that -- in that thought process -- I mean, if -- if  
7 four (4) is an immediate step in that process, going  
8 from two (2) to six (6), you -- you would see benefits  
9 from adding transmission.

10 And I think the only difference is the  
11 amount of transmission you get from the 250 option is  
12 sufficient to -- to garner most of the benefit of the  
13 plan. The seven fifty (750) gives you the same benefit  
14 at a higher cost.

15 MR. ANTOINE HACAULT: Now --

16 MR. JOHN ATHAS: One (1) -- one (1)  
17 thing I might add just to -- in looking at these, I  
18 mean, this is -- this is kind of the classic question  
19 of why we -- why the risk profile is usually plotted.  
20 Besides the expected value, you look at the -- the  
21 twenty (20) --

22 MR. ANTOINE HACAULT: I was going  
23 there, thank you. Keep -- keep on.

24 MR. JOHN ATHAS: Okay. If you look at  
25 the 25th and 75th percentiles, there's very, very small

1 differences in the -- in the two (2) plans, Plan 6 and  
2 -- and Plan 2. So that -- that would kind of say that  
3 there's going to be a large period of time where the  
4 differences will be pretty small on a -- next -- on a  
5 risk profile.

6 So if you did -- if you plotted -- if  
7 six (6) minus two (2), you probably have a lot of  
8 things hovering around zero and -- and the like. It  
9 would be a good -- a good risk profile to look at.

10 MR. ANTOINE HACAULT: And actually, if  
11 we look at the 25th percentile for Plan 2, we're at  
12 minus 622 million. But if we add the 750 megawatt  
13 line, we aren't facing quite as much negativity. We're  
14 only facing 556 million of negativity.

15 So it actually helps us mitigate the  
16 negativity at the 25th percentile?

17 MR. JOHN ATHAS: That's correct. There  
18 is a difference in the -- in the numbers. They're not  
19 -- not equal at any of these comparison points.

20 MR. ANTOINE HACAULT: Now, the next  
21 thing that I want to compare is if we start with the  
22 K22 Gas again, and we've looked at Plan 6 and the  
23 expected values and the ref/ref values there, between  
24 Plan 6 and Plan 12, the main difference is substituting  
25 gas with Conawapa in 2031, correct?

1 MR. JOHN ATHAS: Yes.

2 MR. ANTOINE HACAULT: So if we've kind  
3 of seen that it's worth perhaps doing the 750 megawatt  
4 line compared to the Plan 2 and we've seen that  
5 improved a bit, if we do a Conawapa, how does that  
6 compare to, on an expected value basis, compare to Plan  
7 6?

8 Does choosing Conawapa with the seven-  
9 fifty (750) make the plan better? On Plan 12.

10 MR. DANIEL PEACO: You're comparing the  
11 expected value between six (6) and twelve (12)?

12 MR. ANTOINE HACAULT: Yeah.

13 MR. DANIEL PEACO: Yeah, which -- and --  
14 -- and putting Plan 12 in -- in this -- in this table is  
15 lower.

16 MR. ANTOINE HACAULT: So tying in the  
17 750 line to Conawapa in -- in this case, Plan 12, does  
18 not make our plan better; it makes it worse, both on  
19 the expected value and the ref/ref value.

20 Is that fair?

21 MR. DANIEL PEACO: Tying in the seven  
22 (7) -- I mean, the seven-fifty (750) is in both of  
23 those cases.

24 MR. ANTOINE HACAULT: But with  
25 Conawapa, if you tie -- add the Conawapa to the mix

1 instead of gas, the plan does not fare as well?

2 MR. DANIEL PEACO: Yeah, I -- I guess I  
3 -- I thought I understood your question to be asking  
4 about a change in transmission and --

5 MR. ANTOINE HACAULT: No. Given the  
6 750 line --

7 MR. DANIEL PEACO: Yeah.

8 MR. ANTOINE HACAULT: -- if you choose  
9 Conawapa over gas, so that's choosing twelve (12) over  
10 six (6), the plan does not do as well. The expected  
11 value moves down from three hundred and eighty-six  
12 (386) in Plan 6 down to one hundred and fifteen (115)  
13 in Plan 12.

14 Do you see that?

15 MR. DANIEL PEACO: Yes. Yes, I see  
16 that.

17 MR. ANTOINE HACAULT: And the same  
18 thing with our ref/ref value at -- the Plan 12 does not  
19 do as well when we choose Conawapa. It -- it goes down  
20 also.

21 MR. DANIEL PEACO: Yes.

22 MR. ANTOINE HACAULT: Now, what about -  
23 - we had a comment on the risk. Comparatively, adding  
24 Conawapa to the 27th (sic) percentile, what does that  
25 do to our risk exposure if things don't go exactly like

1 we think?

2 MR. DANIEL PEACO: The 25th percentile?

3 MR. ANTOINE HACAULT: Yeah.

4 MR. DANIEL PEACO: Yeah, it -- it goes  
5 to negative billion four-eighty-two (482).

6 MR. ANTOINE HACAULT: So we're exposing  
7 ourselves at the 25th percentile to close to a billion  
8 dollars of additional risk.

9 Is that fair?

10 MR. DANIEL PEACO: By that calculation,  
11 yes.

12 MR. ANTOINE HACAULT: So not only does  
13 it not fare as well in expected value in ref/ref, but  
14 choosing Conawapa exposes us to a fairly significant  
15 amount of risk in Plan 12 as compared to Plan 6,  
16 correct?

17 MR. DANIEL PEACO: Yes, correct.

18 MR. ANTOINE HACAULT: Now, the only  
19 other thing that I want to see what this is telling us  
20 is -- 'cause we've been asked certain things. And one  
21 (1) of the things is, Okay, well, do we invest in the  
22 seven-fifty (750) line. I think we've looked at those  
23 numbers.

24 The other thing is, do we decide to go  
25 ahead with the WPS sale? Now, we've got Plan 6 which

1 we saw improved from Plan 2. And the difference  
2 between Plan 6 and Plan 5 is we're being asked, Let's  
3 sign on with this WPS sale.

4 Is that fair?

5 MR. DANIEL PEACO: Yes.

6 MR. ANTOINE HACAULT: There's a bit of  
7 difference as to when you put your gas in.

8 Do you think that that's a material  
9 difference?

10 MR. DANIEL PEACO: It -- if you think  
11 about the changes between -- are we -- and we're  
12 comparing six (6) to five (5)?

13 MR. ANTOINE HACAULT: Yes.

14 MR. DANIEL PEACO: You -- you put it --  
15 advancing the Gas Plan six (6) years and -- and  
16 injecting the contract, obviously, you've got -- it --  
17 it adds some costs and moves forward some costs in  
18 time, which is going to increase the cost of the plan  
19 from that standpoint. But then you're -- you're adding  
20 the -- the offsetting firm revenue from the contract.  
21 The contract, I'm not sure it's the same size as the  
22 Gas Plan, but that's -- those would be offsetting, you  
23 know, costs and revenue.

24 MR. ANTOINE HACAULT: Okay. But if we  
25 look at Plan 6, the expected value is 386 million. And



1 if we choose to sign onto the WPS sale, we don't see an  
2 increase to expected value. In -- in fact, it's  
3 telling us the reverse is happening.

4 It's going down to two hundred and  
5 sixty-eight (268) expected value, correct?

6 MR. DANIEL PEACO: Yes.

7 MR. ANTOINE HACAULT: So somehow this  
8 increased revenue from the sale doesn't appear to be  
9 offsetting the extra costs that you've mentioned of  
10 putting the gas earlier in 2025.

11 Is that fair?

12 MR. DANIEL PEACO: That's what it  
13 appears, yes.

14 MR. ANTOINE HACAULT: And it's the same  
15 thing with respect to the ref/ref/ref. If we go to  
16 Plan 6 and compare it to Plan 5, which is basically  
17 adding, Please accept that we want to do the WPS sale,  
18 even at the ref/ref/ref it's telling us that the  
19 economics are not as good if we sign on and -- and  
20 proceed with the WPS sale -- with -- that's comparing  
21 six (6) and five (5).

22 MR. DANIEL PEACO: I see that.

23 MR. ANTOINE HACAULT: Now --

24 MR. DANIEL PEACO: There is one (1)  
25 thing I just want to point out, that the -- the reason

1 for the timing change in gas is because you need the  
2 dependable energy -- the dependable energy resource  
3 earlier. So it's a -- there -- it's not an arbitrary  
4 cost change. It's a consistent reliability planning  
5 criteria, difference in cost.

6 MR. ANTOINE HACAULT: Understood.

7 Thank you for that clarification. Now, the last thing  
8 that we've been asked to do -- and this is the  
9 Preferred Plan -- if we compare going from 6 -- Plan 6  
10 now to Plan 14, we're being asked to go -- to do two  
11 (2) things: invest in Conawapa and allow that WPS sale  
12 to go ahead.

13 That's basically the difference between  
14 Plan 6 and Plan 14, correct?

15 MR. DANIEL PEACO: Yes.

16 MR. ANTOINE HACAULT: And let's focus  
17 firstly on the risk that Manitobans would be asked to  
18 take in moving to Plan 14 at the 10th percentile and  
19 the 25th percentile.

20 From -- at the 10th percentile, risk in  
21 Plan 6 is about a billion dollars to the negative,  
22 correct?

23 MR. DANIEL PEACO: The 10th per -- pro  
24 -- you said a billion?

25 MR. ANTOINE HACAULT: Yes, for Plan 6.

1 MR. DANIEL PEACO: Oh, Plan 6. Yes.

2 I'm sorry, yes. That's correct.

3 MR. ANTOINE HACAULT: And Plan 14, the  
4 swing is to nearly \$3 billion.

5 So Manitobans are at the 10th percentile  
6 being asked to take a \$2 billion risk?

7 MR. DANIEL PEACO: Yeah, I see that.

8 MR. ANTOINE HACAULT: Now, if we go to  
9 the 25 percentile and compare how Plan 6 does,  
10 depending how risk adverse we are, we're moving from  
11 Plan 6 at \$556 million of negativity, correct?

12 MR. DANIEL PEACO: Yes.

13 MR. ANTOINE HACAULT: To Plan 14, at  
14 one billion seven hundred and sixty million  
15 (1,760,000,000) of potential negativity at the 25th  
16 percentile, correct?

17 MR. DANIEL PEACO: Yes, I see that.

18 MR. ANTOINE HACAULT: So Manitobans are  
19 being asked to take a risk of about \$1.2 billion at the  
20 25th percentile.

21 Do you see that?

22 MR. DANIEL PEACO: Yes.

23 MR. ANTOINE HACAULT: That's comparing  
24 Plan 6 to Plan 14. Now, let's talk a little bit about  
25 the positive. I don't want to only focus on the

1 negative.

2 The positive would be at the 75th  
3 percentile, right?

4 MR. DANIEL PEACO: Yes.

5 MR. ANTOINE HACAULT: So Plan 6 at the  
6 75th percentile, we've got a little bit over a billion  
7 dollars of potential upside.

8 Do you see that?

9 MR. DANIEL PEACO: Yes.

10 MR. ANTOINE HACAULT: Now, for the  
11 extra \$5 billion of investment at the 75th percentile,  
12 how much upside are we thinking we might get?

13 MR. DANIEL PEACO: It looks like about  
14 six dollars (\$6). Or six (6) -- \$6 million.

15 MR. ANTOINE HACAULT: Yeah, 6 million.  
16 Yeah, don't worry I've been making that mistake all the  
17 time. So that -- that, in the scheme of things over  
18 the length of time, that's really insignificant.

19 Would you agree?

20 MR. DANIEL PEACO: Those are pretty  
21 close to dead even.

22 MR. ANTOINE HACAULT: Yeah. So  
23 potentially if we look at the 90 -- the 90th  
24 percentile, there is some reward there. But up to the  
25 75th percentile, either it's not good news or we're

1 kind of faring pretty much the same.

2 Is that fair?

3 MR. DANIEL PEACO: It's how those  
4 numbers lay out, yes.

5 MR. ANTOINE HACAULT: And if we look at  
6 the difference between expected value, Plan 6, and Plan  
7 14 our expected values for Conawapa and the WPS sale  
8 and the 750 line don't look as good.

9 We go down to a hundred and twenty (120)  
10 from three hundred and eighty-six (386), correct?

11 MR. DANIEL PEACO: Yes.

12 MR. ANTOINE HACAULT: And even the  
13 ref/ref is pretty much the same, but a little less,  
14 from six-sixty-two (662) for Plan 6 to six-fourteen  
15 (614) for Plan 14.

16 MR. DANIEL PEACO: I see that.

17 MR. ANTOINE HACAULT: So with this  
18 information, would the graph that you had produced in  
19 your update tell us a different story?

20 You had put -- if we can go, Diana, to  
21 page 24 of Exhibit 12-2.

22

23 (BRIEF PAUSE)

24

25 MR. DANIEL PEACO: This is the...

1 MR. ANTOINE HACAULT: Maybe it's not  
2 twenty-four (24).

3 MR. DANIEL PEACO: You're looking at my  
4 presenta -- you're looking for my presentation, or the  
5 --

6 MR. ANTOINE HACAULT: No, it was the  
7 update of 9A and 9B. It's --

8 MR. DANIEL PEACO: The addendum?

9 MR. ANTOINE HACAULT: -- 'L' -- La  
10 Capra-12-2. And it may be because -- oh, there it is.  
11 Yes.

12 This quilt that I've just taken you  
13 through, sir, which is the updated information without  
14 the WPS investment, seems to tell us a different story  
15 than the graph that you were able to put up, which  
16 still included the WPS investment, correct?

17 MR. DANIEL PEACO: Yeah, that's the one  
18 (1) difference between the -- the March 10 numbers that  
19 we used to build this table and the -- the more recent  
20 quilt.

21 MR. ANTOINE HACAULT: So would you be  
22 able to redo this kind of graph, but with the quilt  
23 that we have that I've just taken you through at  
24 Exhibit 104 at page 3?

25 MR. DANIEL PEACO: For the reference

1 case?

2 MR. ANTOINE HACAULT: Yes.

3

4 (BRIEF PAUSE)

5

6 MR. DANIEL PEACO: Yes, we can do that.

7 MR. ANTOINE HACAULT: Now -- so the

8 undertaking will be to redo Figure 9-99U --

9 THE CHAIRPERSON: Me. Hacault? Just a

10 second please.

11

12 (BRIEF PAUSE)

13

14 MR. CHRISTIAN MONNIN: Mr. Chair, she

15 was asking for clarification of --

16 THE CHAIRPERSON: Okay.

17

18 CONTINUED BY MR. ANTOINE HACAULT:

19 MR. ANTOINE HACAULT: To update that  
20 graph, taking into consideration the reference values  
21 shown at page 3 of 7 in Exhibit 104-8 for Manitoba  
22 Hydro.

23 Now, you had also, as part of the  
24 updated information, I think it was at slide 72, given  
25 us the expected values --

1 MR. DANIEL PEACO: Could -- could I go  
2 back for just one (1) second?

3 MR. ANTOINE HACAULT: Yep.

4 MR. DANIEL PEACO: On that undertaking,  
5 we had talked about the Plan 4. Do you still want the  
6 Plan 4 step in that picture? The 250 line?

7

8 (BRIEF PAUSE)

9

10 MR. ANTOINE HACAULT: So to clarify,  
11 the undertaking would be to redo Figure 9 -- 9-99U from  
12 Exhibit -- La Capra Exhibit 12-2, and with the  
13 precision that you don't need to put the 250 line. You  
14 can put the 750 line only in -- in the bar graph.

15 MR. DANIEL PEACO: Okay.

16

17 --- UNDERTAKING NO. 108: La Capra to redo Figure 9-  
18 99U

19

20 CONTINUED BY MR. ANTOINE HACAULT:

21 MR. ANTOINE HACAULT: Now, sir, we've  
22 seen the story change quite a bit just with the capital  
23 costs and the no WPS investment. And we've seen the  
24 story change again with the level of DSM.

25 Using my colleague's wording, do you



1 think that the analysis that we have and the economic  
2 analysis works without having a quilt for the Level 2  
3 DSM and seeing how that affects all the plans and the  
4 2012 assumptions, which are not included?

5 MR. DANIEL PEACO: I guess my answer to  
6 your question is no different than the one I gave Mr.  
7 Williams, that we -- you know, we've put forward the  
8 information as best we -- we can. But -- but it  
9 clearly would be better to have a complete analysis  
10 than not, but we don't have that.

11 MR. ANTOINE HACAULT: I can appreciate  
12 you don't have it and the Board doesn't have it. And  
13 I'm kind of sitting in the Board's shoes in saying,  
14 Well, listen, I've seen little snippets on a Preferred  
15 Development Plan and maybe Plan 5 as to what happens.

16 Is there any help you can give the Board  
17 at this time? Or, really, for the Board to understand  
18 what happens, it needs to have the proper quilt with  
19 DSM too.

20 MR. DANIEL PEACO: Well...

21 MR. CHRISTIAN MONNIN: Mr. Hacault, I  
22 believe that Mr. Peaco's answered the best that he can  
23 at this point in time, that particular question. If  
24 the Board wants further analysis to be done, that's  
25 within the purview of the Board, but La Capra has

1 provided the information as best as they can, given the  
2 data they have.

3

4 CONTINUED BY MR. ANTOINE HACAULT:

5 MR. ANTOINE HACAULT: And hopefully I'm  
6 not kind of misstating it, but do you have any sense as  
7 to whether this new analysis would be a material change  
8 as compared to what we have right now?

9 MR. DANIEL PEACO: Well, the -- what --  
10 what's the chart, the waterfall chart?

11

12 (BRIEF PAUSE)

13

14 MR. DANIEL PEACO: I think if you --  
15 you know, if you look at slide 18 of our presentation,  
16 we tried to distill this, at least in terms of expected  
17 value, in terms of what we're expected to see if you  
18 were to do this on the Preferred Development Plan.  
19 It's -- in the -- you know, we do this in the -- in the  
20 interest of realizing that the panel has -- has a  
21 deadline to do, and we get a -- help them get -- you  
22 know, as -- as imperfect as the information is this is  
23 what we have, and take what insight from it we can.  
24 But -- so it was our -- our attempt in this to -- to  
25 shed some insight into some of the changes that would

1 occur there.

2 I think that as the focus really has  
3 shifted away from the Preferred Development Plan to  
4 some of the other pathways, you know, we -- we don't  
5 necessarily have as much insight there, but we do have  
6 -- well, we recently have received and haven't yet  
7 looked at it in much detail, some of the additional  
8 information on the plans that have been tested with --  
9 with DSM Level 2, which will give us -- would give some  
10 insight to it, but that's -- that's the -- the state of  
11 the information we have at this point in time.

12 MR. ANTOINE HACAULT: Thank you, sir.  
13 The reason I was asking the question is if I was -- and  
14 I'm not pretending to be sitting on the Board, but if I  
15 was sitting on the Board I'd probably want to know, is  
16 this going to be material? Do I have enough  
17 information? Because one (1) of the tasks that I  
18 understood La Capra to have to undertake was to test  
19 whether or not it was a sufficient analysis, whether it  
20 was reasonable, and whether it was -- there was  
21 sufficient due diligence done.

22 And I know I'm kind of putting you on  
23 the spot. If you can't give us a sense as to whether  
24 or not these changes across all the plans might tell us  
25 a materially different story on DSM, you can't answer.

1 But if -- if you had been able to give us some kind of  
2 insight as to whether or not you -- you thought it  
3 might tell us a different story about the alternatives,  
4 that would be useful.

5 MR. DANIEL PEACO: Yeah. I guess my  
6 thought is -- I think I've already stated that, and I  
7 guess the -- I guess the question is, What else is it  
8 you're looking for me to -- to articulate? Clearly  
9 we've talked a lot today about the fact that DSM Level  
10 2 really changes the outlook of the -- of the net loads  
11 that need to be served, the timing of the need for new  
12 capacity and energy to serve domestic load as an  
13 economic impact on cases, and changes in material ways  
14 the -- the relative economics of -- of other cases.

15 I'm not sure what else I can offer you  
16 in response to the question than what we've already  
17 covered.

18 MR. ANTOINE HACAULT: So it'll be up to  
19 the Board to decide whether or not it -- it wants to,  
20 or needs to have that information, or whether it even  
21 has an option to be able to get it --

22 MR. DANIEL PEACO: And --

23 MR. ANTOINE HACAULT: -- and we'll  
24 leave it for the Board --

25 MR. DANIEL PEACO: -- I think -- I

1 mean, in an ideal world you'd like to have all new  
2 update, but I -- but also I know that they're on a  
3 schedule, and as -- at some point they have to draw a  
4 line. And -- and I'm -- I'm not advocating, you know,  
5 doing it or not doing it. I'm just saying that  
6 practical realities maybe there's a limit to how much  
7 of that you can do.

8 But what we tried to indicate here is  
9 clearly the -- these -- the changes that have come to  
10 the fore in the last month clearly, as -- as best we  
11 can understand it, do have a material effect on the  
12 economic analysis that was previously available to us,  
13 and on the table.

14 MR. ANTOINE HACAULT: Thank you very  
15 much. That's very helpful. And that you for trying to  
16 answer that question. I know I put you in a difficult  
17 situation.

18 The next area that I'd like to discuss  
19 with you, sir, is -- relates basically to the financial  
20 analysis.

21 You completed in your reports an  
22 economic analysis and a financial analysis, correct?

23 MR. DANIEL PEACO: Yes.

24 MR. ANTOINE HACAULT: And that  
25 financial analysis was done based on the original

1 filing as presented by Manitoba Hydro, correct?

2 MR. DANIEL PEACO: Yes.

3 MR. ANTOINE HACAULT: Without the new  
4 updates that have occurred since then, correct?

5 MR. DANIEL PEACO: Yes. I guess my  
6 understanding that the financial panel introduced some  
7 -- some updates. I'm, as -- as you may know, I'm not --  
8 -- we haven't had an opportunity to get immersed in the  
9 evidence that was introduced in the financial panel.

10 MR. ANTOINE HACAULT: Okay. And let me  
11 try and attack this in the same venue. If we go to  
12 Exhibit 12, I believe that's L -- La Capra-9a at the  
13 bottom of page -- hopefully it's page 16. That's my  
14 note.

15

16 (BRIEF PAUSE)

17

18 MR. ANTOINE HACAULT: At -- at the  
19 bottom of this page -- yes, that's -- that's good,  
20 Diana. Thank you very much.

21 We see a reference to the unleveraged  
22 cash flow approach. That's the economic analysis that  
23 we've been talking about, sir. Is that correct?

24 Maybe we can just scroll up a little  
25 bit, Diana, I think, at the --

1 MR. DANIEL PEACO: Yes, that's correct.

2 MR. ANTOINE HACAULT: Okay. So at the  
3 very last paragraph where I'm reading the unleveraged  
4 cash flow, I could read the -- Manitoba Hydro's  
5 economic analysis approach is primarily a Manitoba  
6 Hydro perspective rather than a Manitoba Hydro  
7 customer's perspective.

8 Is -- is -- am I reading that right?

9 MR. JOHN ATHAS: That's correct.

10 MR. ANTOINE HACAULT: And if we go to  
11 the next page, page 17, at the top of the page, La  
12 Capra is talking that this is useful when the analysis  
13 is focussed on single investment projects that have  
14 shorter installation or construction periods.

15 Is that correct?

16 MR. JOHN ATHAS: Yes.

17 MR. ANTOINE HACAULT: But -- and here,  
18 could you explain to me why you make the next comment:

19 "Generally anything more involved,  
20 such as development plan comparisons,  
21 would be better served with financial  
22 analysis, or at least where a utility  
23 is involved, a revenue requirements  
24 analysis"?

25 Why does La Capra have that view on what

1 the financial metric is going to tell us?

2 MR. JOHN ATHAS: Okay. Let's take it  
3 in steps. The financial analysis part is very  
4 analogous to the question of -- of what -- what would  
5 you do if you were a merchant generator or a merchant  
6 making an investment? And if it was a very big  
7 investment and you knew you were going to get leveraged  
8 with 60, 50, 80 percent debt or something of that sort,  
9 you'd probably want to do -- you'd probably do your  
10 analysis on the -- on what your return on equity is  
11 after accounting for all the financial and debt costs  
12 and other -- other parameters like -- and tax effects  
13 and things like that. That's probably the level of  
14 prudence that any owner of a company, whether they be  
15 stockholder or privately owned, would expect their --  
16 their development community to do.

17 In the -- in the -- in doing an analysis  
18 as -- from a utility standpoint where there is a, you  
19 know, rather complex decisions, and it also has to do  
20 with -- actually kind of a -- almost most decisions --  
21 and it has the fact that the ratepayer tends to be deep  
22 pockets in the -- in the analysis and the -- and the  
23 situation that a revenue requirement analysis tends to  
24 be more indicative of the eff -- effects on the  
25 ratepayers. We did some preliminary analysis and said



1 that -- showed that at the long period of time the --  
2 those -- the revenue requirement analysis doesn't give  
3 different indicators than the unleveraged cash flow.  
4 But on the -- in the shorter periods of time, like the  
5 twenty (20) or thirty-five (35), you'd have a -- you'd  
6 have a different -- a difference to be developed.

7 MR. ANTOINE HACAULT: Thank you. Now,  
8 if you -- as you have correctly pointed out, we haven't  
9 received a full financial update.

10 Would it be fair to suggest that if the  
11 updates from an economic analysis perspective were  
12 material, that one would expect that the updates from a  
13 financial perspective would also be material to the  
14 analysis?

15 MR. JOHN ATHAS: It depends on which  
16 metric you're looking at for financials. In our  
17 financial 10A and -- and in all the information that --  
18 that Manitoba Hydro put forward, there's several  
19 different metrics, whether it would be cost of  
20 electricity or -- or what's happened to retained  
21 earnings or -- or leverage and things like that.

22 So it -- it will change it materially.  
23 It will change the numbers materially enough that you  
24 see it in that regard. The interpretations of them is  
25 -- is probably best made by -- after you see it.

1 MR. ANTOINE HACAULT: So this panel  
2 will have to decide then whether or not it wants to see  
3 the numbers, which you believe would change materially,  
4 so it can decide whether or not, in its analysis, it --  
5 it changes their conclusions.

6 Is that fair?

7 MR. CHRISTIAN MONNIN: Mr. Hacault,  
8 that's -- they -- they can't speak for what the panel  
9 will deem to be relevant or not, or what they want to  
10 look at. Again, I think the answer has been provided,  
11 that they have the data. And in fact, with respect to  
12 financials, they don't have the data, but it's up to  
13 the panel to determine what -- what they need.

14 MR. ANTOINE HACAULT: From MIPUG's  
15 perspective, we make the request that La Capra have the  
16 opportunity to review and analyze the updated financial  
17 information. It'll be up to this panel to decide  
18 whether or not it does it.

19 And the same thing with respect to the  
20 economic information. We make the suggestion, and --  
21 and maybe a little bit stronger -- the request that it  
22 -- it consider having La Capra do updated analysis with  
23 the updated economic and financial parts of that  
24 analysis.

25 I'll -- I'll leave that there, I guess.

1 I don't need a decision. I'm just setting out MIPUG's  
2 views.

3 THE CHAIRPERSON: Your views are noted.  
4 Thank you.

5

6 CONTINUED BY MR. ANTOINE HACAULT:

7 MR. ANTOINE HACAULT: Now, sir, there's  
8 some things that Manitoba Hydro is going to be doing,  
9 as I understand it, in the new financial analysis. But  
10 there's a couple points that I just want to bring to  
11 your attention that don't appear to be considered by  
12 Manitoba Hydro in its financial analysis.

13 The first one (1) is sunk costs. When I  
14 was asking questions of Mr. Rainkie of Manitoba Hydro  
15 as to what would happen in the real world with respect  
16 to sunk costs, he indicated it would not necessarily  
17 follow the assumptions that were used in the financial  
18 analysis.

19 It -- were you able to follow the  
20 transcripts to -- to see that? I -- hopefully I'm  
21 summarizing it correctly.

22 MR. JOHN ATHAS: I -- I did get a  
23 chance to just glance at that transcript. I think it -  
24 - it was very consistent with, in general, that the --  
25 that the -- from day 1, I believe, the financials were

1 put forward here as -- as providing indic -- indicative  
2 metrics and not necessarily a financial plan under any  
3 of those -- those scenarios for -- whether it be rate  
4 path, or -- or financing paths that we use.

5 And I think that would also probably  
6 apply to other elements like how to do the accounting  
7 for -- for sunk costs, yes.

8 MR. ANTOINE HACAULT: So, Diana, it's  
9 at our book of documents 20-7. So the latest one, at  
10 page 11.

11

12 (BRIEF PAUSE)

13

14 MR. ANTOINE HACAULT: So -- and you see  
15 this is part of the transcript that's reproduced in our  
16 book of documents. But it was with respect to a  
17 discussion related to the assumptions that are done in  
18 the financial analysis versus what would happen in the  
19 real world with respect to this 88 to \$89 million per  
20 year.

21 If we didn't need to make a plan absorb  
22 those costs, would it change the relative merits of the  
23 plans?

24

25 (BRIEF PAUSE)

1 MR. JOHN ATHAS: The merits that --  
2 merits that we like to look at are comparative metrics.  
3 And the -- to the extent that the sunk costs are sunk,  
4 whether it's an economic analysis or financial  
5 analysis -- analysis, primarily the effect is -- is  
6 small in the financial and nonexistent in the economic  
7 analysis.

8 So I -- I think that the -- taking the  
9 assumption that the plan would not have to absorb the  
10 sunk costs, I'm not sure -- I'm not sure where those  
11 sunk costs go that -- to -- who -- what -- who is going  
12 to have to absorb that to -- to even postulate.

13 MR. ANTOINE HACAULT: Let me -- let me  
14 take it step by step. I think in the economic analysis  
15 we don't consider the sunk costs at all; we just  
16 consider the incremental values.

17 Is that inconsistent with what your  
18 understanding is, sir?

19 MR. JOHN ATHAS: That's my  
20 understanding.

21 MR. ANTOINE HACAULT: And with respect  
22 to the financial analysis, however, when we look at  
23 plans that are all gas, the All Gas Plan is asked to  
24 assume over eighteen (18) years the sunk costs of  
25 Keeyask and Conawapa.

1                   Is that consistent with your  
2 understanding, sir?

3                   MR. JOHN ATHAS:    Yes, it is.

4                   MR. ANTOINE HACAULT:   And when we look  
5 at the Plan 2, which we had looked at, which is the  
6 Keeyask with Gas, because it doesn't include Conawapa,  
7 that Plan is asked to absorb the sunk costs with  
8 respect to Conawapa.

9                   Is that consistent with your  
10 understanding?

11                  MR. JOHN ATHAS:    Yes.

12                  MR. ANTOINE HACAULT:   Now, the next  
13 issue that I had raised with the financial panel that  
14 doesn't appear to be considered by Hydro was the  
15 different approach in the depreciation rates. That was  
16 a move from equal -- or average service life method of  
17 depreciation for the Keeyask and Conawapa plants to an  
18 equal life group method of depreciation, which I had  
19 taken the financial panel through.

20                  And there was about a 30 million -- it  
21 was \$31 million difference between those two (2)  
22 approaches, which is not included; so \$31 million of  
23 additional annual expense would be included, say, in  
24 the year 2030.

25                  Again, if the evidence of Manitoba Hydro

1 was that they were moving towards that depreciation  
2 methodology, would it be something that La Capra would  
3 be able to incorporate in its analysis in the same way  
4 as it might be able to incorporate, say, the real world  
5 view of sunk costs?

6 MR. JOHN ATHAS: Well, the safest way  
7 to answer that is, if that was in the original model  
8 would it have changed -- would it have affected the  
9 numbers we produced? Yes.

10 Do I -- depending on how they're going  
11 to change it, do I know whether we can easily  
12 incorporate it? I don't know.

13 MR. ANTOINE HACAULT: Okay. And does  
14 the same answer stand with respect to sunk costs? You  
15 don't know whether you could incorporate if the Public  
16 Utility Board asks to say, Well, let's take a real  
17 world look at this, not just an assumption, that the  
18 sunk costs are going to be fully amortized over  
19 eighteen (18) years, is that something La Capra could  
20 do, or you don't know?

21 MR. JOHN ATHAS: I'm not sure.

22 MR. ANTOINE HACAULT: Okay. I'm going  
23 to be asking you the same kind of question. And if, at  
24 one point in time, I don't -- this is not an  
25 undertaking. But if you have a different view or --

1 that you might be able to provide us that information  
2 and -- could you let us know whether your view changes  
3 and what kind of work would be involved if you thought  
4 you could do it?

5 And that would hold true with respect to  
6 all the different things that I'm going to cover here  
7 that are -- are not included in the Manitoba Hydro  
8 analysis. Would you be willing to consider that, sir?  
9 It's not an undertaking. But just if -- if your  
10 thought process is -- is different at -- when you have  
11 more time to think about it.

12 MR. CHRISTIAN MONNIN: If I can just  
13 chime in on that point, Mr. Hacaault. My -- my concern  
14 is the same as -- as the earlier one which I raised.  
15 If you're asking him to speak about something -- or  
16 something that they haven't done yet and haven't been  
17 asked to do yet based on data that hasn't been  
18 provided, again, it certainly was the purview of the  
19 Board to request that once that data comes in. But I -  
20 - I don't know if they're able to speak to something  
21 that's clearly hypothetical of the grandest order.

22 MR. ANTOINE HACAULT: Okay. Fair  
23 enough. Then MIPUG makes known its request and views  
24 that these additional items which are not included in  
25 the Manitoba Hydro analysis accumulatively affect the



1 financial analysis, and it's MIPUG's view that they  
2 should be considered so that the Board can make a  
3 proper determination. The --

4 THE CHAIRPERSON: Your concerns are  
5 noted, Me. Hacaault.

6 MR. ANTOINE HACAULT: The --  
7 understanding the limits that the -- that are imposed  
8 on the panel, of course, thank you very much, Mr.  
9 Chairman.

10

11 CONTINUED BY MR. ANTOINE HACAULT:

12 MR. ANTOINE HACAULT: The next item  
13 that had been dealt with was -- and this is in MIPUG  
14 book -- book of documents 20-5 at page 110.

15

16 (BRIEF PAUSE)

17

18 MR. ANTOINE HACAULT: You'll see, sir,  
19 just above the net income heading there's a heading  
20 called 'Non-controlling Interest'.

21 Do you see that?

22 MR. JOHN ATHAS: Yes.

23 MR. ANTOINE HACAULT: Do you have any  
24 understanding of what that items about? Not really?  
25 I'm looking at your face.

1 (BRIEF PAUSE)

2

3 MR. JOHN ATHAS: Our understanding at  
4 one (1) point was -- is that that has -- has to do with  
5 the -- the -- has to do with the fact that there's  
6 minority owners.

7 MR. ANTOINE HACAULT: Yes. And it  
8 relates to a facility called Wuskwatim, and my line of  
9 questioning raised that in a prior hearing on December  
10 12 of 2012 the then-CFO, Mr. Vince Warden, had  
11 indicated that the amounts that are shown here, he was  
12 certain that they would not be collected by Manitoba  
13 Hydro, although they are shown in this forecast. The  
14 effect would be to reduce the net income by the amounts  
15 shown as positive numbers here, ironically.

16 Knowing the exact numbers as shown in --  
17 in this financial forecast, is that something that La  
18 Capra, if requested by the PUB, could model and -- and  
19 determine?

20 Is -- is that clear enough?

21 MR. JOHN ATHAS: Let me make sure I  
22 understand what you're -- are you talking about  
23 incorporate that change into our analysis?

24 MR. ANTOINE HACAULT: Yes.

25 MR. JOHN ATHAS: I don't think it's

1 material at all.

2 MR. ANTOINE HACAULT: You don't think  
3 it's -- okay. So it's just another item, but adding  
4 the -- because I'm not too sure I didn't add them all.

5 But about -- over 100 million wouldn't  
6 be material?

7

8 (BRIEF PAUSE)

9

10 MR. JOHN ATHAS: For the purposes and  
11 observations of the -- of the numerical analysis that  
12 we did to try to understand the impacts of the  
13 Preferred Development -- the Development Plans, it  
14 would not be material.

15 MR. ANTOINE HACAULT: Okay. So with  
16 respect to rates, sir, if the Corporation had defined  
17 over \$100 million, do you know how much rates would  
18 have to increase to be able to -- to collect another  
19 \$100 million plus?

20 Do you have any sense of what Manitoba  
21 ratepayers would have to pay, as far as an additional  
22 increase to find that \$100 million?

23 MR. JOHN ATHAS: If they were looking  
24 at the chart right here, if it says fourteen (14) --  
25 \$1.4 billion at approved rates in 2014, then you

1 suddenly added a hundred million dollars to that, it  
2 would go up by a hundred million dollars.

3 MR. ANTOINE HACAULT: And roughly  
4 speaking, then you would do the -- the portioning, so  
5 it would be some -- perhaps 8 or 9 percent that  
6 Manitobans would have to pay more to collect that? It  
7 wouldn't be continuing, but the one (1) shot.

8 MR. JOHN ATHAS: We have not dealt with  
9 any proportioning to -- to speak of.

10 MR. ANTOINE HACAULT: Okay. Now, the  
11 next item that we dealt with in the financial panel  
12 were the water rentals.

13 In MIPUG-20-6, pages 37 and 38, the --  
14 were you aware, sir, that the water rentals don't have  
15 any inflation factor after the first thirty-five (35)  
16 years? Sorry, during the first thirty-five (35) years?

17 MR. JOHN ATHAS: In -- in terms of the  
18 rate of -- that they charge for -- per kilowatt hour?  
19 That's my understanding from the way we -- the way we  
20 did the economic analysis.

21 MR. ANTOINE HACAULT: So if the  
22 province doesn't keep the water rental rates at a  
23 constant level directionally, is that good for the  
24 financial modelling, or not so good? Does -- does it  
25 make it -- is it an additional expense that makes it

1 look more onerous on ratepayers, or is it a savings  
2 that we can pass on to ratepayers?

3 MR. JOHN ATHAS: If they increase the  
4 water rental rate, there would be a increase in some  
5 digit, of whether it's -- whether it's the, you know,  
6 thousands of cents per kilowatt hour, or a cent per  
7 kilowatt hour, I'd have to know exactly what they are  
8 talking about for the -- for the increase in water  
9 rental cost.

10 MR. ANTOINE HACAULT: But the  
11 difference between the All Gas Plan, when we don't add  
12 any additional hydrology, and Plan 14, where we add --  
13 add two (2) units of hydr -- hydraulic power, it would  
14 affect the economics of Plan 14, because those plans  
15 would generate more water rentals, correct?

16 MR. JOHN ATHAS: Correct.

17

18 (BRIEF PAUSE)

19

20 MR. ANTOINE HACAULT: Now, I'd like to  
21 switch just a little bit and talk about rate design,  
22 and if we could go to La Capra Exhibit 13, that's your  
23 Schedule 10A at page 53.

24

25 (BRIEF PAUSE)

1 MR. ANTOINE HACAULT: I'd like to help  
2 you, or help us understand what this graph is intended  
3 to tell us.

4 MR. JOHN ATHAS: The -- the  
5 understanding that we have at La Capra from how the --  
6 from some of the choice of parameters that were used in  
7 the modelling, that some of them are -- I wouldn't call  
8 them fixed related to a -- a policy of the province or  
9 -- or accounting rules. Some of them have a -- a  
10 little bit more up for -- they're more variable.

11 One (1) of which is the -- is the target  
12 year for which they reached the 75 percent debt target,  
13 and they chose -- they chose 2032, where that -- where  
14 that dashed line is. And the -- and we ran a  
15 parametric analysis to say, How would you -- how -- how  
16 would the equal annual rate increases metric that was  
17 produced by Manitoba Hydro change by -- for a few plans  
18 with that -- with that assumption so that where  
19 something was in the order of, you know, depending on  
20 the plan, 3 1/2, 4 percent at the tar -- at the dashed  
21 line. If you suddenly said, I want -- I'm going to  
22 move my target from 2032 to 2020, you're now talking  
23 about 12 percent of 14 percent equal annual rate  
24 increases.

25 And that was to provide information as

1 to how big a difference in that metric could -- could  
2 show up from the assumption of the year which 75  
3 percent debt is reached.

4 MR. ANTOINE HACAULT: So that if Hydro  
5 was able to convince the rating agencies and other  
6 people that need to be involved in that decision that  
7 instead of reaching it in 2032 we would stretch that  
8 out to 2040, we wouldn't need to see rate increases in  
9 the order of 4 percent; we'd be a little bit above 2  
10 percent.

11 Is that what this graph is telling us?

12 MR. JOHN ATHAS: Yeah, it's probably  
13 like a little less than 4 percent, to two (2) -- like  
14 to a little more than two (2) percent, so it might be,  
15 you know, a percent and a half.

16 THE CHAIRPERSON: But a 2 percent --  
17 two (2) point something percent increase stretched out  
18 to 24 -- 2040 would yield 75:25 at that point?

19 MR. JOHN ATHAS: That's correct.

20

21 CONTINUED BY MR. ANTOINE HACAULT:

22 MR. ANTOINE HACAULT: And this is based  
23 on the old 2012 information, not the updated capital  
24 costs, et cetera?

25 MR. JOHN ATHAS: Correct.

1 MR. ANTOINE HACAULT: Now...

2

3 (BRIEF PAUSE)

4

5 THE CHAIRPERSON: What's surprising  
6 about this is how little the -- the Preferred  
7 Development Plan impacts rates going out. You know,  
8 you would have expe -- I would have expected the  
9 Preferred Development Plan, which is supposed to yield  
10 significant returns fifty (50) years out or seventy  
11 (70) years out, and so on, I would have expected that  
12 to have a material impact on lowering rates to  
13 ratepayers.

14 And it doesn't seem to be happening  
15 here.

16 MR. JOHN ATHAS: For instance, I mean,  
17 you're looking at, like, say when you're at the 2060  
18 parameter, that you would have thought that it was a  
19 much different equal -- equal annual. That's -- yeah,  
20 that -- that's -- that's true at that point. It's --  
21 you know, it -- it hasn't changed it to if you made the  
22 75 percent target way out in that time.

23 I mean, it's not the same question as if  
24 you start -- where that -- how close that would be  
25 packed there if you stu -- if you stuck with the



1 target. I don't want to leave anybody the  
2 misimpression that that -- that that -- no matter what  
3 the assumptions are, that that 2060 number is as  
4 clustered as it is.

5

6 CONTINUED BY MR. ANTOINE HACAULT:

7 MR. ANTOINE HACAULT: Now, in its  
8 report, La Capra says that before this is done, we  
9 would need to confirm it does not need to possible  
10 impacts on boring costs for Manitoba Hydro and the  
11 province and that it could have further impacts on  
12 ratepayers.

13 Is La Capra in a position at all to  
14 provide any insight on whether or not stretching the  
15 target date to 2040 would have impacts on boring costs  
16 for Manitoba Hydro and the province?

17 MR. JOHN ATHAS: We're not in a  
18 position to...

19

20 (BRIEF PAUSE)

21

22 MR. ANTOINE HACAULT: Now, another  
23 subject that has been discussed in the -- the financial  
24 analysis side is the -- the US assets and costs. And  
25 on March 21, our understanding is that the new analysis

1 by Hydro would not include the high capital cost  
2 scenario for the Great Transmission Line.

3 Does La Capra have any information on  
4 what the additional cost is, or the high metric, is of  
5 the Great Northern Transmission Line as compared to the  
6 ref costs?

7 MR. JOHN ATHAS: In the information  
8 that we may -- all the information we've collected to  
9 try to do some analysis, this probably is the  
10 difference in that number. It wasn't something that we  
11 focussed on at all, so I -- I don't believe that we --  
12 we would have it in any of our work papers.

13 MR. ANTOINE HACAULT: So let me show  
14 you, sir, in Volume V of our book of documents, page  
15 177. If we go down further, Diana; thank you very  
16 much.

17 With respect to the Great Northern  
18 Transmission Line project estimates -- and, sir, this  
19 is from some material that was taken from the  
20 application for certification of this 500 kV line -- is  
21 La Capra aware that the estimates put in front of that  
22 regulatory proceeding goes from a midpoint of 507  
23 million to 609 million?

24

25 (BRIEF PAUSE)

1 MR. DANIEL PEACO: We'd have to check  
2 to see if -- if we have this particular set of  
3 information. I'm not -- we have information on the  
4 cost of the line, and I just -- as I say, I don't  
5 recall whether this particular document is one (1) that  
6 we have or not.

7 MR. ANTOINE HACAULT: Could you just  
8 check to see, sir, whether or not, in the high capital  
9 costs scenario, whether or not that high capital cost  
10 scenario includes the extra 100 million for the Great  
11 Northern Transmission Line to the extent that Manitoba  
12 Hydro has to pay for it?

13 MR. DANIEL PEACO: We -- the high  
14 capital cost scenario meaning the -- the updated  
15 capital cost analysis?

16 MR. ANTOINE HACAULT: No, the -- the  
17 one that you have. You know, you've -- you have  
18 received an initial filing from Manitoba Hydro. As I  
19 understand, you're going to look to see whether or not  
20 the high capital cost scenario includes a higher  
21 capital cost for the Great Northern Transmission Line  
22 project to the extent Manitoba Hydro has to pay for it,  
23 because it doesn't have to pay 100 percent of it.

24 MR. JOHN ATHAS: Okay. Subject to  
25 check, I -- I think that the change in transmission

1 cost was not -- in high and low was not part of the --  
2 the high -- high or low capital cost scenario, but I  
3 can check that.

4 MR. ANTOINE HACAULT: Okay. Thank you.

5

6 (BRIEF PAUSE)

7

8 MR. ANTOINE HACAULT: Yes, if you can  
9 just repeat what you said, sir, as -- as an  
10 undertaking?

11 MR. JOHN ATHAS: La Capra will be check  
12 -- Associates will be checking to see if the high and  
13 low estimates on this page are correspondingly used in  
14 the economic analysis, the high and low cases for the  
15 2012 analysis.

16

17 (BRIEF PAUSE)

18

19 MR. ANTOINE HACAULT: It's page 177 of  
20 MIPUG Exhibit 20-5.

21

22 --- UNDERTAKING NO. 109: La Capra to indicate if the  
23 high and low estimates on  
24 page 177 of MIPUG Exhibit  
25 20-5 are correspondingly

1                                   used in the economic  
2                                   analysis

3

4 CONTINUED BY MR. ANTOINE HACAULT:

5                           MR. ANTOINE HACAULT:   And, sir, along  
6 the same line of questioning with respect to the Great  
7 Northern Transmission Line, are you aware as to whether  
8 or not La Capra's analysis also included Manitoba  
9 Hydro's liability for maintenance of this line over the  
10 long term?

11

12                                   (BRIEF PAUSE)

13

14                           THE CHAIRPERSON:   Liability or cost,  
15 Me. Hacault?

16

17 CONTINUED BY MR. ANTOINE HACAULT:

18                           MR. ANTOINE HACAULT:   Long-term costs  
19 for the maintenance.  So it's operating and maintenance  
20 costs.

21                           MR. JOHN ATHAS:   The -- the assumption  
22 -- the -- our working assumption is that is in the O&M  
23 analysis -- O&M costs in the -- in the financial  
24 analysis and in the economic analysis.  If it -- if  
25 it's not, we weren't aware of it.

1 MR. ANTOINE HACAULT: So you're not  
2 sure, is your answer?

3 MR. JOHN ATHAS: No, I'm -- I'm -- my  
4 working assumption is that that -- that those numbers,  
5 to the extent that they -- that they're in some plans  
6 and not in the others, would be relevant, and are --  
7 and therefore, are shown -- the O&M costs associated  
8 with the application that you mentioned is -- is  
9 properly accounted for in the plans.

10 THE CHAIRPERSON: Would that be --  
11 would that necessarily be the case? I mean, I'm  
12 harbouring under the impression that the plans that you  
13 reviewed that involved an investment in a transmission  
14 line were predicated on the notion that what WPS would  
15 be investing in -- in the transmission line.

16 MR. JOHN ATHAS: Yes, and it's one (1)  
17 reason -- I believe there's still some O&M obligations  
18 associated with that line that -- that Manitoba Hydro  
19 is taking on, and maybe, you know, only -- and -- but I  
20 -- we can -- we can check that. I -- you know,  
21 certainly it -- it would change as part of the -- when  
22 the investment changes to the -- to the new assumption  
23 that there isn't a investment by WPS.

24

25 CONTINUED BY MR. ANTOINE HACAULT:

1 MR. ANTOINE HACAULT: So can you repeat  
2 that in the form of an undertaking, that you will check  
3 to see whether or not the -- La Capra's analysis  
4 includes the ongoing liability of Manitoba Hydro for  
5 the operating and maintenance costs of the Great  
6 Northern transmission line?

7 MR. JOHN ATHAS: To the extent that  
8 we're working, yes, we can -- I can verify that the --  
9 that it -- that looking at the differences in the cash  
10 flows supplied to us on the detailed economic analysis  
11 by -- by Manitoba Hydro, I can say it looks -- it -- it  
12 gives every indication that they're in there or not.  
13 If you really want to know whether they're in there or  
14 not definitively, you can -- we -- probably be best to  
15 ask the people that put together the economic model.

16 MS. ODETTE FERNANDES: Sorry, Mr.  
17 Hacaault. I don't know if it would be of assistance,  
18 but Manitoba Hydro did file a response to Undertaking  
19 Number 42 as Exhibit Number 139, which was the  
20 derivation for the capital cost estimates.

21

22 (BRIEF PAUSE)

23

24 MR. ANTOINE HACAULT: My suggestion for  
25 that is that we take the evening to -- to look at this,

1 and then come back tomorrow morning if we need to do  
2 something with it, and that I move on for now.

3 MR. CHRISTIAN MONNIN: That's -- that's  
4 fair. I just -- I just want to make sure the record  
5 shows that the attempt at the last undertaking is -- is  
6 -- has been scrubbed from -- from the obligations.

7

8 CONTINUED BY MR. ANTOINE HACAULT:

9 MR. ANTOINE HACAULT: Yes. With  
10 respect to the cost to the ratepayers, Diana, if you  
11 could go to Volume -- the same volume, but page 20? So  
12 it's a Mani -- MIPUG Exhibit 20-5.

13 Sir, let me just preface this. You may  
14 not have seen this graph. It was created by -- by  
15 InterGroup Consultants, and as you can see at the top  
16 of the graph, what's depicted is Plan 14. And as the  
17 hearing has evolved, the Plan 14 reference economics  
18 and reference the discount rates, but high capital  
19 costs mirror pretty closely what the new capital costs  
20 are.

21 I -- I know I'm generalizing, but can we  
22 proceed on that basis, and that these numbers are taken  
23 from Manitoba Hydro as to what the rates would be or  
24 would lead to as far as collecting additional revenues  
25 from the ratepayers as compared to the All Gas



1 reference/reference/reference case.

2 Has La Capra done similar analysis to  
3 show whether or not ratepayers, with the new higher  
4 capital costs, what the difference would be in total  
5 rates collected from the ratepayers over the time  
6 period from 2014 to 2032?

7 MR. JOHN ATHAS: No, we have not.

8 MR. ANTOINE HACAULT: Okay. Now, if  
9 the calculations are right and the ratepayers are being  
10 asked to pay \$3.7 billion more under the Preferred  
11 Development Plan as compared to the All Gas Plan, would  
12 you consider that a material difference?

13 MR. JOHN ATHAS: I'm not sure I could  
14 find anybody that wouldn't.

15 MR. ANTOINE HACAULT: So from a -- a  
16 ratepayer perspective, one (1) of the metrics we can  
17 look at, sir, is it fair, is to see what the ratepayers  
18 would get for their extra \$3.7 billion of investment?

19 MR. JOHN ATHAS: Yes, that's probably a  
20 good kind of analysis to look at, I think, and many of  
21 the things have already, the economic analysis  
22 comparisons.

23 MR. ANTOINE HACAULT: But the -- that -  
24 - to pick up on that, am I right in understanding that  
25 the economics really doesn't look at that? We -- we

1 saw the -- the numbers on the expected value of the  
2 Preferred Development Plan, correct? Let's take it one  
3 (1) step at a time.

4 We saw -- we saw what the economics as  
5 revised leads us to, correct?

6 MR. JOHN ATHAS: That's correct.

7 MR. ANTOINE HACAULT: But the one (1)  
8 thing the economic analysis doesn't tell us is that  
9 ratepayers actually pay to Manitoba Hydro \$3.7 billion  
10 of additional money to get an expected value when we  
11 were looking at the graph of about 120 million.

12 The economic analysis doesn't tell us  
13 that the ratepayers paid that money?

14 MR. JOHN ATHAS: The -- I wouldn't -- I  
15 wouldn't expect either Manitoba Hydro or ourselves or a  
16 consultant would generally combine the -- the -- a  
17 metric that's in present value dollars with a metric  
18 that's in nominal dollars, and -- and make that  
19 comparison at all.

20 So I'm -- so I'm not surprised that it  
21 doesn't hold anything side-by-side. I -- I would hold  
22 out that a very relevant parameter, because we all know  
23 that in doing the analysis for Manitoba Hydro under  
24 their -- on -- on a leverage cash flow basis, that  
25 eventually, those cash flows have to get turned into

1 rates. They have to get collected from ratepayers.

2 That's why, over the long-term, we've  
3 considered that it was reasonable to stay with the  
4 unleveraged metric for a little bit of continuity with  
5 -- with Manitoba Hydro's work. And the -- the  
6 comparison that's -- that seems to be similar to what  
7 you're -- you're driving at would be -- it would be  
8 best to look at the -- think about that capital --  
9 present value of capital differences between the plan  
10 versus net val -- net present value difference at the  
11 end of any period of time.

12 MR. ANTOINE HACAULT: Put it this way.  
13 If ratepayers paid the same rates under the All Gas  
14 Plan and for the Plan 14, that would change the  
15 economics, wouldn't it? There would be less revenue  
16 flowing for Plan 14?

17 MR. JOHN ATHAS: Well, if the  
18 ratepayers pay the same rates, the revenue is the same.

19 MR. ANTOINE HACAULT: The revenue's the  
20 same, but the costs are different for Plan 14, so you  
21 wouldn't see the benefits that you're seeing, were it  
22 not for the ratepayers paying more money.

23 Is that fair?

24 MR. JOHN ATHAS: You can look at a  
25 present value of ratepayer revenue, ratepayer costs.

1 You can look at the levelized value of price of  
2 electricity. You can look at a number of parameters  
3 that come out of the financial model, and properly with  
4 a discount rate that would be including inflation.  
5 It's just a difference in the models. The -- the  
6 techniques are real dollars and nominal dollars.

7 And you could -- you could put those  
8 parameters together, similar to you would put together  
9 an economic analysis, and -- and make proper  
10 conclusions that -- and if you did that, when you -- in  
11 cases where the net present value of -- of costs are  
12 substantially lower, the net pre -- I would -- over a  
13 long period of time, I would expect that the net  
14 present value of revenue differences would also be  
15 lower for whichever case you're looking at.

16 But I don't necessarily know whether  
17 that would be the same for nominal, because I don't  
18 think it's as -- as relevant a parameter.

19 MR. ANTOINE HACAULT: It might be a  
20 good time to -- to break, members of the panel.

21 THE CHAIRPERSON: Me. Hacault, I notice  
22 that you -- one (1) of the documents was handed out. I  
23 don't think we've acknowledged it. We probably should  
24 acknowledge it for the record. Is that too early, or -  
25 -

1 MR. ANTOINE HACAULT: I think it was  
2 marked. I think I confirmed with Mr. Simonsen --

3 THE CHAIRPERSON: Okay. Okay.

4 MR. ANTOINE HACAULT: -- that we marked  
5 the last Manitoba -- or MIPUG document.

6 THE CHAIRPERSON: Okay. Thank you.

7 MR. KURT SIMONSEN: It was marked at  
8 20-7, Mr. Chairman.

9 THE CHAIRPERSON: Okay, 20-7?

10 MR. KURT SIMONSEN: Yeah.

11 THE CHAIRPERSON: Now, I wonder if  
12 there's any other business to conduct today? And Mr.  
13 Peters, I'm looking to you. If there be no other  
14 business, I will adjourn today's proceedings, so we  
15 will meet again tomorrow morning at nine o'clock sharp.  
16 Thank you very much.

17

18 (PANEL RETIRES)

19

20 --- Upon adjourning at 5:02 p.m.

21

22 Certified Correct,

23

24 \_\_\_\_\_

25 Cheryl Lavigne, Ms.

<u>\$</u>	<b>\$45</b> 5827:25	5785:20	6012:22	<b>101</b> 5725:3
<b>\$1,710</b>	<b>\$459</b> 5818:14	5807:3	<b>1,000</b> 5790:1	5799:6
5782:1	<b>\$46</b> 5792:19	5809:6	<b>1,200,000,00</b>	<b>102</b> 5725:6
<b>\$1,750</b>	5793:10	5811:8	<b>0</b> 5797:8	5801:6
5780:19	<b>\$5</b> 5906:18	5812:7	<b>1,300</b> 5926:8	<b>103</b> 5725:7
<b>\$1.2</b> 5971:19	5958:15	5813:3	<b>1,696</b>	5803:7
<b>\$1.4</b> 5995:25	5972:11	5817:25	5760:21	<b>104</b> 5725:11
<b>\$1.696</b>	<b>\$50</b>	5819:13	<b>1,700</b> 5926:9	5843:20
5763:4	5781:9,25	5833:16	<b>1,710</b>	5974:24
<b>\$1.7</b> 5957:11	5782:13	5836:21	5781:11	<b>104-1</b>
<b>\$10</b> 5860:18	<b>\$500</b>	5841:12	5782:6	5928:21
<b>\$100</b> 5752:13	5752:10,12	5842:2	<b>1,750</b>	<b>104-2</b>
5962:8	5956:6	5843:4	5779:23	5813:11
5995:17,19	<b>\$556</b> 5971:11	5848:20	5781:8	5814:8,18,
,22	<b>\$6</b> 5956:25	5850:10	5782:4	22
<b>\$120</b> 5955:4	5972:14	5877:7,15,	<b>1,760,000,00</b>	5816:17,23
<b>\$131</b> 5815:21	<b>\$6.2</b> 5957:12	23	<b>0</b> 5971:15	<b>104-8</b> 5933:6
5816:6	<b>\$7</b> 5958:2	5878:3,9	<b>1,800</b>	5948:15
<b>\$180</b> 5753:20	<b>\$700</b> 5753:17	5880:25	5764:12	5951:21
<b>\$183</b> 5768:5	<b>\$798</b> 5814:14	5883:15	<b>1.696</b> 5753:4	5975:21
<b>\$2</b> 5759:22	<b>\$8.45</b>	5886:15	<b>1/2</b> 5786:12	<b>105</b> 5725:16
5949:24	5790:25	5888:13	5998:20	5856:23
5958:6	<b>\$800</b> 5753:9	5890:9	<b>1/3</b> 5741:23	<b>106</b> 5726:3
5971:6	<b>\$81</b> 5752:13	5897:18,22	<b>1:00</b> 5849:25	5908:1
<b>\$217</b> 5768:9	<b>\$89</b> 5988:19	5898:18	<b>10</b> 5729:16	<b>107</b> 5726:9
<b>\$240</b> 5758:17	<b>\$898</b> 5800:7	5899:3	5748:10	5910:11
<b>\$25</b> 5907:10	<b>\$900</b> 5752:8	5905:7	5755:5	<b>107FA</b>
<b>\$3</b> 5971:4	5753:10	5908:12	5801:18	5929:10
<b>\$3.7</b>	<b>\$917</b> 5816:23	5910:15	5892:20	<b>108</b> 5726:11
6009:10,18		5918:3	5896:21	5976:17
6010:9		5923:6	5903:24	<b>10-8</b> 5912:7
<b>\$300</b> 5883:17		5924:14	5905:5	<b>109</b> 5726:12
5884:15		5928:25	5910:22	6004:22
<b>\$31</b>		5938:14	5923:22	<b>10A</b> 5985:17
5990:21,22		5942:12	5925:17	5997:23
<b>\$340</b> 5855:18		5946:11	5955:5	<b>10A-19</b>
<b>\$39.55</b>		5950:24	5974:18	5912:7
5792:18		5951:6	<b>10,000</b>	<b>10th</b>
5793:4		5954:11	5903:19	5742:3,21
<b>\$4.22</b>		5956:18	<b>10:11</b>	5952:6
5789:24		5963:16	5769:18	5970:18,20
<b>\$4.99</b>		5967:21	<b>100</b> 5747:24	,23 5971:5
5789:25		5969:24	5811:13	<b>11</b> 5801:17
		5974:18	5906:11	5988:10
		5976:2	5995:5	<b>11,000</b>
		5979:17	6003:10,23	
		5987:13,25		
		5994:4		
		5996:7		
		5998:11		
		6003:5		
		6006:16		
		6009:16		
		6010:3,7		

5920:25	<b>130</b> 5882:18	5887:4,7	5740:1	5888:16
<b>11:53</b> 5850:1	<b>131</b> 5764:24	5893:21	5741:11,23	5895:2
<b>110</b> 5993:14	<b>136</b> 5789:15	5937:17	5742:6	5896:19
<b>111</b> 5906:11	5906:3	<b>16</b> 5725:14	5746:14	5897:22
5907:8,10	5907:5	5726:6	5751:15,19	5898:2,8,1
<b>115</b> 5966:12	<b>139</b> 6007:19	5749:8	5752:8	7,18
<b>116</b> 5906:10	<b>14</b> 5741:24	5774:14	5756:2	5899:12
<b>117</b>	5742:7,25	5843:7,9,1	5760:13	5901:9
5792:9,10	5747:18	5,24	5761:24	5904:12
<b>12</b>	5749:13	5899:21	5767:17	5906:14
5741:21,23	5750:2,3	5906:1,8,1	5771:3	5909:8
5786:24	5751:15	6	5773:7	5910:1
5859:24	5753:2,18	5907:4,18	5774:23	5918:3
5931:5,8,1	5758:5,16	5908:6,13	5778:20	5920:1
0 5964:24	5759:17	5982:13	5779:16	5921:22
5965:9,11,	5780:25	<b>163</b>	5783:16	5925:2
14,17	5803:20	5850:10,19	5785:10	5928:23,24
5966:9,13,	5814:23	<b>164</b> 5851:4	5786:13	5929:3
18 5967:15	5815:3,17	<b>165</b> 5851:19	5790:10	5931:17,18
5982:12	5816:10	<b>17</b> 5737:21	5799:14	5933:25
5994:10	5826:7,18	5749:8	5802:2	5938:24
5998:23	5827:19	5842:21	5812:5,20	5941:25
<b>12:44</b> 5850:2	5828:21	5843:2	5814:19,22	5949:9
<b>120</b> 5953:20	5829:5	5899:21	5817:2	5950:18
5954:5	5832:13	5908:12	5818:17	5951:24
5956:15,23	5839:15	5930:16,18	5819:2,4	5952:9
5958:4	5883:2,16,	5983:11	5821:4	5953:12
5973:9	22 5884:1	<b>177</b> 5726:13	5826:4	5954:4,10
6010:11	5931:17	6002:15	5827:16	5956:4
<b>12-2</b>	5942:13	6004:19,24	5828:11,14	5957:1
5813:9,13	5949:9	<b>18</b> 5725:14	,20	5958:5
5816:3	5952:11,14	5786:25	5829:14	5960:1,9,1
5905:11	5953:20	5841:6,9	5832:23	2,25
5951:2	5954:5,6	5842:16	5833:5	5961:17,24
5973:21	5957:9	5843:2,9,1	5836:4,8,2	5962:3,4,7
5976:12	5958:2	5,25	1 5838:10	,16,17,23
<b>128.96</b>	5970:10,14	5859:8	5841:19,24	5963:2,5,8
5785:20	,18	5978:15	5847:6,7,1	5964:1,2,7
5786:3	5971:3,13,	5989:24	9,24	,11 5965:4
<b>129-7</b>	24	5991:19	5848:15,16	5968:1
5826:23	5973:7,15		5851:24	5970:11
5832:11	5995:24	<hr/>	5852:2	5977:2
5848:5	5997:12,14	2	5856:12,25	5979:9
5883:21	5998:23	<hr/>	5867:15	5980:10
<b>13</b> 5779:16	6008:16,17	<b>2</b> 5724:19	5869:13	5990:5,21
5875:8	6011:14,16	5725:17	5875:8	5997:13
5957:3	,20	5727:18	5877:15	5999:9,13,
5997:22	<b>15</b> 5741:14	5728:1,24,	5 5879:4	14,16,17
	5770:14	25 5730:2	5880:19	<b>2,000</b> 5927:5
	5815:17	5733:2	5881:4	<b>2,763</b> 5851:5
	5856:1	5738:7	5883:10,23	<b>2,790</b>
		5739:14	5885:17,24	5759:20
			,25	

<b>2.64</b> 5786:4	6004:15	5931:12,20	<b>22,420</b>	22 5960:17
<b>2:12</b> 5914:14	<b>2012/'13</b>	5932:4	5915:15	5961:24
<b>2:31</b> 5914:15	5912:9	5964:25	<b>23</b> 5908:11	5962:3
<b>20</b>	<b>2013</b> 5740:20	<b>2031/'32</b>	<b>24</b> 5813:12	5969:5
5744:12,14	5741:18	5879:8	5908:11	<b>269</b> 5764:23
,25	5828:15	5912:9	5951:9	5766:6
5748:18	5833:13	<b>2032</b>	5973:21	5768:15
5751:11	5838:14	5998:13,22	5974:2	<b>27</b> 5738:13
5752:16	5840:6,25	5999:7	5999:18	5927:10
5753:12,13	5841:20	6009:6	<b>25</b> 5738:16	5949:2
5756:16	5877:9,22	<b>2034/2035</b>	5756:16	5952:7
5787:25	5887:10	5928:7	5787:24	<b>27th</b> 5859:6
5788:1,23	<b>2014</b> 5721:24	<b>2035/2036</b>	5788:4,6,2	5966:24
5795:17	5814:4	5923:4	4 5795:18	<b>28</b> 5819:3
5853:19	5878:2	5926:21	5849:25	5898:1
5905:6	5930:14,21	<b>2037</b>	5860:8	<b>29</b> 5785:2
5929:8	5931:17,18	5736:24,25	5907:3	<b>2-9</b>
5937:17	5932:3,7	5737:3	5946:7,9	5780:10,11
5942:6,16,	5995:25	<b>2040</b> 5736:14	5971:9	<b>29-7</b> 5833:12
20 5944:17	6009:6	5999:8,18	<b>250</b> 5763:8,9	
5947:13,17	<b>2018</b> 5859:10	6001:15	5764:19	
5963:21	<b>2019</b>	<b>2047/'48</b>	5766:22	<hr/>
5985:5	5931:4,10	5791:4	5770:3,16,	3
6008:11	<b>2019/2020</b>	<b>20-5</b> 5726:14	17,23	<b>3</b> 5742:22,24
<b>200</b> 5753:19	5902:23	5993:14	5771:7,20	5743:15
<b>2003</b> 5937:10	<b>2020</b> 5887:15	6004:20,25	5772:16,17	5747:11
<b>2005</b> 5789:24	5998:22	6008:12	,21,23,25	5751:9
5790:1	<b>2022</b> 5881:15	<b>2052</b> 5801:18	5773:6,10	5767:12
<b>2008</b> 5869:5	<b>2023</b> 5847:7	<b>2057</b> 5801:17	5775:4	5774:8
<b>2010</b>	5881:15	<b>2060</b> 6000:17	5817:4,20	5785:7,8
5869:5,17	<b>2025</b> 5969:10	6001:3	5818:16	5786:10,13
5950:11	<b>2026</b> 5859:10	<b>20-7</b> 5724:20	5823:10	5799:15
<b>2012</b>	5898:12	5921:11,15	5836:22	5800:10
5740:8,20	5927:10	5988:9	5960:14,25	5827:18,23
5741:12	<b>2027/'28</b>	6013:8,9	5961:5,11,	5829:4
5742:1	5879:12,21	<b>20s</b> 5930:8	15,19	5848:20
5743:10	<b>2028</b> 5880:21	<b>21</b> 6001:25	5963:11	5850:9
5768:4,12	5899:5	<b>210</b> 5783:21	5976:6,13	5877:15
5780:20	5929:5,25	<b>211</b>	<b>256</b> 5817:9	5878:2,4,9
5792:1	<b>2029</b> 5736:2	5783:4,16	<b>25th</b> 5963:25	5880:15,18
5798:3	5903:6,12	<b>2-18</b>	5964:11,16	5899:21
5800:4	<b>2030</b> 5783:1	5888:12,15	5967:2,7	5915:2
5833:15	5880:21	<b>21u</b> 5804:6	5970:19	5919:17
5838:3	5990:24	<b>22</b> 5785:17	5971:15,20	5933:7
5840:3	<b>2031</b>	5860:8	<b>26</b> 5783:8	5947:15
5842:9	5929:5,10	<b>268</b>	5895:2	5948:17
5877:8,22	5930:2,8	5956:8,15,	<b>26,000</b>	5974:24
5977:4			5920:6	5975:21
5994:10				5998:20
5999:23				<b>3,000</b> 5918:9
				5919:1



<b>3:30</b> 5959:9	5798:22	5918:3	5875:7	5883:2,15,
<b>3:35</b> 5959:15	5865:16,19	5921:20	5880:16	25 5888:25
<b>3:44</b> 5959:16	5906:15	5944:24	5892:20	5899:21
<b>30</b> 5744:13	5942:24	5945:19	5899:20	5900:7,10,
5745:2	5944:17	5947:15	5942:3	16 5907:1
5751:10	5985:5	5960:2,12,	<b>45-12</b>	5915:2
5755:14,15	5996:15,16	14	5812:10	5919:17
5762:11	<b>37</b> 5996:13	5963:3,7	<b>45-13</b> 5813:1	5920:9
5804:22,24	<b>37,000</b>	5976:5,6	5886:14	5926:6
5805:1,18	5916:22	5998:20	<b>459</b> 5818:21	5931:11
5896:5	<b>38</b> 5918:17	5999:9,13	<b>48</b> 5751:1	5945:17,19
5901:5,9	5996:13	<b>4,000</b>	5786:12	5968:2,12
5940:4	<b>38,000</b>	5903:17,18	5942:3	5969:16,21
5944:16	5927:20	<b>4,239</b>	<b>482</b> 5967:5	5977:15
5990:20	<b>386</b> 5828:3	5858:25	<b>489</b> 5752:11	<b>5,000</b>
<b>30,000</b>	5961:25	5859:6	5764:18	5920:24
5922:22	5966:12	<b>4,240</b>	5951:11,12	<b>5.05</b> 5768:4
<b>308</b> 5774:19	5968:25	5859:24	5952:1	<b>5.5</b> 5768:8
5785:14,17	5973:10	<b>4,243</b> 5860:7	5953:2	<b>5.6</b> 5754:1
5923:12	<b>39.55</b> 5793:9	<b>4,400</b>	5956:6	<b>5.9</b> 5752:20
5928:17	<b>3A</b> 5778:3	5918:13	5961:1	<b>5/6s</b>
5945:24	5783:7	<b>4,650</b>	5962:18	5953:7,11
<b>31</b> 5735:19	5801:10	5918:19	<b>49</b> 5819:2	<b>5:02</b> 6013:20
5736:12	<b>3A-28</b>	<b>4.61</b> 5785:19	<b>499</b> 5790:16	<b>50</b> 5744:13
5794:20	5802:25	5786:2	5792:1	5745:1
5834:19	5803:1	<b>40</b> 5755:12	<hr/>	5747:19
<b>31,000</b>	<hr/>	5762:17	5	5751:9
5915:25	4	5783:1	<b>5</b> 5725:17	5752:11
<b>32</b> 5736:9	<b>4</b> 5741:23	5889:3	5741:17,19	5753:11,14
5794:20	5742:6	<b>400</b> 5721:22	5742:7	,23
<b>32,000</b>	5747:18	<b>410</b> 5828:7	5743:1	5755:15
5926:16	5751:15	<b>42</b> 5754:21	5747:18	5756:3,4,1
<b>33</b> 5796:9	5757:4	5762:13	5750:2	5 5875:11
5801:10	5758:5	6007:19	5751:15	5889:4
<b>3-3</b> 5783:10	5771:8	<b>422</b> 5790:15	5758:5	5906:15
<b>330</b> 5721:22	5800:11,18	5791:25	5769:15	5916:15
<b>34,000</b>	5812:9	<b>428</b> 5819:3	5815:18,25	5943:7
5923:18	5816:23	<b>45</b> 5725:15	5816:11	5944:10
5926:12,25	5817:11	5756:7	5817:2,11	5945:2
5927:19	5818:17	5820:6	5822:20	5946:4,5
5928:13	5819:1	5833:23	5823:4	5984:8
<b>35</b> 5751:10	5823:9	5836:16	5826:7,18	6000:10
5752:16	5824:4,16	5841:9	5827:19	<b>50/50</b>
5753:12	5825:6,23	5843:3	5828:6,11,	5853:18
5755:11	5833:4,5	5844:1	21 5829:5	<b>500</b> 5954:7
5756:15	5871:4	5847:4	5832:13	6002:20
5778:4	5878:15,23	5849:20	5836:4	<b>507</b> 6002:22
5797:14	,25 5879:3		5839:21	<b>52</b> 5872:1
	5910:22		5856:7,12,	
	5911:2		25 5859:24	

<b>53</b> 5944:25 5997:23	5817:9 5823:2 5825:25 5826:5,18 5827:7,19 5828:3,11, 25 5829:10,14 ,19,25 5831:14,17 ,21,23 5832:13,18 5834:3,13, 18,25 5836:5 5837:13 5856:12,25 5869:18 5872:4 5883:21,24 5899:24 5900:8,10, 17 5961:18 5962:1,4,7 ,16,22 5963:3,8 5964:1,7,2 2,24 5965:7,11 5966:10,12 5967:15,25 5968:2,12, 15,25 5969:16,21 5970:9,14, 21,25 5971:1,9,1 1,24 5972:5,14, 15 5973:6,14	<b>6004</b> 5726:16 <b>6013</b> 5721:25 5723:16 <b>609</b> 6002:23 <b>61</b> 5915:2 5919:17 <b>614</b> 5952:20 5953:6 5954:7 5973:15 <b>622</b> 5964:12 <b>65</b> 5737:25 <b>651</b> 5960:18 <b>662</b> 5962:18 5973:14 <b>667</b> 5815:21 5817:3 <b>67</b> 5896:10 <b>68</b> 5789:1 5836:16 5847:4 5880:16 <hr/> <b>7</b> <b>7</b> 5751:14 5896:21 5965:22 5975:21 <b>7,000</b> 5918:21 <b>7.2</b> 5792:16 5793:2 <b>70</b> 5753:6 5756:9 5837:22 5943:7,10 5944:10 5945:2,8 6000:11 <b>700</b> 5958:2 <b>71</b> 5732:17 5805:7 5899:19 <b>72</b> 5820:5 5822:20 5832:8	5833:15,23 5837:17 5975:24 <b>727</b> 5758:17 <b>75</b> 5737:25 5738:9,11, 12 5756:9 5998:12 5999:2 6000:22 <b>75:25</b> 5999:18 <b>750</b> 5727:19,20 5729:6,8 5763:10 5766:25 5767:4,5,2 5 5770:4,16 5771:19,23 5772:14,24 5773:3,7,9 ,15 5817:21 5822:21 5823:2 5836:22 5901:10 5961:12,14 ,18 5962:9,16, 23 5963:3,13 5964:12 5965:3,9,1 7,22 5966:6 5967:22 5973:8 5976:14 <b>75th</b> 5737:9 5963:25 5972:2,6,1 1,25 <b>77</b> 5754:16 <b>78</b> 5726:6 5743:16 5747:4,19 5748:6 5751:8	5752:6,19 5759:21 5765:1 5784:16 5855:16 5888:22 5906:2 5907:5,18 5908:5 5949:17 5959:4 <b>798</b> 5753:7 5760:21 5814:23 5815:20 5951:16 5952:20 <b>7th</b> 5851:23 <hr/> <b>8</b> <b>8</b> 5721:24 5742:6 5751:15 5752:18 5760:15 5958:3 5996:5 <b>8,000</b> 5918:22 <b>80</b> 5984:8 <b>800</b> 5957:16 5958:11 <b>818</b> 5841:13 <b>84</b> 5725:19 5849:1 5852:13 5856:13 5857:3 <b>845</b> 5790:11,14 <b>87</b> 5724:9 5812:22 5813:4 5875:11 <b>88</b> 5988:19 <b>887</b> 5752:8 5764:17 <b>898</b> 5760:16
<hr/> <b>6</b> <hr/> <b>6</b> 5725:17 5742:6,10, 16 5757:6,19 5773:21 5814:3	<b>6,000</b> 5902:22 5903:18 <b>6.15</b> 5754:1 <b>6.6</b> 5752:20 <b>60</b> 5744:14 5788:13 5889:4 5944:10 5984:8			

5800:6	<b>9-51</b> 5757:2	5974:7	5852:25	5815:19
<u>9</u>	<b>951U</b> 5757:6	<b>9B</b> 5724:4	<b>abl</b> 5747:6	5847:18
<b>9</b> 5746:14,16	<b>9-51U</b> 5757:3	5725:20	5947:14	5863:9
5750:10	<b>9-56</b> 5757:25	5739:5,10,	<b>able</b> 5743:22	5871:17,20
5761:21	5758:15	19 5740:24	5746:22	5907:24
5766:6,14	<b>9-56U</b>	5741:8	5747:5,8,1	5909:14
5769:25	5758:19	5745:10,13	6	5940:1
5797:24	<b>97</b> 5786:11	5746:1,18	5748:4,8,2	5969:17
5802:15	<b>9-76</b> 5761:21	5749:6,18	4	<b>accepts</b>
5804:25	<b>9-82</b> 5762:6	5750:1,10	5749:1,6,2	5795:24
5906:7	<b>99</b> 5766:15	5759:9	2 5750:14	<b>access</b>
5907:16	5769:25	5764:11	5757:8	5730:7
5920:8	5901:24	5765:13	5760:1	5895:17
5976:11,17	5902:2,5	5766:5,14	5762:4	<b>accorded</b>
5996:5	5916:11	5767:3	5764:21	5787:24
<b>9.3</b> 5789:22	5951:9	5804:16,17	5775:13	<b>according</b>
<b>9.94</b> 5905:23	<b>9-94</b> 5726:4	,22 5849:1	5778:25	5745:4
5906:19	5907:17	5852:13	5799:14	5808:4
<b>9.95</b> 5906:19	5908:3	5856:13,14	5810:2	<b>account</b>
5908:14	<b>9-95</b> 5726:5	5857:3	5833:1,4	5784:8
<b>9.96</b> 5908:14	5907:17	5905:17	5905:3	5788:22,25
<b>9.97</b> 5908:14	5908:3	5908:12	5925:14,19	5795:12,16
<b>9:01</b> 5727:1	<b>9-99</b> 5764:11	5974:7	,24	5797:22
<b>9:57</b> 5769:17	5951:9	<b>9b-22</b>	5926:17	5807:13
<b>90</b> 5942:25	<b>9-99U</b>	5905:18	5933:5	5808:7,24
5972:23	5726:11	5907:4	5938:10	5815:3,7
<b>90th</b> 5972:23	5975:8	<b>9U</b> 5740:16	5941:13	5885:17
<b>917</b> 5819:1	5976:11	5741:4	5947:15	<b>accounted</b>
5961:1	<b>99U</b> 5770:1	5751:14,15	5974:15,22	6006:9
<b>9-21</b> 5751:1	5976:18	5764:14	5980:1,21	<b>accounting</b>
5753:15	<b>9A</b> 5724:4	5813:11	5987:19	5984:11
<b>9-21U</b>	5739:5,10,	5838:24	5991:3,4	5988:6
5751:16	19	<b>9U-24</b>	5992:1,20	5998:9
<b>928s</b> 5746:14	5740:16,23	5813:10	5995:18	<b>accrue</b>
<b>9-34</b> 5754:16	5741:4,8	5816:4	5999:5	5889:3
<b>9-34U</b>	5745:10,13	5817:8	<b>absence</b>	<b>accruing</b>
5754:16	5746:1,13,	<u>A</u>	5881:22	5773:2
<b>95</b> 5785:9	17	<b>a.m</b> 5727:1	<b>absent</b>	<b>accumulative</b>
5786:15	5748:12,25	5769:17,18	5881:5	<b>ly</b> 5992:25
5878:25	5750:25	5850:1	5890:20	<b>accurate</b>
5882:18	5753:15	<b>A-7</b> 5910:22	<b>absolute</b>	5794:13
<b>9-5</b> 5906:7	5754:16,17	<b>ability</b>	5745:5	5912:5
<b>9-50</b> 5757:2	5759:2,9	5728:23	<b>absolutely</b>	5950:15,16
	5765:13	5731:2	5915:23	<b>achievable</b>
	5803:20	5734:20	5961:8	5871:10
	5804:25	5736:20	<b>absorb</b>	5872:12
	5805:2,7	5747:21	5988:21	<b>acknowledge</b>
		5748:22	5989:9,12	5850:7
			5990:7	
			<b>accept</b>	

6012:24	5765:2	5724:3	6010:10	<b>advantages</b>
<b>acknowledged</b>	5766:17	5739:4,9	<b>additions</b>	5776:9,22
6012:23	5773:2	<b>adding</b>	5818:1	5777:17
<b>acknowledgin</b>	5831:9	5736:16	<b>addresses</b>	5779:9
<b>g</b> 5840:3	5837:15	5763:7,8,1	5847:24	<b>adverse</b>
<b>across</b>	5922:10	0 5764:5	<b>adds</b> 5771:19	5941:1
5729:24	5928:16	5770:15,24	5836:12	5971:10
5742:23	5929:4	5771:15	5968:17	<b>advice</b>
5751:18	5930:16	5772:5	<b>adjacent</b>	5848:17
5903:5	5958:12	5774:9	5815:18	5858:14
5949:24	5963:17	5821:3,10,	<b>adjourn</b>	5859:17
5979:24	5964:12	15 5826:4	6013:14	5860:15
<b>Action</b>	5965:25	5917:18	<b>adjourning</b>	5861:10
5776:3	5995:4	5922:19,20	6013:20	5874:12
5885:9	5997:11,12	,22	<b>adjusted</b>	<b>advise</b>
<b>activities</b>	,13	5927:18	5745:4	5778:12
5742:22	<b>added</b> 5731:2	5960:14	5800:16	5802:5
<b>actual</b>	5732:21	5962:23	5854:19	5874:10
5855:5	5736:4	5963:9	<b>adjustment</b>	<b>Advisory</b>
<b>actually</b>	5737:1	5966:23	5761:17	5869:3
5736:4	5764:24	5968:19	5784:20	<b>advocating</b>
5737:1	5771:22	5969:17	5795:20	5954:13
5742:11	5773:22	5995:3	<b>adjustments</b>	5981:4
5743:24	5827:17	<b>addition</b>	5789:10,11	<b>afar</b> 5837:13
5747:7,15	5828:21	5743:16,19	5791:25	<b>affect</b>
5748:16,19	5862:16	5757:9	5834:19	5881:22,24
5750:20	5896:1	5773:2	<b>adopting</b>	5909:21
5751:3,20	5926:11	5775:14	5724:17	5992:25
5752:1	5996:1	5841:18	5851:8,16	5997:14
5754:11,12	<b>addendum</b>	5870:23	<b>advance</b>	<b>affected</b>
5756:21	5739:16,20	5880:22	5896:13	5804:9
5761:23	5740:10,13	5955:21	5930:17	5991:8
5783:15,20	,23	<b>additional</b>	5932:11	<b>affecting</b>
,24 5797:3	5741:4,6	5729:4	5933:16	5901:10
5810:5,7,2	5742:15	5736:17	<b>advancement</b>	<b>affects</b>
5 5811:5,8	5744:2,3,2	5743:13,24	5836:21	5977:3
5833:7	5 5745:10	5765:15	<b>advancing</b>	<b>Affirmed</b>
5838:18	5746:5,6,1	5832:10	5836:11	5723:7,8,9
5851:22	6 5747:15	5837:18	5879:24,25	5727:8,9,1
5866:24	5748:23	5870:18	5881:1	0
5894:4	5750:15,17	5878:3	5968:15	<b>afforded</b>
5902:1	5751:23	5882:5,7	<b>advantage</b>	5927:10
5905:15	5754:8,12,	5913:8,17	5731:8	<b>afternoon</b>
5930:15	17	5967:8	5772:7	5778:19
5949:2	5757:3,11	5979:7	5777:6	5812:7
5964:10,15	5765:6,13	5990:23	5898:6	5831:15
5984:20	5803:20	5992:24	5904:22	5852:20
6010:9	5813:10	5995:21		5859:15
<b>add</b> 5728:18	5830:9	5996:25		
5760:19	5905:11	5997:12		
	5974:8	6002:4		
	<b>addendums</b>	6008:24		

5914:7,22	5970:11	5826:1	5984:4	17 5809:18
<b>against</b>	<b>allowed</b>	5827:14	<b>analyses</b>	5816:14
5807:7	5727:23	5844:16	5741:10	5820:1
5808:5	<b>allows</b>	5853:13	5831:12	5821:19
5856:7	5729:23	5863:7	5885:20	5824:25
5872:4	5730:2,16	5888:24	5894:7	5825:23
5876:6	<b>alone</b>	5901:8	<b>analysics</b>	5828:5,15,
5935:7	5773:14	5906:4	5989:5	20
<b>agencies</b>	5899:17	5934:4	<b>analysis</b>	5829:4,15,
5999:5	5936:1	5942:5	5725:17	18,19
<b>ago</b> 5778:17	<b>already</b>	5957:25	5726:16	5830:4,8,1
<b>agreed</b>	5749:13	5960:3	5740:9,21	2,16
5815:13,22	5857:7	5983:8	5741:1,12,	5837:17
,23,25	5980:6,16	6009:24	13,21	5842:6
5816:1,11	6009:21	<b>amendment</b>	5742:1,4,6	5845:18,25
5818:10,18	<b>alternate</b>	5845:20	,15,19	5846:10,11
5823:11	5749:7	<b>among</b>	5743:10,11	5847:23
5828:3,22	<b>alternative</b>	5866:17	5744:19,23	5848:15
5829:6	5776:6	<b>amongst</b>	5747:16	5854:19
5836:23	5841:24	5844:6,9,1	5748:14	5855:10
5838:7,10	5857:18	2 5864:20	5750:13	5856:1,11,
5839:6,16,	5869:15,19	<b>amortized</b>	5752:9	24
22 5860:23	5879:18	5991:18	5753:18,24	5857:9,18,
5861:2	5882:7	<b>amount</b>	5755:1	19 5860:22
5870:21	5884:7,8	5727:22	5757:24	5861:2
5871:1,5	5891:25	5728:7,8	5758:4	5869:7
5872:6	5892:8	5729:10,11	5759:5,8,1	5872:10
5876:9	5909:19	5731:6	6,19	5874:5,14
5877:16	5910:7	5735:7,25	5766:5,14,	5875:20
5879:8,12,	5939:2,15	5740:10,11	24 5768:13	5877:6
21 5881:15	5940:3	,12	5770:18,20	5878:8,9
5883:23	5960:5,21	5763:11	5772:20	5879:5,18
5887:10	<b>alternatives</b>	5771:15	5774:12,15	5881:12,23
5889:11	5842:4	5773:16	5776:5	5882:12
5891:18	5845:1,11	5777:22	5777:22	5884:9
5892:23	5857:9	5779:10,14	5781:13	5885:25
5912:10	5861:1	5781:13	5784:23	5886:22,24
5959:10,11	5881:22	5787:23	5788:11,13	5888:15
<b>agreement</b>	5882:12	5789:4,6,2	2 5790:5	5889:13
5775:5	5891:5	5791:1,16,	23	5891:14,18
5961:15,20	5915:4	5792:19,23	5793:8,15,	5893:5,20,
<b>ahead</b> 5727:5	5980:3	5794:3,5	23	21
5738:23	<b>alternative'</b>	5795:6	5796:7	5894:4,5
5820:25	<b>s</b> 5886:22	5801:15	5806:6,10,	5898:15
5942:17	<b>Alternatives</b>	5932:15	5942:17	5899:10
5967:25	5721:8			5901:8,22
5970:12	5874:14			5910:21
<b>al</b> 5776:5	5875:21			5912:13,18
5854:9	<b>am</b> 5734:22			5913:9,17
<b>allow</b>				5916:4,8,1

5951:19	<b>analytical</b>	5890:1	5952:4,16,	5992:22
5952:6	5858:6	<b>antithetical</b>	22,24	5993:6,11,
5953:14	5879:19	5934:21	5953:4,10,	12,18,23
5954:16,22	5960:9	<b>Antoine</b>	17,24	5994:7,24
5955:19	<b>analyze</b>	5722:15	5956:3,11	5995:2,15
5957:10	5880:14	5723:14	5957:25	5996:3,10,
5958:25	5986:16	5914:21,22	5958:13	21
5960:9	<b>analyzed</b>	5915:10,19	5959:6,20	5997:10,20
5963:2	5814:4	,23	5960:11,16	5998:1
5977:1,2,9	5829:25	5916:3,13,	,23	5999:4,21,
,24 5978:7	<b>ancillary</b>	21	5961:7,22	22 6000:1
5979:19	5941:10	5917:5,8,1	5962:4,6,1	6001:6,7,2
5981:12,20	<b>Anderson</b>	6	4,21	2 6002:13
,22,25	5722:18	5918:2,12,	5963:15,22	6003:7,16
5982:22	<b>annual</b>	16,24	5964:10,20	6004:4,8,1
5983:5,12,	5747:2	5919:5,12,	5965:2,12,	9
22,24	5866:6	16	16,24	6005:4,5,1
5984:3,10,	5912:8	5920:12,20	5966:5,8,1	7,18
17,22,23,2	5918:8,13,	5921:3,6,1	7,22	6006:1,25
5	21 5990:23	8,19,25	5967:3,6,1	6007:1,24
5985:2,11,	5998:16,23	5922:4,8,1	2,18	6008:8,9
14	6000:19	7,19	5968:6,13,	6009:8,15,
5986:4,22,	<b>answer</b>	5923:1,6	24	23 6010:7
24	5730:9	5924:7	5969:7,14,	6011:12,19
5987:9,12,	5785:16	5925:12,19	23	6012:19
18 5988:18	5788:17	,24	5970:6,16,	6013:1,4
5989:4,5,7	5790:14	5926:5,14,	25	<b>anybody</b>
,14,22	5825:15	21	5971:3,8,1	5764:3
5991:3	5833:8	5927:2,8,2	3,18,23	6001:1
5992:8,25	5862:23	1,25	5972:5,10,	6009:14
5993:1	5868:24	5928:6,16,	15,22	<b>anymore</b>
5994:23	5890:5	19	5973:5,12,	5839:7
5995:11	5897:1	5929:9,12,	17	<b>anything</b>
5996:20	5906:25	16,20,24	5974:1,6,9	5853:7
5998:15	5910:1	5930:13,20	,21	5855:6
6001:24,25	5919:23	5931:2,9,1	5975:2,7,1	5858:2
6002:9	5925:13	5,23	8,19	5983:19
6003:15	5939:20	5932:1,19,	5976:3,10,	6010:21
6004:14,15	5946:11	25	20,21	
6005:2,8,2	5977:5	5941:23,24	5977:11	<b>apace</b>
3,24	5979:25	5942:23	5978:4,5	5852:24
6007:3,10	5981:16	5943:6,13	5979:12	<b>apart</b>
6009:2,20,	5986:10	5944:23	5980:18,23	5843:16
21	5991:7,14	5945:13	5981:14,24	5867:4
6010:8,12,	6006:2	5947:8	5982:3,10,	<b>apologize</b>
23 6012:9	<b>answered</b>	5948:1,13,	18	5745:16
<b>analyst</b>	5977:22	22	5983:2,10,	5751:20
5896:16	<b>anticipate</b>	5949:1,14,	17 5985:7	5753:3
<b>analytic</b>	5912:17	21	5986:1,14	5764:9
5845:9	<b>anticipation</b>	5950:4,7,1	5987:6,7	5806:2
5863:10		0,12,14,20	5988:8,14	5843:10
5880:5		,23	5989:13,21	5852:17
		5951:14,20	5990:4,12	
			5991:13,22	

5905:17	5857:3	5914:11	5907:24	5854:11
<b>App</b> 5849:1	5888:16			5989:9
<b>apparent</b>	5905:17	<b>appropriatel</b>	<b>assessment</b>	5991:17
5767:24	5908:12	<b>y</b> 5865:1	5845:10	5998:18
<b>apparently</b>	5910:22	<b>approve</b>	5911:21,22	5999:2
5791:21	<b>appendixes</b>	5931:3	<b>asset</b>	6005:21,22
5802:13	5759:8	<b>approved</b>	5831:20	6006:4,22
<b>appear</b>	<b>appendum</b>	5995:25	<b>assets</b>	<b>assumptions</b>
5833:4,22	5746:4	<b>approximatel</b>	5944:17	5727:19
5969:8	<b>apples</b>	<b>y</b> 5754:1	6001:24	5741:20
5987:11	5788:14	5763:4	<b>assignment</b>	5764:25
5990:14	<b>application</b>	5785:8	5874:11	5767:20
<b>appearance</b>	5770:19	<b>approximatio</b>	<b>assist</b>	5768:4,12
5853:23	5889:20	<b>n</b> 5831:25	5812:5	5783:10
<b>APPEARANCES</b>	6002:20	5833:9	5833:24	5786:19
5722:1	6006:8	<b>approximatio</b>	<b>assistance</b>	5795:3
<b>appeared</b>	<b>applied</b>	<b>ns</b> 5826:4	6007:17	5798:3
5868:22	5744:20	5833:17	<b>associated</b>	5800:5
<b>appears</b>	5877:23	<b>April</b>	5766:18	5801:15
5826:6	<b>applies</b>	5721:24	5777:11	5808:16
5969:13	5934:8	5851:21,23	5810:3	5838:4
<b>appendices</b>	<b>apply</b>	<b>arbitrary</b>	6006:7,18	5840:4,6
5724:3	5743:23	5970:3	<b>Associates</b>	5841:20
5739:5,10	5890:11	<b>area</b> 5981:18	5723:6	5882:4
5745:11,13	5911:15	<b>aren't</b>	5727:7	5887:23
5746:7,11	5936:10	5746:13	5813:12	5892:1,8
5759:8	5988:6	5926:3	6004:12	5903:11
<b>appendix</b>	<b>appreciate</b>	5936:23	<b>assu</b> 5764:20	5977:4
5725:20	5889:9	5949:5	<b>assume</b>	5987:17
5746:1,17	5977:11	5964:13	5784:21	5988:17
5748:12,25	<b>appreciative</b>	<b>arisen</b>	5791:15	6001:3
5749:18	5914:2	5844:21	5929:11	<b>Athas</b> 5723:8
5750:1,10,	<b>apprehension</b>	<b>arranged</b>	5938:21	5727:9
25 5754:17	5881:14	5769:6	5989:24	5736:6,8
5757:2	<b>approach</b>	<b>arrangement</b>	<b>assumed</b>	5739:12
5766:5	5741:5	5766:8	5782:20	5757:1,23
5778:3	5743:8	<b>array</b> 5831:3	5784:18	5760:3,5,8
5779:16	5875:20	<b>arrow</b> 5905:7	5857:22	,12 5761:4
5783:7	5908:18,21	<b>articulate</b>	<b>assumes</b>	5765:21
5789:22	5909:1	5863:9	5745:14	5767:19
5792:16	5923:8	5980:8	<b>assuming</b>	5768:2
5793:2	5982:22	<b>articulated</b>	5769:1	5769:25
5797:24	5983:5	5865:10	5781:19	5771:9,12
5801:10	5990:15	<b>aside</b> 5936:2	5835:24	5773:23
5802:15	<b>approaches</b>	5944:24	5929:15,22	5774:20
5804:16	5990:22	<b>asleep</b>	5931:6,20	5775:1
5849:1	<b>appropriate</b>		5933:25	5776:1
5852:13	5792:23		<b>assumption</b>	5798:12,18
5856:14			5783:6,8	,24 5799:4
				5800:1,17
				5804:11
				5811:12
				5813:17,19

5814:6,10, 16	5984:2	5825:7,10, 12,24	5996:14	5833:14
5815:1,5,9 ,14,23	5985:15	5826:6	6002:21	5837:17
5816:1,8,1 2,15,25	5987:22	5837:18	6005:7,25	5841:13
5817:5,18, 22	5989:1,19	5883:23	<b>away</b> 5752:21	5976:14
5818:11,19	5990:3,11	<b>attributes</b>	5768:16	<b>barely</b>
5819:6	5991:6,21	5867:21	5837:7	5920:11
5823:17,25	5993:22	<b>availability</b>	5979:3	<b>bars</b> 5761:18
5826:13,16	5994:3,21, 25	5904:22	<hr/> B <hr/>	5799:14,15
5827:5,13, 21	5995:10,23	<b>available</b>	<b>background</b>	5820:17
5828:1,4,8 ,14,23	5996:8,17	5735:1	5790:6	5821:18
5829:1,7,1 1,17	5997:3,16	5742:13	5858:18	5825:22
5830:7,25	5998:4	5749:24	<b>backing</b>	5833:2,18, 19,22
5832:10,17	5999:12,19 ,25	5754:4,7	5914:23	5836:4
5833:7,13	6000:16	5757:10,11	<b>backstopping</b>	5840:11
5834:1	6001:17	5779:10	5925:9	<b>bas</b> 5761:18
5838:22	6002:7	5798:19	<b>bad</b> 5821:11	<b>base</b> 5727:18
5840:2	6003:24	5810:6,11	5916:24	5744:24
5843:4,11	6004:11	5865:2	<b>balance</b>	5750:2
5844:8,10, 16	6005:21	5892:23	5786:11	5779:13
5848:1,6,1 0 5852:15	6006:3,16	5894:14	5927:24	5781:10,15
5854:21	6007:7	5960:20	5947:3	5807:7
5855:21	6009:7,13, 19	5981:12	<b>ballpark</b>	5808:5,9
5856:3,8	6010:6,14	<b>Avenue</b>	5809:22	5832:19
5865:24	6011:17,24	5721:22	<b>ban</b> 5809:1	5883:3
5866:2	<b>Athas's</b>	<b>average</b>	<b>bank</b> 5937:3	<b>based</b> 5740:8
5868:18,20	5838:16	5791:2	5943:14	5743:21
5875:8	5872:17	5901:24	<b>bankers</b>	5744:18,21
5900:1	<b>attack</b>	5902:9	5938:2	5746:1
5906:23	5982:11	5915:24	5940:9	5760:10
5907:7,12	<b>attempt</b>	5918:12,21	<b>banks</b>	5776:15
5908:19	5746:24	5919:20	5936:23	5809:10
5909:4,10, 22 5910:8	5768:19	5920:8,10, 25 5990:16	5943:25	5819:25
5911:4,8,1 3,23	5840:19	<b>averse</b>	<b>bar</b> 5759:17	5829:13
5912:11,15 ,19,23	5893:15	5936:16	5761:15	5837:17
5913:2	5978:24	5937:4	5765:20	5838:3
5919:13,18	6008:5	<b>avoided</b>	5773:15,17	5840:3
5938:7	<b>attempted</b>	5734:16	5775:15	5866:22
5941:17	5893:10	<b>awaiting</b>	5798:16	5879:5
5963:16,24	5873:6	5912:13	5799:19	5886:22
5964:17	<b>attempting</b>	<b>aware</b> 5807:9	5800:9,15, 16 5816:5	5889:1
5965:1	<b>attention</b>	5811:9,10	5817:8	5893:18
5983:9,16	5820:8	5839:1	5820:8,11, 13,20	5916:5
	5875:12	5853:9,10, 17 5854:2	5823:23	5922:9
	5954:3	5860:17	5824:14	5952:6
	5960:21	5878:1	5825:22	5955:1
	5987:11	5885:8		5981:25
	<b>attractive</b>	5929:2,25		5992:17
	5824:17			5999:22
				<b>basically</b>
				5729:23



5736:12	5935:15	5894:13	5841:16	,18
5738:7	<b>bed</b> 5865:8	5914:17	5852:25	5860:18
5741:3	<b>Bedford</b>	5919:20	5874:6	5884:18
5760:14	5722:7	5928:21	5893:13,17	5894:24
5761:18	<b>behalf</b>	5942:4	,25	5949:24
5764:12	5913:23	5959:18	5894:1,13	5950:18
5766:25	<b>Bel</b> 5721:16	5977:22	5898:4	5954:7
5768:10	5727:12,16	5982:12	5977:8,22	5955:4
5769:1	,25	5986:3	5978:1	5956:25
5772:5,21	5728:3,12	5987:25	5981:10	5957:11,12
5778:20	5730:11,19	6002:11	5985:25	5958:2,6,7
5831:20	,22	6006:17	6007:14	,15,16
5836:9,11	5731:14,19	<b>bell</b> 5878:17	6011:8	5967:5,7
5922:22	5732:2,16	<b>benef</b> 5762:6	<b>bet</b> 5791:24	5970:21,24
5927:17	5733:6,10,	<b>beneficial</b>	<b>better</b>	5971:4,6,1
5934:11	15,20	5752:8	5765:11	4,19
5947:12	5734:10	5894:23	5766:9	5972:6,11
5960:12	5737:6,13,	5944:9	5770:9	5995:25
5963:3	15,18,21,2	<b>benefit</b>	5786:9	6009:10,18
5969:16	4	5761:7	5842:5	6010:9
5970:13	5738:3,19	5772:4,14,	5845:21	<b>billions</b>
5981:19	<b>believe</b>	19,22,23	5852:20	5955:7
<b>basis</b>	5727:4	5773:2,17	5884:13	<b>biomass</b>
5743:18	5741:20	5819:12	5892:3	5876:8
5747:8	5744:11,12	5821:20,21	5894:17	<b>bit</b> 5739:15
5755:4	5748:17	5884:20	5960:10	5755:6,8
5756:18,19	5754:21	5889:7	5962:8	5756:5
5765:15	5768:5	5896:1,16	5965:9,18	5758:8
5768:6	5769:20	5940:21	5977:9	5759:11
5784:3	5778:9	5957:12,17	5983:21	5761:9
5786:10	5779:22	,21	<b>beyond</b>	5764:1
5795:23	5782:22	5963:12,13	5736:19	5765:5
5831:7	5783:3	<b>benefits</b>	5753:23	5779:21
5917:11	5785:17	5759:21,23	5784:17	5787:10
5935:16	5787:20	5761:17	5890:6	5800:11
5942:15	5798:1,2	5763:5	<b>bigger</b>	5812:18
5943:12	5800:8	5768:11	5761:16	5813:21
5944:11	5814:10	5855:18	5823:14	5827:11
5954:15	5818:19,20	5884:16	<b>bill</b> 5724:17	5845:7
5965:6	5820:6	5889:3	5729:11	5847:3
6008:22	5827:7	5941:10	5776:3	5881:21,23
6010:24	5833:10	5942:15	5851:7,16	5892:15
<b>BBE</b> 5851:20	5840:8	5945:7,10	<b>billed</b>	5893:1
<b>bear</b> 5859:23	5848:11	5956:20	5791:3	5914:23
<b>became</b>	5849:6	5958:22	<b>billion</b>	5915:6
5752:15	5850:4	5963:8	5753:4	5918:5
<b>become</b>	5851:3	6011:21	5759:22	5919:7
5824:17	5852:5,22	<b>Besides</b>	5763:4	5923:3
5880:14,15	5855:3	5963:20	5764:14	5926:11
5883:23	5865:15	<b>best</b> 5824:21	5797:8	5933:2
<b>becomes</b>	5867:24	5825:5,10	5800:10,11	5941:5
	5889:21			5951:17,21

5958:6	5977:13	<b>break</b>	5853:1	5872:23
5960:13		5763:3,4,6	5855:1	<b>brought</b>
5965:5	<b>Bob</b> 5722:2	5764:22	5856:16	5797:23
5968:6	5849:15,21	5767:11	5858:11	5885:16
5971:24	5859:5	5769:5	5859:3	<b>build</b> 5729:3
5972:6	<b>book</b> 5724:20	5834:7	5862:4	5770:12
5976:22	5875:7	5846:22	5863:13	5810:20,25
5982:25	5921:9,15,	5865:7,11	5879:1,15	5895:21
5986:21	20 5945:16	5914:11	5881:9	5924:5
5997:21	5988:9,16	5959:9	5882:20	5931:19
5998:10	5993:14	6012:20	5886:11	5934:3
5999:9	6002:14	<b>breakeven</b>	5893:7	5974:19
6011:4	<b>border</b>	5743:17	5896:23	<b>building</b>
<b>black</b>	5815:13	5751:11	5900:13	5733:19
5765:20	<b>boring</b>	5752:17	5905:13,20	5808:11
<b>blame</b>	6001:10,15	5753:22	5906:21	5810:21
5852:17	<b>bottom</b>	5959:5	5909:12	5859:10
<b>blue</b> 5732:24	5773:16	<b>BRIEF</b>	5910:18,24	5923:14,20
5741:17	5778:5	5735:21	5923:25	,22
5754:18	5783:21	5756:25	5927:13	5933:15,17
5757:13	5794:21	5757:21	5933:9	<b>builds</b>
5761:18	5796:10	5768:21	5947:25	5770:18
5773:15	5803:3	5779:18	5957:5	5811:6
5816:5	5814:19,21	5780:1,13	5973:23	<b>built</b> 5728:5
5824:16	5859:7	5783:18	5975:4,12	5736:3,21
5825:6	5860:8	5789:17	5976:8	5787:1
5920:23	5870:4	5791:11	5978:12	5923:17
5923:11	5951:22,24	5792:12	5982:16	5928:9
<b>board</b>	5960:1	5794:17,23	5988:12,25	5937:9
5721:3,14,	5982:13,19	5797:16	5993:16	<b>bullet</b>
15,16,17,2	<b>boundary</b>	5798:10	5994:1	5745:17
1 5722:2	5902:10	5799:25	5995:8	5790:10
5783:13	<b>box</b> 5758:15	5800:22	5997:18,25	5892:21
5799:13	5764:2,4	5802:8,19	6000:3	5895:3
5813:21	5766:6	5803:17,22	6001:20	5896:11
5837:24	<b>boxes</b>	5804:13,19	6002:25	<b>bump</b> 5902:21
5840:17	5764:15	5805:4,9	6004:6,17	<b>bumps</b>
5848:16	5829:21	5807:18	6005:12	5927:10
5859:18	<b>Boyd</b> 5722:6	5808:20	6007:22	<b>bunch</b> 5905:7
5860:2	<b>branch</b>	5813:15	<b>bring</b>	5945:24
5869:3	5747:24,25	5816:19	5868:14	<b>bundled</b>
5930:21	<b>branches</b>	5817:14	5914:25	5905:9
5931:3,16	5738:13	5822:9	5915:6	<b>busi</b> 5772:22
5932:2	5744:11	5825:18	5916:22	<b>business</b>
5977:12,16	<b>Brattle</b>	5826:11	5928:21,22	5820:2
,17,24,25	5724:5	5827:3	5987:10	5844:22
5979:14,15	5812:7,12,	5828:17	<b>broad</b>	5861:5
5980:19,24	20	5832:15	5740:12	5876:20
5991:16	5869:7,9	5834:10	5911:25	
5992:19		5841:4	5924:2	
5993:2		5845:14	5955:8	
<b>Board's</b>		5846:18	<b>broadly</b>	
		5849:3,13		

5877:21	5829:3,9,1	5867:9,23	,21	5967:10
5878:7	2	5868:5,13,	5903:5,15,	<b>calculations</b>
5881:13	5830:1,17	23	21	5725:13
5882:6	5832:5	5869:11,22	5904:1,9,1	5747:7
5884:5	5833:3,12,	5870:3,11,	3	5802:23
5891:18,23	20 5834:5	17,21,23	5905:10,15	5842:18
5915:1	5835:22,23	5871:3,7,1	,22	5843:1,23
5932:16	5836:1,2,1	4,20,24	5906:6,13	5912:8
5936:23	5,20,25	5872:8,16	5907:2,9,1	5916:5
5937:6	5837:9,12,	5873:4,12	5,21	5917:2
6013:12,14	16,21	5874:7,17,	5908:10,11	6009:9
<b>button</b>	5838:2,6,9	22,25	,16,22	<b>Canadian</b>
5750:19	,13,25	5875:6,14,	5909:5,16	5792:1
<b>buying</b>	5839:5,9,1	18	5910:5,9,1	5810:2,3,8
5730:23	3,20	5876:5,12,	5,20	<b>capa</b> 5880:20
5932:13	5840:1,20,	17	5911:1,5,9	5904:23
<b>Byron</b>	22 5841:8	5877:1,4,1	,16	<b>capability</b>
5722:10	5842:10,14	3,19	5912:6,12,	5729:14
5723:13	,20,24	5878:1,6,1	16,21,25	5896:1
5811:25	5843:8,13	2,21	5913:13,20	5904:23
5812:1,4,1	5844:3,4,8	5879:3,10,	5914:8	<b>capacity</b>
6,17	,12,18,24	17		5728:9
5813:6,7,1	5845:5,16	5880:4,13	<hr/>	5729:11,24
7,20	5846:6,16,	5881:11,20	<b>CAC</b> 5722:10	5730:23
5814:7,11,	20	5882:3,10,	5812:10,25	5731:3,6,2
17	5847:2,10,	16,22	5854:3	4 5763:12
5815:2,6,1	14,17,22	5883:1,6,9	5875:7	5772:8
0,16,24	5848:5,8,1	,18	5886:13	5796:15,18
5816:2,9,1	3,25	5884:4,24	<b>CAC-45-12</b>	5879:8,23
3,16,21	5849:5	5885:4,8,1	5724:5	5880:11,20
5817:1,7,1	5852:9,10	4,23	5812:12	5920:3,17
6,19	5853:6,16	5886:3,13,	5868:11	5933:16
5818:4,13,	5854:1,6,1	19	5869:13	5980:12
24	4,22	5887:1,6,8	<b>CAC-45-13</b>	<b>capital</b>
5819:10,22	5855:8,13,	,13	5724:8	5725:4,10
,25	23	5888:4,10	5813:3	5740:14,17
5820:4,18	5856:4,9,2	5889:9,15	<b>CAC-45-3</b>	5741:25
5821:1,7,2	0	5890:13,22	5868:14	5743:21
5	5857:5,6,1	5891:4,10,	5871:15	5744:6,8,1
5822:11,16	3	20	<b>calculated</b>	0,21
5823:1,9,1	5858:4,13,	5892:12,19	5804:7	5745:1,2,3
3,21	23,24	,25	5805:16	,15,16,17
5824:2,12,	5859:13,22	5894:15	<b>calculates</b>	5748:9,10,
24	5860:6,14,	5895:1,9	5915:13	13,16,18
5825:4,5,1	20,25	5896:4,10,	<b>calculation</b>	5749:2,3,2
4,20	5861:4,8,1	15,25	5795:2,7	3 5750:12
5826:3,15,	7,18	5898:9,14,	5796:4	5751:7,22
19	5862:1,13	21	5797:2	5752:23
5827:10,15	5863:5,6,2	5899:2,18,	5920:3,5	5753:24
,22	0 5864:2	23	5940:25	5755:8,23
5828:2,6,9	5865:5,13,	5900:3,15,		5756:11,12
,19,24	14,24	22		
	5866:3,12,	5901:4,16		
	16	5902:13,18		

5758:18,25	5799:6	5801:14	5771:7,15	6006:11
5760:19	5801:6,13	5813:9	5773:24	6009:1
5761:7	5803:7	5826:24	5777:21	6012:15
5762:21	5812:2	5852:14	5803:2,9	<b>cases</b> 5738:8
5763:23	5813:12	5854:8	5808:16	5770:13
5764:18	5816:4	5877:6	5819:18	5811:5
5779:13	5819:17	5886:20	5820:2	5829:23
5781:11,15	5820:6	5908:18	5822:2	5836:8
5782:19,21	5833:23	6005:8	5831:14	5840:10
5784:12	5836:16	6007:3	5835:3,5,7	5858:8
5785:8	5841:9	<b>captured</b>	,13,17	5881:17,18
5794:12	5843:2,20,	5809:15	5836:10	5884:22
5795:3,12	25 5847:4	5942:16	5838:4	5893:15
5796:11	5856:23	<b>captures</b>	5844:22	5895:4,15,
5799:2,8	5857:14	5820:11	5848:2,12	23,25
5803:4,11	5858:14	5942:20	5861:5	5896:12,13
5815:7	5861:20	<b>carbon</b>	5864:10	,17,19
5819:16,23	5868:21	5853:11,12	5876:20	5897:5,12
5820:12	5874:10	,19	5877:21,22	5898:11
5821:10	5880:16	5854:4,11,	5878:8,16	5900:8
5830:20	5887:9	16 5856:6	5880:3,9	5901:21
5838:7,12,	5888:13	<b>care</b> 5736:1	5881:13	5948:3,5
17 5839:24	5892:20	<b>career</b>	5882:6	5965:23
5841:14,19	5893:3	5865:21	5883:15	5980:13,14
5893:4	5899:20	5932:2,8	5885:21	6004:14
5934:16	5902:16	<b>carefully</b>	5887:17,22	6012:11
5938:20,22	5903:7	5865:10	5891:18,23	<b>cash</b> 5982:22
5942:4	5905:11	<b>case</b> 5725:8	5892:2	5983:4
5949:15,16	5908:1,20,	5727:14	5894:21	5985:3
,23	23 5910:11	5728:21	5895:25	6007:9
5950:8,16	5912:16	5729:7,21	5897:10,17	6010:24,25
5976:22	5913:23	5732:11,15	,18,21	<b>cashflow</b>
5999:23	5976:12,17	,18,23	5898:22	5942:15
6002:1	5977:25	5734:6,8,2	5903:12	<b>cashflows</b>
6003:8,9,1	5979:18	0	5915:1	5747:14
4,15,20,21	5983:12,25	5735:1,24	5930:11	<b>casts</b>
6004:2	5986:15,22	5736:25	5934:2,11,	5872:23
6007:20	5991:2,19	5737:8,19	23 5935:16	<b>catch</b>
6008:18,19	5994:18	5738:14	5936:6,13	5928:14
6009:4	5997:22	5740:8	5938:1,3	<b>categorized</b>
6011:8,9	5998:5	5748:1,11,	5939:4,11,	5908:21
<b>Capra</b> 5723:6	6001:8,13	13,19	12	5919:21
5725:3,6,7	6002:3,21	5750:3	5940:14,17	<b>category</b>
,11,15,16	6004:11,22	5751:19	5946:14	5827:17
5726:3,9,1	6009:2	5752:18,19	5954:18,20	5889:5
1,12	<b>Capra-12-2</b>	5756:14	,24	5898:25
5727:7	5974:10	5762:19	5955:13,15	<b>cause</b>
5739:3	<b>Capra-45</b>	5763:9	,18	5839:23
5745:6	5832:8	5765:24	5956:24	5939:25
5778:3	<b>Capra-9a</b>	5768:13	5957:1,10,	5958:9
5785:14	5982:12	5770:25	12,15,19	
5792:21	<b>Capra's</b>		5960:8	
5793:14			5965:17	
			5975:1	

5967:20	<b>cetera</b>	5901:1	5798:7,15	5952:8
<b>cautioned</b>	5999:24	5904:7	5799:16	5991:8
5775:17	<b>CGT</b> 5929:13	5914:4,10,	5800:5,7	6000:21
<b>CEAB</b> 5869:8	<b>Chair</b>	17 5933:11	5802:1	<b>changes</b>
<b>cell</b> 5785:22	5769:25	5935:21	5803:3,10	5740:20,21
<b>cent</b> 5997:6	5776:1	5938:1	5806:19	,22 5745:5
<b>Centre</b>	5809:4	5940:17	5830:20	5749:14
5776:4	5812:4	5945:14	5832:24	5750:13
5885:9	5818:7	5959:10,18	5833:18	5757:14
<b>centred</b>	5825:15,16	5975:9,16	5834:2	5758:17
5749:3	5835:24	5987:3	5838:12	5759:25
<b>cents</b>	5851:3	5993:4	5841:12,14	5760:11
5789:24,25	5863:21	5999:16	,16,19	5761:9
5790:25	5900:23	6000:5	5842:3	5771:21
5792:18	5901:6	6005:14	5846:9,10	5787:12
5793:3	5910:16	6006:10	5854:15	5796:11,14
5997:6	5975:14	6012:21	5884:11,14	,20,23
<b>certain</b>	<b>Chairman</b>	6013:3,6,9	,22	5807:1,2
5728:15	5849:15	,11	5887:23	5830:19,20
5776:9	5993:9	<b>Chairperson'</b>	5890:5	5839:24
5805:15	6013:8	<b>s</b> 5942:1	5892:4,16	5841:18
5876:18	<b>Chairperson</b>	<b>challenges</b>	5893:16	5842:2
5918:5	5721:13	5724:12	5894:25	5880:5
5919:7	5727:3	5850:17,24	5897:9,15	5884:22
5940:2	5734:12,25	<b>chance</b>	5909:19	5894:7,17,
5967:20	5735:6,14	5826:25	5910:4	18 5911:25
5994:12	5738:20,23	5987:23	5911:25	5968:11
<b>certainly</b>	5760:2,4,9	<b>change</b>	5927:8	5978:25
5826:20	,25	5725:9	5942:23	5979:24
5829:22	5765:17	5729:18	5946:1	5980:10,13
5837:16	5767:16,22	5732:19	5966:4	5981:9
5851:3	5768:23	5744:5,22	5970:1,4	5986:5
5858:20	5769:8,11,	5749:11	5976:22,24	5992:2
5883:20	14,20	5750:3	5978:7	6006:22
5894:15	5773:4,19	5751:16	5985:22,23	<b>changing</b>
5913:22	5774:17,22	5752:24	5986:3	5730:15
5940:15	5775:20	5753:24	5988:22	5744:23
5992:18	5787:3	5755:8,20,	5991:11	5763:23
6006:21	5797:13	22,24,25	5994:23	<b>chapter</b>
<b>certainty</b>	5809:6	5756:11	5998:17	5741:20
5925:15,20	5810:1,18	5758:7,8,1	6003:25	5915:2
5946:15	5811:20	8,25	6006:21	5918:3,17
<b>Certificate</b>	5813:22,23	5761:8,12	6011:14	5919:17
5723:16	5825:1	5762:20	<b>changed</b>	<b>characterize</b>
<b>certificatio</b>	5834:12	5763:13,22	5731:20	5844:21
<b>n</b> 6002:20	5835:25	5764:15	5732:21	5889:16
<b>Certified</b>	5849:19,23	5768:3,17	5748:16	5891:21
6013:22	5850:4	5774:5	5753:6	5893:10,13
	5852:5	5779:1	5755:7	5937:20
	5862:8,14	5787:9	5757:25	<b>characterize</b>
	5863:23	5797:1,6,2	5763:24	<b>s</b> 5878:20
	5864:19,24	0	5764:1,8	
			5775:12	

<b>charge</b> 5831:1,2 5996:18	5846:1,13, 23 5876:21 5877:4 5889:10 5914:6	5768:11,15	5961:5 5994:20	5972:21 6000:24
<b>chart</b> 5725:3 5736:11 5755:14 5757:4,12 5798:5,21 5799:1,7 5818:22,23 5829:20 5833:14 5871:23 5893:14 5924:20 5925:3 5930:4 5978:10 5995:24	<b>chime</b> 5992:13	<b>circle</b> 5838:17	<b>clearly</b> 5753:5 5777:1 5794:4 5822:7 5857:20 5884:22 5894:24 5904:20 5905:2 5924:19 5934:8 5935:10 5941:12 5943:21 5944:2 5946:12 5948:9 5958:21,25 5960:9 5977:9 5980:8 5981:9,10 5992:21	<b>closely</b> 5954:21 6008:19 <b>closer</b> 5831:21 <b>closest</b> 5831:25 5835:18 <b>clustered</b> 5755:10 6001:4 <b>co</b> 5876:8 <b>CO2</b> 5872:6 <b>cobble</b> 5893:15 <b>coincidence</b> 5777:23 <b>collapsed</b> 5937:9 <b>colleague's</b> 5976:25
<b>charts</b> 5733:25 5739:22 5755:13 5756:3 5759:18 5955:3 5956:18	<b>choosing</b> 5793:16 5962:9 5965:8 5966:9 5967:14	<b>clarif</b> 5948:25 <b>clarificatio</b> <b>n</b> 5869:12 5906:1,24 5970:7 5975:15	<b>cleverly</b> 5910:6	<b>collect</b> 5995:18 5996:6
<b>chat</b> 5881:23	<b>chose</b> 5774:11 5881:17 5955:1 5998:13	<b>clarifying</b> 5862:19	<b>client</b> 5869:1,8 5885:9 5893:2 5895:10 5896:16	<b>collected</b> 5994:12 6002:8 6009:5 6011:1
<b>chatting</b> 5859:9	<b>chosen</b> 5954:17	<b>clarity</b> 5768:14 5823:18	<b>clients</b> 5826:19 5860:15 5913:23	<b>collecting</b> 6008:24
<b>check</b> 5782:16 5814:11 5815:19 5848:2,14 5871:17 5907:14 6003:1,8,2 5 6004:3,11 6006:20 6007:2	<b>Christian</b> 5722:23 5723:11 5739:1,2 5801:2 5843:17 5856:18 5858:20 5861:14 5907:23 5909:14 5975:14 5977:21 5986:7 5992:12 6008:3	<b>classic</b> 5963:18 <b>clean</b> 5774:13 5874:12,18 <b>cleanest</b> 5765:22 <b>clear</b> 5772:13 5792:24 5798:25 5818:5 5825:11 5869:1 5880:7 5904:25 5934:19 5943:10	<b>client's</b> 5819:12 5863:22 <b>close</b> 5738:10 5822:14,15 5831:13 5840:17 5942:25 5945:25 5958:1 5959:5 5967:7	<b>collectively</b> 5869:6 <b>column</b> 5751:22 5814:23 5816:5 5818:15 5827:16 5838:19 5929:7,13 <b>columns</b> 5817:2 5832:12
<b>checking</b> 5802:11 6004:12	<b>chunk</b> 5766:13			
<b>Cheryl</b> 6013:25				
<b>chick</b> 5877:2				
<b>chicken</b> 5845:19				

5883:10	5919:22	5989:2	<b>comparison</b>	5900:7
<b>combination</b>	5966:23	<b>Comparativel</b>	5738:7	5983:20
5733:5	5983:18	<b>y</b> 5966:23	5739:4	6009:22
5763:18	<b>commentary</b>	<b>compare</b>	5743:4	<b>compensatory</b>
5766:24	5827:12	5771:18	5750:20	5746:2
5835:5,17	5860:21	5799:16	5754:7,9	<b>competitive</b>
5841:21	5861:1	5815:17	5756:1,20,	5836:6
5866:7	5909:20	5817:2	23	5888:7
5873:1	<b>commented</b>	5897:6	5757:15,18	5891:6,7
5891:1	5865:16	5951:14	,23	5892:6
<b>combinations</b>	5951:6	5962:15	5758:6,9,2	<b>complete</b>
5874:2	<b>comments</b>	5964:21	2 5761:21	5977:9
<b>combine</b>	5806:16	5965:6	5762:25	<b>completed</b>
5733:2	5942:1	5969:16	5768:8	5768:25
6010:16	<b>commercial</b>	5970:9	5771:1,13	5981:21
<b>combined</b>	5935:9	5971:9	5774:13	<b>complex</b>
5732:14,18	<b>Commission</b>	<b>compared</b>	5775:4	5984:19
5749:9	5874:12,18	5739:22	5789:2	<b>complicated</b>
5836:11	<b>commit</b>	5749:12	5818:17	5911:22
5897:22	5913:16	5757:4	5819:9	<b>component</b>
5944:15	5939:21	5821:22,24	5821:12	5764:24
<b>combustion</b>	<b>commitment</b>	5829:16	5826:7	5770:6,7
5944:15	5937:13	5835:6	5827:18	5774:5
<b>comes</b>	5939:1,10,	5883:22	5828:12	5775:16
5766:17	13	5920:17	5830:13	5782:10
5767:12	<b>commitments</b>	5942:9	5832:24	5868:2
5823:4	5928:5	5943:3	5855:14	<b>components</b>
5903:3,7	<b>committed</b>	5951:8	5856:5	5749:19
5931:8	5824:5	5957:12	5883:2	5764:22
5955:5	5855:9	5962:10	5964:19	5766:17
5992:19	5937:12	5965:4	6010:19	5767:13
<b>comfortable</b>	<b>committee</b>	5967:15	6011:6	5774:2,8
5827:14	5860:2	5978:8	<b>comparisons</b>	5817:24,25
5846:12	<b>common</b>	6002:5	5739:18	5825:22
5860:15	5872:19	6008:25	5740:15	5925:13
<b>coming</b>	<b>community</b>	6009:11	5741:7	<b>composite</b>
5730:14	5984:16	<b>comparing</b>	5743:20,22	5783:24
5808:3	<b>company</b>	5757:2	,23,25	<b>compounded</b>
5875:1	5984:14	5771:2	5746:21	5771:23
5885:20	<b>comparable</b>	5788:13	5747:1,17	<b>con</b> 5891:6
5939:6	5725:16	5817:20	5749:8	5935:12
5956:8	5856:11,24	5819:1,5	5750:1,18	5944:20
<b>commencing</b>	5893:20	5856:6	5754:3	5946:20
5727:1	<b>comment</b>	5895:15	5763:3,22,	<b>Conaw</b>
5786:7	5790:23	5908:12	25	5733:21
5796:1	5827:13	5943:8	5765:11,13	<b>Conawapa</b>
5827:13	<b>comparative</b>	5960:1,12	,22,23	5725:9
	5756:14,18	5961:17	5766:1,9	5734:1
	5789:6	5965:10	5774:3	
	5798:13	5968:12	5774:3	
		5969:20	5807:12	
		5971:23	5808:7	
			5817:24	
			5818:12	

5740:18	<b>concept</b>	6001:9	5941:18	5851:20
5743:2	5779:6	<b>confirmation</b>	<b>considered</b>	<b>consultant</b>
5749:11	5889:8	5724:18	5745:19	6010:16
5750:4	5934:21	5851:23	5777:19	<b>Consultants</b>
5763:10	<b>concepts</b>	5852:1	5806:16	6008:15
5764:5,22	5941:25	5921:10	5845:1	<b>Con't</b> 5726:1
5766:19,25	<b>concern</b>	<b>confirmed</b>	5878:10	<b>contact</b>
5767:4,5	5992:13	5877:20	5881:13	5774:24
5772:6	<b>concerns</b>	5923:15	5892:11	<b>contacts</b>
5774:9	5993:4	6013:2	5916:10	5771:4
5775:4,8,9	<b>conclude</b>	<b>conjunction</b>	5987:11	<b>contained</b>
,10,14,15	5831:1	5900:20	5990:14	5870:5
5777:4	<b>concluded</b>	5903:2	6011:3	<b>contains</b>
5803:4,11	5744:9	<b>Connecticut</b>	<b>considering</b>	5823:2
5804:9	5855:13	5724:7	5876:6	<b>contemplate</b>
5816:6	<b>conclusion</b>	5812:8,14	5888:20	5884:6
5819:17	5796:2	5868:9	5916:24	<b>contemplated</b>
5832:2	5831:6	5869:1,3,1	5962:22	5870:6
5835:4	5951:16	8 5871:18	<b>considers</b>	<b>contemplates</b>
5837:6	<b>conclusions</b>	5872:10,17	5839:24	5898:8
5859:10	5755:24	<b>connection</b>	5867:5	<b>contemplating</b>
5860:18	5767:3	5781:24	5916:8	g 5899:16
5861:11	5909:19,21	5960:25	<b>consistent</b>	<b>contenders</b>
5884:2	5986:5	<b>conservative</b>	5745:9	5830:23
5897:5,7,1	6012:10	5788:1	5786:20	<b>contents</b>
1 5898:11	<b>condition</b>	5844:22	5788:7	5723:1
5918:18,25	5728:5	5857:18	5790:25	5746:4
5923:16,21	5734:2	5858:9	5802:23	<b>context</b>
,22	5902:10,11	5860:23	5831:7	5788:17
5925:15	<b>conditions</b>	<b>consider</b>	5857:24	5858:16,19
5927:10,18	5731:5	5856:10	5952:5	5869:2
,22	5738:14	5880:22	5970:4	5915:5
5931:16,20	5738:14	5916:23	5987:24	5917:24
5943:2,16	5896:2	5936:18,19	5990:1,9	5944:21
5945:23	5935:12	5941:6	<b>constant</b>	5954:24
5947:12,17	<b>conduct</b>	5955:9	5784:19	5956:22
5964:25	6013:12	5958:21	5996:23	5957:21,23
5965:5,8,1	<b>conducted</b>	5960:6	<b>constraint</b>	<b>contingent</b>
7,25	5855:25	5986:22	5730:16	5832:2
5966:9,19,	<b>confidence</b>	5989:15,16	<b>construct</b>	5837:6
24 5967:14	5822:4	5992:8	5934:24	<b>continue</b>
5970:11	5893:5	6009:12	<b>constructed</b>	5849:11,17
5973:7	<b>configuration</b>	<b>consideratio</b>	5898:19	<b>continued</b>
5989:25	<b>ns</b> 5901:25	n 5882:11	<b>construction</b>	5723:6,10
5990:6,8,1	<b>confirm</b>	5886:23	5784:25	5727:7
7	5843:16	5888:21	5879:20,25	5739:1
<b>conceivable</b>	5844:15	5975:20	5983:14	
5886:9	5845:1	<b>consideratio</b>	<b>Constructors</b>	
<b>conceivably</b>		ns 5867:19		
5891:4				
<b>conceived</b>				
5881:4				



5787:18	5934:14,18	5875:2	5821:6,15	5947:23
5797:18	5935:4		5823:15,16	5948:6
5799:11	5937:25	<b>convert</b>	5826:2	5953:2
5801:8	5946:3	5791:25	5827:21	5960:3
5803:13	5947:11,12	<b>convince</b>	5828:1,8,1	5961:3,7,2
5812:16	,16,18	5940:10	5,23	0
5813:6	5961:6	5999:5	5829:8,11	5964:17,25
5825:4	5968:16,20	<b>convinced</b>	5836:18	5967:16,17
5835:22	,21	5944:4	5838:5,11,	5969:5
5836:1	<b>contracts</b>	<b>copy</b> 5851:19	20 5839:12	5970:14,22
5844:3	5771:16	<b>core</b> 5810:14	5844:10,11	5971:2,11,
5852:9	5811:4		5845:4	16 5973:10
5857:5	5855:9	<b>Corey</b>	5847:16	5974:16
5858:23	5881:6	5722:21	5854:21	5981:22
5861:17	5898:7	<b>Cormie</b>	5855:20	5982:1,4,2
5863:5	5917:10,15		5856:3	3
5865:13	,20,24	5945:20	5866:2	5983:1,9,1
5887:9	5919:8	5947:14	5868:4	5
5908:10	5923:21	<b>corner</b>	5869:16	5997:15,16
5921:18	5924:11	5814:22	5871:6	5999:19,25
5941:23	5926:3	5906:8,9	5872:15	6010:2,5,6
5975:18	5931:20	<b>Corporation</b>	5878:5,11	6013:22
5976:20	5937:18	5995:16	5879:13	<b>corrected</b>
5978:4	5945:21	<b>correct</b>	5883:7	5752:2
5987:6	5946:6,7,2	5726:3	5886:25	5838:18
5993:11	3 5947:2	5728:2	5887:4	<b>correctly</b>
5999:21	<b>contractual</b>	5734:24	5891:3	5799:18
6001:6	5935:13	5739:7	5896:13	5920:20
6005:4,17	<b>contractuall</b>	5774:20	5899:21	5985:8
6006:25	<b>y</b> 5775:9	5776:11	5901:8,17	5987:21
6008:8	<b>contrary</b>	5777:10	5902:20	<b>correspond</b>
<b>continuing</b>	5952:17	5779:11	5903:19,20	5746:9
5996:7	<b>contribution</b>	5781:4,5	5906:11	<b>corresponden</b>
<b>continuity</b>	5766:22	5782:24	5907:16	<b>ce</b> 5851:19
6011:4	<b>control</b>	5783:2,4	5908:2,13,	<b>correspondin</b>
<b>contract</b>	5739:14	5790:12,20	16	<b>g</b> 5740:16
5729:23	<b>convention</b>	5791:18	5915:8,16,	5746:23
5740:22	5731:16,19	5794:14	25	5753:25
5763:13	,23	5796:4,12	5916:6,23	5758:19
5767:14	<b>conversation</b>	5799:16	5917:3,6,7	5759:25
5770:25	5834:6	5801:24	,11,25	<b>correspondin</b>
5773:22	5837:24	5804:10,11	5918:1,10,	<b>gly</b>
5774:18	5857:10	5806:8	14,15,22,2	5726:15
5831:18	5873:14	5814:6,16	3	5752:14
5832:1	5884:25	5815:1,4,5	5919:3,11	6004:13,25
5836:10	5885:2	,8,9	5920:18	<b>cost</b> 5725:10
5837:1,4	5892:14	5816:12,15	5921:1,12	5734:16
5854:25	5893:1	,25	5922:2	5740:17
5855:5,6	<b>conversation</b>	5817:23	5926:12	5741:25
5881:2	<b>s</b> 5810:7	5818:20	5927:3,21	5743:21
5917:24		5820:3,13,	5928:2	
5925:25		16	5929:9	
			5931:24	
			5943:5,12	

5744:6,8	5934:19	5886:22	5987:10	5845:8
5745:1,2,3	5947:1,3	5887:8,14	<b>coupled</b>	5846:8,10
,17	5949:15,16	5942:4,14	5729:13	<b>cross</b>
5748:9,10,	5963:14	5949:23	5885:25	5885:13
14,16	5968:18	5950:8,17	<b>course</b>	5914:12
5749:3,23	5970:4,5	5958:10,22	5770:17	<b>crossed</b>
5751:7	5985:19	5968:17,23	5779:1	5755:10
5752:23	5997:9	5969:9	5839:1,6	<b>crosses</b>
5753:24	6002:1,4	5976:23	5848:14	5762:16
5755:2,3,8	6003:4,9,1	5984:11	5875:2,9	<b>cross-</b>
,24	4,15,20,21	5987:13,16	5958:9	<b>examination</b>
5756:11	6004:1,2	5988:7,22	5993:8	5723:12,13
5758:18,25	6005:14	5989:3,10,	<b>court</b>	,14
5771:22	6007:20	11,15,24	5844:14	5744:16
5772:5	6008:10	5990:7	<b>cover</b> 5872:1	5775:24
5779:13	<b>cost-</b>	5991:5,14,	5992:6	5789:20
5781:11,15	<b>effective</b>	18 5999:24	<b>covered</b>	5806:4
,19	5872:12	6001:10,15	5797:13	5811:25
5782:2,10	<b>costs</b> 5725:5	,24 6002:6	5935:4	5914:21
5784:8,22	5740:15	6003:9	5980:17	<b>crossing</b>
5788:11,12	5744:10,21	6005:18,20	<b>created</b>	5737:24
,20	5745:4	,23 6006:7	5749:21	5754:21
5789:4,9	5748:18	6007:5	6008:14	5756:7,8
5791:1,2,1	5749:2,16	6008:19	<b>creating</b>	<b>crossover</b>
5,22	5750:12	6009:4	5876:13	5725:7
5792:17	5760:19	6011:20,25	<b>creation</b>	5801:14,16
5793:2,17	5762:9,18,	6012:11	5753:16	,22
5794:12	21 5763:23	<b>counsel</b>	5866:18	5802:1,6,2
5795:1,3,1	5764:18	5722:2	<b>credit</b>	2 5803:2,8
2,15,22,24	5781:2,9,1	5834:6	5786:22	<b>cross-point</b>
5796:4,7,1	4,23,24	5856:10	<b>criteria</b>	5738:9
1,23	5782:5,7,1	5858:17	5729:15	<b>culled</b>
5797:6,7,2	9,21	5864:20	5766:2	5820:24
0 5798:7	5784:3,12,	5913:22	5867:16	<b>cumulative</b>
5803:4,11	19	<b>counterparti</b>	5895:11	5743:15,18
5805:16	5785:8,18	<b>es</b> 5937:16	5901:14	5751:9
5806:11	5786:15	<b>counterparty</b>	5933:19,21	<b>cur</b> 5870:6
5809:24	5789:14,23	5937:24	,24	<b>currency</b>
5810:14,15	5790:2	<b>couple</b>	5936:1,4,1	5790:18
5821:15	5792:22	5729:22	0 5970:5	5791:23
5836:12	5793:8,16,	5760:14	<b>critical</b>	5809:12
5839:25	22 5796:6	5774:3	5784:25	<b>current</b>
5841:14,19	5798:14	5811:5,6	5818:2	5798:7
5854:16	5799:2,8	5832:6,7	5840:23	5840:9
5857:23	5804:9	5845:17	5894:16	5853:4
5867:3,6,7	5809:7,12	5853:4	<b>criticisms</b>	5857:22
,15,21	5810:3	5859:23	5805:15	5864:4
5868:1	5820:12	5868:7	5806:5,20	
5871:10	5821:10	5896:5		
5886:24	5838:7,12,	5910:21		
5887:3	17 5866:23	5925:13		
5888:7	5867:13	5959:23		
5891:6	5872:11			
5892:5				

5870:6,14	5770:10	5812:3	25 5869:20	5906:5,12
5911:17	5771:11,14	5819:20,24	5870:2,9,1	5907:20
5928:22	5772:15	5820:3,15,	6,19,22	5908:15
<b>currently</b>	5773:11	23	5871:2,6,1	5909:8
5776:10	5776:12,16	5821:5,14	3,19,22	5913:6,14
5833:22	5777:1,10,	5822:6,13,	5872:7,15,	5914:3
5842:1	20	24	21	5915:9,17,
5860:10	5778:8,15	5823:7,12,	5873:10,22	21
5928:5	5779:11	16	5874:15,21	5916:1,7,1
<b>curve</b> 5726:9	5780:3,6,2	5824:10,19	,23	9
5910:12	1,24	5825:9	5875:3,13,	5917:4,7,1
5927:24	5781:3,5,1	5826:2	17	2
5928:15	6	5831:9	5876:3,10,	5918:1,11,
5945:12,23	5782:8,15,	5835:1	15,24	15,23
<b>curves</b>	24	5836:7,19,	5877:3,11,	5919:4,10
5908:12,17	5783:3,9,1	24	17,25	5920:19
5909:2	4,20	5837:2,11,	5878:5,11,	5921:2,5,2
<b>customer's</b>	5784:10,14	14,19	18	4
5983:7	5785:12,21	5838:1,5,8	5879:9,13,	5922:3,7,1
<b>cut</b> 5764:12	,25	,11,15	22	5,18,25
<b>cycle</b> 5749:9	5786:5,18	5839:3,8,1	5880:6,17	5923:5
5836:11	5787:8,22	1,17,23	5881:16	5924:1,13
<b>cycles</b>	5788:8,16	5840:7,21	5882:2,9,1	5925:18,23
5944:15	5789:5,8	5841:1,6,1	5,25	5926:2,13,
	5790:8,17,	0	5883:5,8,1	19,23
	21	5842:13,19	4,24	5927:6,15,
	5791:8,13,	,22	5884:10	22
	20	5844:7,23	5885:3,6,1	5928:2,11,
	5792:4,7,2	5845:4,12	2,18	18
<hr/> D <hr/>	4	5846:4,14,	5886:1,8,1	5929:6,10,
<b>Dakota</b>	5793:6,12,	24	7,25	14,17,23
5809:13	18	5847:9,12,	5887:5,7,1	5930:3,18,
<b>dams</b> 5789:4	5794:8,14	16,20	1,18	23
<b>DANIEL</b>	5795:9,13,	5848:19	5888:9,17	5931:7,13,
5723:7	19	5853:3,13,	5889:14,18	22,25
5727:8,15,	5796:5,13,	21	5890:16	5932:5,23
24	16,18,21,2	5854:5,13	5891:3,9,1	5934:5
5728:2,10,	4	5857:12,20	9,24	5936:7
13	5797:3,25	5858:7	5892:17,24	5940:23
5730:18,21	5799:17,21	5859:12,21	5893:9	5942:11
,25	5801:20,24	5860:5,13,	5894:19	5943:5,10,
5731:18,21	5802:3,10,	19,24	5895:8,13	18 5945:11
5732:3	21 5803:1	5861:3,7,2	5896:9,14,	5946:10
5733:3,7,1	5804:1,24	3	18 5897:3	5947:20
3,18,21	5805:6,17,	5862:2,6,1	5898:13,20	5948:7,21,
5734:23	22	7	,24	24
5735:4,13,	5806:1,8,1	5863:15,25	5899:6,22,	5949:13,19
18,23	4,18,21	5864:6,11,	25	5950:2,6,9
5736:7,10	5807:10,16	22	5900:4,19	,11,13,19,
5737:11,14	,20,24	5865:3,19	5901:15,18	21
,17,20,22	5808:10,14	5866:10,15	5902:17,20	5951:13,18
5738:2,5,2	5809:2,17	,24	5903:2,9,2	5952:3,15,
2,24	5810:4	5867:14	0,25	21,23
	5811:2	5868:4,12,	5904:11,17	5953:3,9,1

3,23	5978:2	5909:6	<b>decision-</b>	<b>definitely</b>
5954:10	5986:11,12	<b>debt</b> 5759:14	<b>maker</b>	5735:2
5956:10,16	5992:17,19	5941:15	5940:1,15	<b>definition</b>
5957:7	<b>date</b>	5984:8,11	<b>decisions</b>	5866:11,13
5958:8,17	5736:5,24	5998:12	5779:3,5	,25 5867:3
5960:7,15,	5823:5	5999:3	5984:19,20	<b>definitively</b>
22	5844:21	<b>decade</b>	<b>decline</b>	6007:14
5961:4,21	5845:10	5884:13	5783:7	<b>degree</b>
5962:2,5,1	5851:22	<b>December</b>	5796:23	5734:9
2,20,25	5852:24	5743:6	5887:15	<b>delay</b>
5965:10,13	5859:1	5994:9	<b>declines</b>	5897:9,16,
,21	5879:7,12	<b>decide</b>	5795:4,12	23
5966:2,7,1	5898:12	5793:23	5886:24	<b>delta</b>
5,21	5903:14	5859:9	5887:3,9	5760:23
5967:2,4,1	5930:24	5946:15	<b>decrease</b>	<b>demand</b>
0,17	5931:10	5967:24	5841:21	5735:10
5968:5,10,	6001:15	5980:19	<b>deduct</b>	5866:6
14	<b>dated</b>	5986:2,4,1	5781:14	<b>demand-side</b>
5969:6,12,	5851:22	7	<b>deducted</b>	5866:8
22,24	5951:3	<b>decided</b>	5781:8	5870:7
5970:15,23	<b>dates</b> 5819:8	5744:18	<b>deducting</b>	<b>Department</b>
5971:1,7,1	<b>day</b> 5880:23	<b>deciding</b>	5781:19	5780:24
2,17,22	5987:25	5859:17	<b>deem</b> 5986:9	<b>dependable</b>
5972:4,9,1	<b>dead</b> 5892:2	<b>decision</b>	<b>deemed</b>	5732:1
3,20	5972:21	5766:2,7	5824:11	5879:7,11,
5973:3,11,	<b>deadline</b>	5775:18	<b>deep</b> 5984:21	23
16,25	5978:21	5776:24	<b>deeply</b>	5880:12,21
5974:3,8,1	<b>deadlines</b>	5778:25	5899:4	5901:12
7,25	5786:22	5831:3,5	<b>def</b> 5841:7	5915:12,14
5975:6	<b>deal</b> 5776:5	5845:20	<b>defer</b>	,16
5976:1,4,1	5787:4,6,7	5860:1	5896:12,17	5916:5,8,1
5	5807:5	5861:11	5898:11,22	5 5917:22
5977:5,20	5840:24,25	5867:8	<b>deferral</b>	5918:9,18
5978:9,14	5885:10	5894:10	5881:12	5919:2,20
5980:5,22,	5919:2	5912:5	5928:20	5920:2,5,6
25 5981:23	5923:13,20	5930:16,22	<b>deferred</b>	,17
5982:2,5	5958:20	,25	5879:20	5922:5,20
5983:1	<b>dealing</b>	5931:17,18	5899:5	5923:17
6003:1,13	5891:11	5932:3,7	<b>defers</b>	5925:4,21
<b>Dan's</b> 5752:2	<b>deals</b> 5942:2	5933:20	5736:22	5926:10
<b>dark</b> 5824:16	<b>dealt</b> 5806:6	5938:13,23	<b>define</b>	5927:17
5825:6	5993:13	,24	5866:4	5928:4,10,
<b>dashed</b>	5996:8,11	5939:14,19	<b>defined</b>	12
5998:14,20	<b>dear</b> 5858:25	5940:3,19	5913:10	5945:23,25
<b>data</b>	<b>death</b> 5824:6	5941:4	5995:16	5970:2
5809:10,15	<b>debate</b>	5954:14		<b>dependent</b>
5810:2,3,6	5908:25	5955:1,10		5924:23
,9,11,17		5956:1		<b>depending</b>
5900:6		5987:1		5774:9
5901:20		5999:6		
5902:1				
5904:20				

5884:23	5888:13	5809:23	5937:14	<b>diffe</b>
5918:20,25	<b>description</b>	5882:4	5942:19	5759:10
5930:7	5724:2	<b>developed</b>	5943:1	<b>differ</b>
5934:25	5725:2	5810:16	5948:4	5758:12
5971:10	5726:2	5908:18	5949:8	<b>difference</b>
5991:10	5875:16	5985:6	5952:19	5732:13
5998:19	<b>design</b>	<b>developing</b>	5953:5	5745:21
<b>depends</b>	5866:4	5745:7	5956:25	5759:12
5911:23	5997:21	5787:11	5977:15	5760:5,6,1
5920:4	<b>designation</b>	<b>development</b>	5978:18	9 5761:6
5935:1	5746:9	5721:10	5979:3	5765:17
5985:15	<b>designing</b>	5729:5	5983:20	5774:23
<b>depicted</b>	5922:9	5738:15,17	5984:16	5782:3
5875:24	<b>detail</b>	5741:15	5995:13	5790:9
6008:16	5727:13	5742:25	6000:7,9	5795:16
<b>depiction</b>	5742:10	5743:1	6009:11	5795:16
5783:22	5778:11	5749:14,16	6010:2	5806:23
5841:25	5840:21	,19,21	<b>developments</b>	5816:10
5928:3	5979:7	5753:2	5786:21	5817:3,10
<b>depicts</b>	<b>detailed</b>	5754:19	<b>develops</b>	5818:15
5876:4,14	5747:1,13	5755:2	5945:1	5819:7
<b>depreciation</b>	5748:21	5756:6	<b>diagram</b>	5845:22,25
5990:15,17	5750:17	5760:20	5922:11,14	5883:11
,18 5991:1	5757:9	5761:16	5923:2	5897:13
<b>derivation</b>	5791:3	5762:8,16,18	<b>Diana</b>	5904:19
5725:13	5830:16	5763:5,17,23	5779:15,21	5906:18
5743:21	5897:21	5765:19	5780:10	5907:1,11,13
5813:24	5898:18	5766:13,16	5785:1,13	5918:8
5842:16	6007:10	5797:21	5786:1	5919:19,25
5843:1,12,22	<b>determinant</b>	5798:8	5789:15	5930:21
6007:20	5854:9	5799:19	5792:9	5931:9
<b>derive</b>	<b>determinatio</b>	5800:3	5794:19	5935:23
5747:5	<b>n</b> 5731:24	5804:8	5796:9	5938:9,14
<b>derived</b>	5732:4,6	5819:18	5803:24	5940:5
5777:13	5840:4	5821:23	5804:16	5954:8,23
<b>des</b> 5820:19	5848:17	5837:20	5813:7	5956:7
<b>desa</b> 5870:6	5866:21	5841:17,23	5826:22	5963:10
<b>describe</b>	5867:12	5842:5	5868:14	5964:18,24
5884:6	5884:8	5854:10	5914:25	5968:1,7,9
<b>described</b>	5993:3	5855:15,18	5915:6	5970:5,13
5838:23	<b>determine</b>	5856:1	5918:2	5973:6
5845:2	5792:22	5861:6	5928:20	5974:18
5875:15	5854:17	5869:24,25	5933:5	5985:6
5878:15,19	5880:19	5877:12	5945:18	5990:21
5897:19	5986:13	5882:7	5951:4	5997:11
5898:16	5994:19	5885:19	5973:20	5999:1
5908:20	<b>Dev</b> 5841:22	5894:22	5982:20,25	6002:10
<b>describes</b>	<b>develop</b>	5895:24	5988:8	6009:4,12
	5777:2,3	5902:19	6002:15	6011:10
		5904:21	6008:10	6012:5
		5912:9	<b>diff</b> 5825:10	<b>differences</b>
				5759:16
				5770:12

5789:12	5974:14	5898:6	5859:16,25	5731:8
5809:11	5977:6		5864:20	<b>doctor</b>
5810:15	5979:25	<b>disadvantage</b>	5865:8	5812:19
5891:17	5980:3	<b>d</b> 5886:6	5866:14	
5900:16	5985:3,6,1	<b>disaggregate</b>	5872:9	<b>document</b>
5939:25	9 5990:15	<b>d</b> 5901:21	5874:3	5753:14
5964:1,4	5991:25	<b>discount</b>	5876:21,22	5780:25
6007:9	5992:6,10	5740:21	5883:19	5812:9,19,
6011:9	6000:19	5747:11,12	5891:11	21 5841:7
6012:14	6011:20	,22,23	5894:21	5872:2
<b>different</b>	<b>differently</b>	5748:1	5901:19	5874:15,24
5728:16	5731:10	5768:5,8	5909:25	5929:18,19
5732:8	5777:14	5841:19	5917:19	5949:5
5739:14	5863:3	5948:12	5935:22	6003:5
5740:6	5940:16	5949:23	5988:17	6013:5
5742:22	5945:15	5950:8,16	<b>discussions</b>	<b>documents</b>
5743:15	<b>differs</b>	6008:18	5745:8	5724:20
5751:9	5759:11	6012:4	5746:1	5850:7
5763:3		<b>discuss</b>	5767:6	5875:7
5774:3	<b>difficult</b>	5752:4	<b>disparities</b>	5921:9,16,
5777:8,13	5913:15	5769:6	5809:8	20 5945:16
5783:24	5934:17	5876:18	<b>dispose</b>	5988:9,16
5790:4,18	5935:15	5913:21	5919:25	5993:14
5793:20,25	5937:10,22	5981:18	<b>disposed</b>	6002:14
5803:25	5944:14	<b>discussed</b>	5916:17	6012:22
5805:20	5981:16	5742:3,20	<b>dollar</b>	
5832:6	<b>digit</b> 5997:5	5745:7,13	5760:14	
5835:12	<b>diligence</b>	5754:20	5954:7	
5842:8	5979:21	5757:7	<b>dollars</b>	
5861:19	<b>direct</b>	5778:10	5780:19	
5870:24	5767:7	5783:4,15	5781:8,24	
5873:6,7,1	5768:8	5840:10	5782:1,13	
6 5876:7	5782:23	5853:24	5789:23,25	
5880:10	5811:16	5900:1	5790:2,19,	
5897:5,7,1	5819:8	5901:5	24	
2	5820:7	5963:1	5792:1,17,	
5901:24,25	5833:16	6001:23	19	
5910:1	<b>directed</b>	<b>discussing</b>	<b>distinguish</b>	
5911:20	5867:25	5843:5	<b>d</b> 5823:4	
5916:12	<b>directionall</b>	<b>discussion</b>	<b>Distinguishi</b>	
5920:14	<b>y</b> 5960:19	5740:13	<b>ng</b> 5861:23	
5923:9	5961:23	5743:5	<b>distributed</b>	
5924:8	5962:21	5767:3	5786:10	
5929:22	5996:23	5778:18	5850:18	
5930:4	<b>directly</b>	5783:21	5921:8	
5936:5	5753:8	5812:6,19	<b>distribution</b>	
5937:5	5773:14	5813:21	5744:20	
5939:19	5774:5	5831:15	5762:1	
5940:1,25	<b>dis</b> 5747:25	5832:4	<b>distribution</b>	
5949:4	<b>disadvantage</b>	5840:2	<b>s</b> 5744:7	
5950:25		5842:8	<b>division</b>	
5960:13		5849:18		
5973:19				

5924:6,17, 24	5959:3	,20	5944:6	5792:18
5925:5,9	<b>Dr</b> 5772:13	5829:4,14	5946:23	5793:8
5933:16,22	5854:3	5830:20	<b>during</b>	5801:15
5934:3	<b>dramatic</b>	5832:19,23	5749:4	5808:16
5935:5,24	5755:22	5833:5	5777:25	5819:18
5980:12	5756:10	5836:21	5789:20	5822:2
<b>dominated</b>	5760:6	5837:18	5896:2	5824:21
5890:24	5883:11	5838:10	5932:2	5836:8
5891:7	<b>dramatically</b>	5840:12	5996:16	5842:4
<b>done</b>	5755:25	5841:19,24	<b>dynamic</b>	5854:19
5741:19,22	5756:17	5847:6,21, 25 5848:16	5912:23	5857:19
5746:19,24	<b>draw</b> 5836:3	5851:8,16	<hr/>	5880:1
5750:9	5858:17	5868:6	<b>E</b>	5916:7,18
5830:12	5922:10	5870:6,14, 15,24,25	<b>earl</b> 5878:8	5977:1
5835:25	5981:3	5871:9,11	<b>earlier</b>	5980:13
5855:6	<b>drawing</b>	5872:12,20	5812:18	5981:12,22
5863:3	5898:17	5873:3,7	5818:7	5982:22
5864:8	<b>draws</b> 5902:5	5875:15	5840:2	5983:5
5879:25	<b>drive</b>	5876:1,14	5857:11	5985:11
5885:21	5940:15	5877:5,8,1 2,15,23	5903:10	5986:20,23
5893:12,16	<b>driving</b>	5878:3,14	5905:16	5989:4,6,1
5894:8	5889:8	5879:4,18	5930:5,6	4 5996:20
5913:24	6011:7	5880:19	5963:1	6004:14
5926:7	<b>drop</b>	5881:22,24	5969:10	6005:1,24
5937:15	5753:19,25	5882:5,7,1 1	5970:3	6007:10,15
5944:20	<b>dropped</b>	5883:3,10, 12,23	5992:14	6009:21
5947:2	5752:7,12, 20 5759:22	5884:7,12, 23	<b>early</b> 5751:4	6010:8,12
5977:24	5762:14	5885:17,22 ,24,25	5812:6	6012:9
5979:21	<b>dropping</b>	5886:6	5849:17	<b>economically</b>
5981:25	5855:17	5889:11	5859:9	5892:6
5988:17	<b>drought</b>	5891:2	5863:17	<b>economics</b>
5992:16	5728:5	5893:4	5956:18,19	5750:4
6001:8	5731:5	5899:12	6012:24	5787:14
6009:2	5734:2,21	5903:11	<b>earn</b>	5794:1
<b>do-nothing</b>	5776:15	5921:22	5941:1,2	5800:3
5940:13	5777:9	5925:1,2	<b>earnings</b>	5820:2
<b>dotted</b>	<b>dry</b> 5896:2	5928:23,25	5985:21	5822:6
5942:9	5904:23	5929:3,22	<b>easier</b>	5832:24
<b>double</b>	<b>DSM</b> 5724:17	5931:17,19	5940:10	5857:15
5727:22	5735:8,25	5976:24	<b>easily</b>	5883:21
<b>doubt</b>	5736:20	5977:3,19	5991:11	5885:15
5875:11	5740:22	5979:9,25	<b>economic</b>	5892:23
<b>Doug</b> 5854:3	5742:23	5980:9	5726:16	5894:1
<b>Douglas</b>	5821:4,20	<b>due</b> 5883:12	5747:2	5895:6,17
5722:7	5826:4	5979:21	5749:5	5896:8
<b>downside</b>	5827:16	<b>duration</b>	5753:18,19	5897:8,14
5941:14	5828:11,14		5789:22	5958:20
5949:22			5790:5	5960:5
5955:11			5791:1	5969:19
				5980:14
				5997:14
				6008:17
				6009:25

6010:4	5800:6	<b>either/or</b>	<b>employment</b>	<b>engineering</b>
6011:15	5841:13	5938:20,22	5724:11	5731:23
<b>economy</b>	5908:5	<b>elaborate</b>	5850:16,22	<b>England</b>
5735:10	5951:16	5844:20,25	<b>endeavour</b>	5932:16
5941:10	5952:20	5850:15	5852:19	<b>enhanced</b>
<b>eff</b> 5984:24	5957:16	<b>electric</b>	<b>endpoint</b>	5896:8
<b>effect</b>	5958:3	5811:6	5748:5	<b>enjoyable</b>
5728:24	5962:3	5866:23	<b>energy</b>	5884:25
5732:14	<b>eighteen</b>	<b>electrical</b>	5729:25	5885:5
5734:5,9	5764:11	5867:13	5731:6	<b>Enron</b> 5937:9
5767:22,23	5786:24	<b>electricity</b>	5732:1	<b>enter</b>
5772:11	5989:24	5985:20	5734:7	5917:20
5799:13	5991:19	6012:2	5749:1	<b>entered</b>
5819:7	<b>eight-forty-</b>	<b>elegant</b>	5758:1,3,1	5739:6
5824:1,9	<b>five</b>	5820:22,25	3 5772:7	<b>entering</b>
5832:22	5790:14	5873:25	5776:6,25	5917:23
5834:16,23	<b>eight-</b>	<b>elements</b>	5777:19	<b>entire</b>
5880:11	<b>ninety-</b>	5778:20	5780:25	5728:20
5889:12	<b>eight</b>	5940:2	5783:23	5865:21
5903:8	5760:16	5988:6	5835:11	<b>entirely</b>
5981:11	<b>eighty-nine</b>	<b>Elenchus</b>	5836:12	5809:10
5989:5	5752:10	5743:6	5866:6	<b>entirety</b>
5994:14	5764:18	<b>eleven</b>	5869:3,23	5840:15
<b>effective</b>	5951:10	5801:17	5871:5	5916:10
5871:11	5952:1	5907:8,10	5879:7,12,23	<b>entitled</b>
<b>effectively</b>	5953:2	<b>elim</b> 5830:23	5880:12,21	5922:5
5736:22	5956:6	<b>eliminate</b>	5888:8	5948:18
5884:12	5960:25	5830:15,24	5901:13	<b>entity</b>
<b>effects</b>	<b>eighty-seven</b>	<b>eliminated</b>	5915:12,14,16,25	5941:9
5728:1	5752:7	5747:23	5916:8,10,16	<b>Environment</b>
5740:19	5764:17	<b>else</b> 5737:7	5917:9	5874:12,18
5984:12,24	<b>eighty-six</b>	5919:22,24	5918:9,13,18,21	<b>environmentally</b> 5891:6
<b>efficiency</b>	5961:25	5939:22	5919:2	<b>envision</b>
5869:24	5966:11	5980:7,15	5920:2,5,6	5860:10
5871:5	5973:10	<b>eme</b> 5918:5	5921:21	<b>equal</b>
<b>efficient</b>	<b>either</b>	<b>emerge</b>	5923:4	5800:18
5872:13	5769:2	5890:19	5924:9	5964:19
<b>efficiently</b>	5824:5	<b>emerging</b>	5925:22	5990:16,18
5730:17	5830:23	5889:6	5926:15	5998:16,23
<b>effort</b>	5868:16,23	5890:10	5927:4	6000:19
5765:4	5877:21	<b>emission</b>	5928:1,4	<b>equally</b>
5873:9,17	5895:19	5868:3	5948:17	5853:12
5893:25	5934:10,17	<b>emissions</b>	5949:7,12	5877:24
<b>eight</b> 5738:1	5935:12	5854:17	5950:5,15	<b>equation</b>
5752:7,17	5939:8	5867:19	5970:2	
5753:7	5941:12		5980:12	
5760:15	5943:4,9		<b>engineer</b>	
5764:17	5945:17		5844:6,9,17	
5790:10,24	5972:25		5846:3	
	6010:15			



5880:5	5809:24	5739:15	5997:7	5847:21
<b>equipment</b>	5819:23	5784:15	<b>examination</b>	<b>excerpt</b>
5795:16	<b>estimated</b>	5849:25	5845:11	5724:5,8
<b>equity</b>	5752:20	5941:19	5858:15	5812:7,12,
5934:2	5781:23	<b>everything</b>	5872:4	22 5813:3
5941:4	5826:6	5769:5	5875:23	5868:10
5984:10	<b>estimates</b>	5771:20	5898:18	5871:17
<b>equivalent</b>	5726:13	5841:10	<b>Examination-</b>	5875:10
5883:7	5742:1	<b>evidence</b>	<b>in-chief</b>	<b>excess</b>
<b>Eric</b> 5807:4	5743:21	5781:6	5723:10	5894:23
<b>eroded</b>	5815:7	5785:2	5739:1	5920:8
5822:7	5819:16	5787:20	<b>examine</b>	<b>exchange</b>
<b>erodes</b>	5821:3	5788:21	5727:13	5791:24
5883:16	5830:21	5794:20	5845:17	<b>excitement</b>
<b>erosion</b>	6002:18,21	5806:13	<b>examined</b>	5852:11
5753:10	6004:13,23	5807:3	5809:16	<b>excluded</b>
<b>errata</b>	6007:20	5824:4,8	<b>examines</b>	5855:10
5751:21,24	<b>et</b> 5999:24	5849:1	5901:9	<b>excludes</b>
5838:21	<b>etched</b>	5852:14	<b>examining</b>	5774:18
<b>escaped</b>	5753:5	5853:10,14	5875:20	5831:17
5770:2	<b>evaluate</b>	5878:14	<b>example</b>	5836:25
<b>especially</b>	5933:21	5879:6	5728:17	<b>excluding</b>
5938:19	5936:4,5	5886:20	5735:14	5782:6
<b>essence</b>	<b>evaluating</b>	5887:9	5740:8	5836:5
5817:16	5924:8	5888:5,6,1	5747:10	<b>exclusively</b>
5818:17	<b>evaluation</b>	2 5930:6	5754:22	5776:5
5819:4	5830:21	5944:19	5759:16	<b>excuse</b>
5837:13	5925:6	5947:9	5774:11	5743:9
5872:3	<b>eve</b> 5766:4	5982:9	5811:8	5815:17
5879:18	<b>evening</b>	5990:25	5856:7	5852:13
<b>essentially</b>	6007:25	<b>evolution</b>	5868:9	5856:13
5728:8	<b>event</b> 5935:6	5735:16	5873:19	5906:10
5736:1	<b>eventuality</b>	<b>evolved</b>	5882:17	<b>executive</b>
5743:1	5735:12	6008:17	5895:15	5860:2
5747:24	<b>eventually</b>	<b>exacerbated</b>	5937:19	<b>exercise</b>
5748:13	5736:4	5895:20	5944:3,8	5802:14
5756:2	6010:25	<b>exact</b>	5946:14	5831:11
5760:15	<b>everybody</b>	5736:24	<b>examples</b>	5854:17
5762:23	5727:4	5746:17	5745:9	5858:6
5763:16	5765:5	5774:5	5750:7	5890:17
5888:18	5850:5,6	5814:23	5759:6	5960:9
<b>establish</b>	5914:23	5816:6	5761:23	<b>exercised</b>
5940:21	5959:19	5926:17	<b>excellent</b>	5902:12
<b>established</b>	<b>everybody's</b>	5994:16	5769:9	<b>exhausted</b>
5866:7	5753:5	<b>exactly</b>	<b>except</b>	5775:21
<b>estimate</b>	5769:21	5838:22	5756:12	<b>exhaustive</b>
5784:4	<b>everyone</b>	5887:21	5827:7	5875:9
		5897:10	<b>exception</b>	
		5926:15		
		5966:25		

<b>exhibit</b>	6008:12	<b>expected</b>	<b>expert</b>	5926:1
5724:2,9		5758:7,10,	5947:9	5928:17
5725:15	<b>exhibits</b>	16		
5726:14	5723:3	5841:16,22	<b>explain</b>	<b>expose</b>
5739:6,9	5724:1	5857:16	5760:2,4,5	5936:25
5789:15	5812:5	5862:25	5783:12	
5792:9,10	5827:9	5953:19	5933:23	<b>exposed</b>
5812:10,12	5848:3	5954:2,5,1	5953:25	5935:1,3,1
,22,25	5850:9	4,21	5954:23	1
5813:3,4,9	5954:17	5955:2,3,7	5983:18	<b>exposes</b>
,11,12	<b>exist</b> 5915:5	,12,15,18	<b>explained</b>	5967:14
5814:8,18,	<b>existed</b>	5956:7,8,1	5806:25	<b>exposing</b>
22	5772:25	4 5957:19	5837:3	5967:6
5816:4,17,	5865:21	5958:6,24	5919:6	<b>exposure</b>
23 5819:12	<b>existing</b>	5960:17	<b>explanation</b>	5966:25
5820:5	5730:4,5,1	5961:23,25	5725:12	<b>expressed</b>
5826:23,25	6 5915:15	5962:8	5791:22	5854:2
5827:6	5922:23	5963:20	5842:25	5860:21,25
5832:11,20	<b>exists</b>	5964:23	5843:21	5933:15
5833:2,8,1	5848:2,7	5965:6,11,	5906:17	<b>ext</b> 5821:2
0 5834:4	<b>expanded</b>	19 5966:10	5954:1	
5836:16	5729:14	5967:13	<b>explore</b>	<b>extend</b>
5841:9	5730:7	5968:25	5875:19	5788:12
5843:2	5835:9	5969:2,5	5950:24	5902:12
5844:1	5847:14	5973:6,7		
5847:4	5867:10	5975:25	<b>explored</b>	<b>extended</b>
5848:3	5895:17,25	5978:16,17	5890:15	5903:12
5850:10,19	<b>expansion</b>	6000:8,11	<b>exploring</b>	<b>extensive</b>
,21	5870:25	6010:1,10	5923:7	5872:18
5851:4,11,	5872:13	<b>expecting</b>	<b>export</b>	<b>extent</b>
19 5852:1	<b>expe</b> 6000:8	5958:3	5728:15	5724:15
5875:11	<b>expect</b>	<b>expense</b>	5729:7	5731:2
5878:23,25	5800:14	5947:6	5730:20	5735:1
5882:18	5809:12	5990:23	5750:9,13	5851:6,14
5883:20	5867:16	5996:25	5771:16	5895:18
5886:14	5887:14	<b>expensive</b>	5772:7,8	5902:4,6
5892:20	5941:2	5771:23	5808:12,25	5910:2
5899:20	5984:15	<b>experience</b>	5854:10,18	5919:7
5905:11	5985:12	5786:15	,24 5880:1	5924:5
5921:11,15	6010:15	5788:7	5881:2,6	5934:6
5928:21	6012:13	5865:17,20	5898:7	5946:24
5930:1	<b>expectation</b>	,22,25	5923:10,14	5989:3
5933:6	5763:19	5872:18	5924:5,23	6003:11,22
5942:3	5887:19,20	5923:13	5925:7	6006:5
5948:15	5890:1	5932:9	5945:21	6007:7
5951:1,2,2	5959:4	5944:5	5946:20	<b>extra</b>
1 5973:21	<b>expectations</b>	<b>experienced</b>	<b>exporting</b>	5729:11
5974:24	5857:23	5887:3	5733:23	5904:22
5975:21	5902:15	<b>experiences</b>	<b>exports</b>	5969:9
5976:12		5724:10	5728:9	5972:11
5982:12		5850:16,21	5920:22	6003:10
5997:22			5923:11,15	6009:18
6004:20,24				
6007:19				

<b>extract</b> 5757:8	5986:11 5994:5	5947:8 5962:11 5965:20 5967:9 5968:4 5969:11 5973:2 5985:10 5986:6 5992:22 6008:4 6009:17 6011:23	5811:7 <b>favour</b> 5941:3 <b>favourable</b> 5738:14,17 5762:24 5841:23 5940:13 5947:16 5949:11 <b>favourably</b> 5943:17 <b>feat</b> 5955:14 <b>feature</b> 5793:23 5794:2 5825:12 5884:2 5954:17 5955:14 <b>featured</b> 5797:4 <b>features</b> 5823:10 <b>featuring</b> 5824:20 <b>February</b> 5878:2 5932:20 <b>fee</b> 5745:24 5746:3 5759:14 5810:23 <b>feed</b> 5778:18 5810:22 5876:1 <b>feel</b> 5860:14,15 5861:12 5868:24 5955:20 <b>feeling</b> 5914:5 <b>fees</b> 5745:15,18 <b>felt</b> 5858:8 5892:7	<b>FERNANDES</b> 5849:9 6007:16 <b>fifteen</b> 5741:14 5770:14 5856:1 5887:4,7 5893:21 5937:17 5966:12 <b>fifth</b> 5756:23 <b>fifty</b> 5747:19 5751:9 5752:11 5753:11,13 ,23 5756:3,4,1 5 5767:5 5770:16,17 ,23 5771:7 5772:21,24 5773:6,9,1 0,15 5775:4 5779:23 5780:19 5781:8,24 5782:4,13 5889:3 5906:15 5943:7 5944:10 5945:2 5946:4,5 5961:11,12 ,14 5963:13 5965:9 6000:10 <b>fifty-five</b> 5756:7 5792:18 5793:3,9 <b>fifty-nine</b> 5818:21 <b>fifty-one</b> 5960:18 <b>fifty-three</b>
<b>extrapolate</b> 5724:15 5851:6,13	<b>factor</b> 5796:18 5895:6 5936:22 5996:15	<b>factors</b> 5861:9 5901:10		
<b>extreme</b> 5814:1,13 5821:2 5832:12 5833:23 5923:2 5926:22 5952:10 5953:21	<b>facts</b> 5740:4 <b>failure</b> 5884:6	<b>fairly</b> 5836:14 5884:19 5924:2 5937:21,22 5942:10 5951:23 5967:14		
<b>extremely</b> 5888:7	<b>fair</b> 5806:7	<b>falling</b> 5907:24		
<b>eye</b> 5761:11	5814:9 5817:12 5818:5 5819:15 5820:10 5821:9 5822:3,19 5823:6,21 5824:18 5826:8 5827:20 5832:5 5833:20 5844:20 5845:8 5854:1,20 5857:14 5861:18 5865:18 5866:3,17 5870:1,8 5871:12 5872:14 5874:7 5875:6 5877:10 5882:2,11, 14 5883:13 5884:5 5886:4,14 5887:2,16 5888:11 5891:13,21 5900:15 5909:3 5910:5 5911:16,18 5924:14	<b>familiar</b> 5765:5 5827:1 5853:7 5871:23 5882:23 5930:9 5932:10 5948:19 <b>familiarizat ion</b> 5765:10 <b>fantastic</b> 5913:24 <b>fare</b> 5948:3,5 5966:1 5967:13 <b>faring</b> 5973:1 <b>farm</b> 5778:23 5784:17 5786:17,20 5788:2 <b>farms</b> 5784:13 5788:12	<b>feated</b> 5797:4 <b>features</b> 5823:10 <b>featuring</b> 5824:20 <b>February</b> 5878:2 5932:20 <b>fee</b> 5745:24 5746:3 5759:14 5810:23 <b>feed</b> 5778:18 5810:22 5876:1 <b>feel</b> 5860:14,15 5861:12 5868:24 5955:20 <b>feeling</b> 5914:5 <b>fees</b> 5745:15,18 <b>felt</b> 5858:8 5892:7	<b>fifty</b> 5747:19 5751:9 5752:11 5753:11,13 ,23 5756:3,4,1 5 5767:5 5770:16,17 ,23 5771:7 5772:21,24 5773:6,9,1 0,15 5775:4 5779:23 5780:19 5781:8,24 5782:4,13 5889:3 5906:15 5943:7 5944:10 5945:2 5946:4,5 5961:11,12 ,14 5963:13 5965:9 6000:10 <b>fifty-five</b> 5756:7 5792:18 5793:3,9 <b>fifty-nine</b> 5818:21 <b>fifty-one</b> 5960:18 <b>fifty-three</b>
<hr/> F <hr/>				
<b>fa</b> 5811:12				
<b>face</b> 5724:12 5850:17,24 5993:25				
<b>facilities</b> 5811:9 5924:22 5937:9,19 5942:22 5947:3 5958:19				
<b>facility</b> 5918:9 5933:17 5935:24 5936:4 5946:3 5948:2 5994:8				
<b>facing</b> 5964:13,14				
<b>fact</b> 5771:23 5788:22 5808:3,7 5848:11 5895:20 5933:16 5969:2 5980:9 5984:21				

5944:25	5913:21,22	5982:6,9	5927:4	<b>five</b> 5741:19
<b>fighting</b>	<b>file</b> 5850:9	5983:21	5928:1,5	5769:15
5872:12	6007:18	5984:1,3,1	5934:17,18	5888:24
<b>figure</b>	<b>filed</b> 5740:7	1	5935:4,13	5907:1
5726:4,11	5741:11	5985:9,13,	5936:20	5920:9
5740:16	5770:13	17	5941:13	5945:19
5742:14,15	5781:7	5986:16,23	5947:5	5968:12
5746:15	5833:11,13	5987:9,12,	5968:20	5969:21
5749:24	5878:9	17	<b>firmed</b>	<b>five-sixths</b>
5751:1,16	5879:5	5988:2,18	5947:22	5953:6,10
5753:15	5893:22	5989:4,6,2	<b>firmness</b>	<b>fixed</b>
5754:16	5957:11	2	5777:24	5792:17
5757:25	<b>filing</b>	5990:13,19	<b>first</b>	5793:8
5758:15,19	5740:5	5993:1	5736:25	5794:8
5762:5	5741:18,21	5994:17	5739:24	5998:8
5764:11	5763:5	5996:11,24	5740:1	<b>flexibility</b>
5766:14	5767:6,21	6001:23	5750:20,21	5779:2
5769:25	5982:1	6005:23	5751:18	5835:10
5779:22	6003:18	6012:3	5754:6	<b>flip</b> 5814:18
5783:10	<b>fill</b>	<b>financials</b>	5767:13	5816:3,16
5804:6,22,	5833:1,4	5985:16	5771:2	5817:8
24 5805:18	5945:22	5986:12	5772:21	5822:17
5814:2,12,	5946:6,7	5987:25	5785:9	5859:19
24 5815:21	<b>filling</b>	<b>financing</b>	5786:2,10	5871:25
5816:6	5831:6	5934:15	5793:5,11	5878:22
5819:3	<b>final</b> 5840:4	5938:12	5798:16	<b>floor</b>
5905:23	<b>finally</b>	5988:4	5799:18	5727:22
5906:1,7,1	5818:13	<b>fine</b> 5797:12	5811:14	5728:7
0,18,19	5851:18	5801:2	5818:9	<b>flow</b> 5916:12
5907:16,17	5860:6	5843:17	5819:21	5935:5
5908:2,3,1	5871:8	5859:8	5830:2,7	5982:22
3	5900:22	5861:13	5836:20	5983:4
5912:7,17	5912:6	5863:22,24	5838:18,19	5985:3
5919:25	5918:16	5869:14	5850:10	6010:24
5951:9	<b>finance</b>	5874:22	5852:15	<b>flowing</b>
5975:8	5935:15	5882:1	5853:19	6011:16
5976:11,17	5944:13	<b>finish</b>	5868:10	<b>flows</b>
<b>figured</b>	<b>financed</b>	5839:21	5892:18	6007:10
5742:14	5944:17	5909:16	5898:2	6010:25
<b>figures</b>	<b>financial</b>	<b>finished</b>	5900:9	<b>fo</b> 5869:17
5739:22,23	5910:21	5765:6	5915:1	<b>focus</b>
,25 5741:8	5911:3,7	<b>fir</b> 5777:19	5919:14,17	5754:18
5746:5,8,1	5912:13,18	<b>firm</b> 5777:19	5922:10	5819:13
0,13	5926:18	5854:25	5929:4	5824:14
5754:11,12	5936:8	5855:4,5,9	5942:1,20	5867:6
,13	5938:2	,11	5948:17,18	5879:4
5755:17	5940:25	5917:10,15	5959:25	5959:25
5761:21	5981:19,22	5921:21	5987:13	5970:16
5805:1	,25	5923:4	5996:15,16	5971:25
5816:22		5924:9	<b>firstly</b>	
5906:14		5926:3,15	5915:7	
5908:13			5970:17	

5979:2	<b>formas</b>	<b>nine</b>	5808:5	5,22
<b>focussed</b>	5926:18	5790:15	<b>fulfill</b>	5781:1,4,6
5834:2	5936:11,17	<b>fourteen</b>	5775:8	,21
5843:6	<b>formed</b>	5952:20	<b>full</b> 5831:3	5782:12,18
5854:23	5857:14	5953:6	5892:22	,25
5870:14	5858:4	5954:6	5893:19	5783:5,11
5871:4	<b>forms</b>	5995:24	5985:9	5784:5,11,
5896:6	5916:17	<b>fourth</b>	<b>fully</b> 5845:3	23
5983:13	<b>formulating</b>	5742:19	5991:18	5785:13,23
6002:11	5862:18	5756:23	<b>funding</b>	5786:1,6
<b>focussing</b>	<b>forth</b>	5820:8	5870:6,14,	5787:2,18,
5740:14	5822:17	5821:1	18	19
5821:7	<b>fortunately</b>	5826:14	<b>funnel</b>	5788:5,9,1
5825:20	5746:11	5833:18	5877:14	9
5827:22	<b>forty</b> 5793:9	5929:7	5878:13	5789:7,13,
5950:14	5889:3	5948:14	5886:15	19
<b>folks</b> 5867:2	<b>forty-five</b>	<b>four-twenty-</b>	<b>future</b>	5790:12,20
5936:11	5756:7	<b>two</b>	5858:14	,22
<b>follow-up</b>	5790:11,25	5790:15	5861:22	5791:18
5813:21	5849:20,24	<b>fraction</b>	5866:9,19,	5792:3,5,8
<b>footnote</b>	<b>forty-nine</b>	5924:21	20,22	,14
5780:25	5819:2	5934:14	5867:13	5793:1,7,1
5842:15	<b>forty-six</b>	5937:11	5886:24	3
5910:22	5792:19	<b>frame</b>	5888:6	5794:7,10,
5911:2,10	<b>forward</b>	5880:21	5917:18	15,19,25
<b>footnoted</b>	5744:3	<b>framed</b>		5795:11,14
5725:11	5782:21	5863:7	<hr/>	,21
5842:25	5784:11,13	5865:1	<b>G</b>	5796:8,14,
5843:21	5788:4	<b>framework</b>	<b>GAC</b> 5722:12	17,19,22,2
<b>fore</b> 5981:10	5832:1	5845:9	5781:7	5
<b>forecast</b>	5885:16,19	5944:22	5785:1	5797:11,18
5853:20	,21	<b>free</b> 5860:15	5794:20	,19
5866:6,19	5913:12	<b>freedom</b>	<b>gain</b>	5798:4,17,
5925:2	5937:22	5731:8	5734:18,19	20
5994:13,17	5938:10,11	<b>Friend</b>	<b>gains</b>	5799:3,11,
<b>foregoing</b>	5942:14	5845:6	5834:16	12,20,23
5962:24	5946:16	5885:1	<b>Gange</b>	5800:13,20
<b>forget</b>	5956:2	<b>friends</b>	5722:12	,24
5751:4	5968:17	5908:25	5723:12	5801:3,4,8
<b>form</b> 5821:16	5977:7	<b>front</b>	5769:2,3,4	,9,21,25
5871:22	5985:18	5756:13	,10,12	5802:4,17,
5917:12	5988:1	5946:20	5775:22,24	25
5927:18	<b>fossil</b>	6002:21	,25	5803:5,13,
6007:2	5807:7,14	<b>fuel</b> 5736:1	5776:3,13,	14,19,24
<b>formal</b>	5808:5	5903:11	19	5804:4,15,
5850:13	<b>four-eighty-</b>	<b>fuelled</b>	5777:5,16	21
<b>formally</b>	<b>two</b> 5967:5	5807:7,15	5778:2,9	5805:11,19
5851:2	<b>four-ninety-</b>		5779:8,12,	,23
			20	5806:3,9,1
			5780:5,9,1	5,19
				5807:2,11,
				23
				5808:1,13,
				22 5809:4

5845:6,7	5951:24	5874:13,19	5957:21	<b>glance</b>
5885:1	5953:1	5917:21	5958:15,19	5987:23
5891:12,16	5956:14	5918:4,5	,23	<b>goal</b> 5866:22
<b>Gange's</b>	5958:5	<b>generation</b>	<b>gigawatt</b>	5867:12
5885:9	5964:22,25	5732:18,23	5902:22,23	<b>going-</b>
<b>gap</b> 5923:15	5966:1,9	5733:11	5903:19	<b>forward</b>
5925:2,3	5968:7,15,	5735:2	5915:16,17	5765:14
5946:6,8	22 5969:10	5736:4,13,	,19,25	<b>gone</b> 5753:18
<b>garner</b>	5970:1	17,18,23,2	5916:23	5828:20
5963:12	5989:23	5 5737:4	5918:10,13	5957:16
<b>gas</b> 5725:19	5990:6	5790:1	,19,22	5958:3
5728:17	5997:11	5807:12	5919:1	<b>goodness</b>
5734:19	6008:25	5808:6,8	5920:6	5859:5
5737:1,2	6009:11	5834:14,22	5921:2,3	<b>Gosselin</b>
5742:24	6011:13	5869:24,25	5922:23	5721:13
5743:2	<b>gen</b> 5727:14	5876:9	5923:18	5813:22,23
5747:18	5734:8,20	5880:8	5926:8,9,1	<b>Gotham</b>
5751:20	5735:1,24	5895:16	2,16	5854:3
5755:3	5737:8,18	5901:17	<b>gigawatts</b>	<b>gov</b> 5860:3
5756:14	5738:14	5902:16	5920:24,25	<b>governing</b>
5757:5	5749:9	5903:7	5927:5	5875:4
5758:5,11	5895:25	5915:5,12	<b>given</b>	<b>government</b>
5762:9,19,	5901:17	5917:19	5730:22	5860:3
24	<b>gener</b> 5934:8	5919:20	5759:2	5861:10
5763:7,11	<b>general</b>	5920:10,15	5786:7	5941:8,9
5807:12,22	5765:8	5929:4	5808:25	<b>governmental</b>
5808:24	5818:3	5930:16	5820:23	5869:4
5811:6	5935:22	5932:4	5832:1	<b>government-</b>
5822:21	5987:24	5933:15,17	5848:19	<b>backed</b>
5823:4	<b>generalizing</b>	,20	5861:8	5941:20
5834:15,18	6008:21	5934:1,3,1	5862:10	<b>governments</b>
,21,23	<b>generally</b>	0,16,22	5884:14	5944:5
5841:23	5807:10	5935:23	5886:23	<b>grabbed</b>
5842:3	5819:6	5937:8	5888:22	5751:24
5855:15	5831:8	5940:18	5909:5	<b>grandchild</b>
5856:7,13	5845:5	<b>generator</b>	5912:24	5945:6
5857:2	5869:16	5936:9	5942:16	<b>granddaughte</b>
5872:5,13	5875:22	5938:4	5966:5	<b>r</b> 5944:25
5873:18	5932:6,18	5940:18	5975:24	<b>grandest</b>
5876:8,13	5937:21	5984:5	5978:1	5992:21
5883:16	5983:19	<b>generators</b>	<b>gives</b>	<b>grandmother</b>
5892:4,13	6010:16	5810:22	5729:10	5945:7
5895:16,18	<b>generate</b>	<b>George</b>	5731:7	<b>grandparent</b>
,19,21	5810:19	5722:17	5779:1	5945:1
5896:2	5862:15	<b>gets</b> 5943:20	5835:9	<b>Grant</b>
5898:1	5997:15	<b>getting</b>	5963:13	
5905:3	<b>generates</b>	5778:13	6007:12	
5929:1,25	5865:1	5822:14	<b>giving</b>	
5930:2	<b>generating</b>	5827:12	5759:6	
5942:9,17	5785:24	5859:17	5860:15	
5943:4,8		5937:23	<b>glad</b> 5826:20	
5950:20,21				

5721:17	6007:5	5809:10	,23	5989:13,21
5772:13	<b>green</b> 5776:3		5951:14,20	5990:4,12
<b>granularity</b>	5811:14	<hr/> H <hr/>	5952:4,16,	5991:13,22
5902:3	5838:17	<b>Hacault</b>	22,24	5992:13,22
<b>graph</b> 5725:6	5885:9	5722:15	5953:4,10,	5993:5,6,1
5773:10,21	<b>grey</b>	5723:14	17,24	1,12,18,23
5800:25	5902:18,23	5859:6	5956:3,11	5994:7,24
5801:6	5904:2,19	5914:12,19	5957:25	5995:2,15
5820:11	5922:1	,21,22	5958:13	5996:3,10,
5823:22	5927:3	5915:10,19	5959:6,11,	21
5918:7	<b>gross</b> 5900:7	,23	19,20	5997:10,20
5942:6	<b>ground</b>	5916:3,13,	5960:11,16	5998:1
5943:1	5940:4	21	,23	5999:4,21,
5951:23	<b>group</b>	5917:5,8,1	5961:7,22	22 6000:1
5973:18	5812:20	6	5962:4,6,1	6001:6,7,2
5974:15,22	5820:16	5918:2,12,	4,21	2 6002:13
5975:20	5990:18	16,24	5963:15,22	6003:7,16
5976:14	<b>Group's</b>	5919:5,12,	5964:10,20	6004:4,8,1
5998:2	5724:5	16	5965:2,12,	9
5999:11	5812:8,13	5920:12,20	16,24	6005:4,5,1
6008:14,16	<b>grows</b>	5921:3,6,1	5966:5,8,1	5,17,18
6010:11	5934:25	8,19,25	7,22	6006:1,25
<b>graphs</b>	<b>growth</b>	5922:4,8,1	5967:3,6,1	6007:1,17,
5726:9	5872:5	7,19	2,18	24
5774:23	<b>guarantee</b>	5923:1,6	5968:6,13,	6008:8,9
5820:8,14,	5745:23	5924:7	24	6009:8,15,
20 5823:23	5759:13,14	5925:12,19	5969:7,14,	23 6010:7
5826:5	<b>guess</b> 5735:8	,24	23	6011:12,19
5909:7,9	5781:16	5926:5,14,	5970:6,16,	6012:19,21
5910:12	5788:16	21	25	6013:1,4
5916:14	5807:16	5927:2,8,2	5971:3,8,1	<b>half</b> 5764:13
5951:1	5824:13	1,25	3,18,23	5766:15
<b>grapple</b>	5829:12	5928:6,16,	5972:5,10,	5786:12
5961:9	5832:25	19	15,22	5933:6
<b>grateful</b>	5834:20	5929:9,12,	5973:5,12,	5951:17
5913:25	5862:6,22,	16,20,24	17	5953:7
<b>gray</b> 5765:20	24 5888:20	5930:13,20	5974:1,6,9	5954:7
<b>great</b>	5899:6	5931:2,9,1	,21	5999:15
5787:4,6,7	5921:7	5,23	5975:2,7,9	<b>hand</b> 5741:2
5807:5	5932:5	5932:1,19,	,18,19	5747:14
5837:23	5944:24	25 5933:11	5976:3,10,	5764:10
5885:10	5946:10	5941:23,24	20,21	5811:14
5897:2	5958:17,18	5942:23	5977:11,21	5813:8
5913:25	5966:2	5943:6,13	5978:4,5	5814:13
5943:3,9	5977:5	5944:23	5979:12	5831:12
5945:21	5980:5,7	5945:13	5980:18,23	5894:12
5951:5	5982:5	5947:8	5981:14,24	5953:22
6002:2,5,1	5986:25	5948:1,13,	5982:3,10,	<b>handed</b>
7	<b>guessing</b>	22	18	6012:22
6003:10,21		5949:1,14,	5983:2,10,	<b>handicap</b>
6005:6		21	17 5985:7	5858:5
		5950:4,7,1	5986:1,7,1	<b>handicapped</b>
		0,12,14,20	4 5987:6,7	
			5988:8,14	

5857:17	5835:4	5961:10	5948:11	5789:24
5888:14	5853:15	5994:9	5961:25	5792:20
<b>handicapping</b>	5932:23	6008:17	5963:14	5849:16
5858:5	5937:8	<b>hearings</b>	6003:20	5996:18
<b>handout</b>	5945:3	5913:3,8	6009:3	5997:6,7
5742:2	5949:3	5930:5	<b>highest</b>	<b>hours</b>
<b>handwriting</b>	5979:6	<b>HELD</b> 5721:20	5816:22	5781:25
5812:23	5982:8	<b>Helga</b> 5722:8	<b>highlight</b>	5902:22,23
<b>handy</b>	5985:8	<b>help</b> 5737:5	5765:12	5903:19
5782:17	5992:16	5772:11	<b>highlighted</b>	5915:17,19
<b>hang</b> 5876:25	<b>having</b>	5840:17	5957:9	,25
5877:3	5762:18	5977:16	<b>hired</b> 5869:7	5916:23
<b>happ</b> 5756:13	5764:4	5978:21	<b>hit</b> 5750:19	5918:10,14
<b>happen</b>	5810:20	5998:1,2	5894:3	,19,22
5954:19	5829:23	<b>helpful</b>	<b>hitting</b>	5919:1
5987:15	5884:7	5759:5	5928:8	5920:6
5988:18	5889:24	5769:4,13	<b>hold</b> 5992:5	5921:2,3
<b>happened</b>	5894:21	5819:11	6010:21	5922:23
5761:13	5897:4	5862:20	<b>holds</b>	5923:18
5932:21	5902:3	5981:15	5928:12	5926:8,9,1
5985:20	5920:15	<b>helps</b>	<b>Hombach</b>	2,16
<b>happens</b>	5935:22	5935:19	5722:3	<b>hovering</b>
5733:16	5941:19	5964:15	<b>home</b> 5865:8	5964:8
5753:11	5977:2	<b>hence</b> 5914:5	<b>homeowner</b>	<b>Hugh</b> 5721:17
5887:22	5986:22	<b>here's</b>	5724:16	5772:13
5946:8	<b>head</b> 5782:10	5901:4	5851:7,15	<b>hundred</b>
5961:10	5813:24	<b>hesitate</b>	<b>honest</b>	5764:12
5977:15,18	5907:22	5835:13	5937:7	5779:22
<b>happy</b>	<b>heading</b>	<b>high</b> 5726:12	<b>hope</b> 5779:23	5780:19
5846:24,25	5894:2	5735:10	5850:6	5782:1
5864:14,18	5948:17	5744:10,14	5914:6	5800:6
<b>harbouring</b>	5952:13	5745:3	<b>hopefully</b>	5815:20
6006:12	5993:19	5748:1,13,	5978:5	5828:7
<b>hard</b> 5766:2	<b>hear</b> 5826:20	19 5776:8	5982:13	5884:17
5835:2	5830:18	5871:4	5987:20	5906:3,11
5889:18,19	<b>heard</b> 5770:2	6002:1,4	<b>hoping</b>	5951:10
5926:14	5807:3	6003:8,9,1	5831:22	5952:1
5938:6	5824:8,10	3,20	5845:19,23	5953:6
5944:13	5844:5	6004:1,2,1	5846:22	5955:6
<b>Harper</b>	5849:7	2,14,23	5858:17	5957:16
5896:16	5915:10	6008:18	<b>horizon</b>	5958:2
<b>hate</b> 5915:21	5947:9	<b>higher</b>	5857:17	5961:14
<b>haven't</b>	<b>hearing</b>	5748:13	5888:23	5966:11,12
5760:7	5852:24	5755:2	5890:12	5969:4
5768:18	5859:15	5762:9,18	<b>hour</b>	5971:14
5808:17	5861:1	5777:18	5781:9,12	5973:9,10
5834:2	5868:22	5809:12		5996:1,2
	5879:6	5918:13		<b>hundreds</b>
	5885:17	5923:3		5746:14
	5915:11			<b>hurry</b>
	5917:17			5786:23



<b>hybrid</b> 5732:22,25	5821:8,19 5824:5,17, 20	5952:16 5959:7 5975:22	5915:1 5921:21 5929:21	5752:1 <b>ill</b> 5766:11
<b>Hyd</b> 5812:22 5888:14	5825:8,13, 21	5982:1 5983:6 5985:18	5930:1 5954:13 5955:16	<b>I'll</b> 5739:15,24
<b>hydr</b> 5997:13	5826:9,23	5987:8,12, 14	5983:4 6005:9 6011:5	5740:25 5741:5 5744:3
<b>hydraulic</b> 5915:24 5920:18 5997:13	5827:25 5828:20 5831:20	5990:14,25 5992:7,25 5994:13	<b>hypothetical</b> 5824:11,13 5992:21	5775:21 5785:5 5792:6
<b>hydro</b> 5721:7 5722:5 5724:8,14 5726:10 5730:4,5,1 6 5732:7 5740:7 5741:2,10 5743:7 5744:1,4 5745:5,22 5748:6 5749:5 5752:9 5753:7 5759:7,12, 19 5760:18 5767:7 5768:7 5770:3 5771:24 5776:10,14 ,21 5777:12,15 ,18 5779:15 5782:20 5784:7 5785:6,16 5787:21 5789:9,15, 21 5792:10 5795:5 5797:23 5800:4 5805:15 5806:6,9,1 6 5808:16 5809:19 5812:22 5813:4,10 5814:4,8,1 8 5816:23	5832:11 5833:11 5834:20 5835:6 5843:6 5844:22 5845:18 5847:18 5848:20 5850:9 5851:6,13, 20 5854:10 5857:8 5860:22 5861:21 5868:6 5874:9 5875:2,11, 20,24 5876:7,13, 19 5877:6,20 5878:2,19, 23,24 5881:17 5882:4,18 5883:20 5888:14 5891:7,17 5892:5 5893:21 5900:20 5901:21 5904:23 5909:1 5910:7,13 5911:6 5912:13,18 5915:11,13 5919:19 5920:8,21 5926:6 5929:3 5932:15 5946:12	5998:17 5999:4 6001:10,16 6002:1 6003:12,18 ,22 6006:18 6007:4,11, 18 6008:23 6010:9,15, 23 <b>hydro-based</b> 5777:7 <b>hydrology</b> 5997:12 <b>Hydro-Quebec</b> 5932:11,22 <b>Hydro-</b> <b>Quebec's</b> 5932:21 <b>Hydro's</b> 5721:9 5724:13 5729:14 5777:22 5806:12 5828:5 5842:6 5845:9 5850:14 5851:11 5852:13 5857:17 5859:25 5860:1,2,9 5875:15 5879:6 5883:22 5899:16 5909:7	<b>I</b> <b>I'd</b> 5727:13 5770:8 5782:15 5793:14 5813:8 5815:21 5832:20 5833:1 5848:6 5858:13,15 5864:14 5876:20 5892:16 5913:22 5937:20 5979:15 5981:18 5997:7,20 5998:1 <b>idea</b> 5829:25 <b>ideal</b> 5894:3 5981:1 <b>identificati</b> <b>on</b> 5866:19 <b>identified</b> 5746:12 <b>identify</b> 5864:3 <b>Iderstine</b> 5722:8 <b>IEC</b> 5722:23 5723:6 5727:7 <b>IFPS</b> 5911:2 <b>ignoring</b>	5739:15,24 5740:25 5741:5 5744:3 5775:21 5785:5 5792:6 5805:13,24 5825:5 5834:7 5843:16 5844:14 5852:19 5853:21 5862:9,20 5865:6 5868:10,13 ,15 5871:16 5876:24 5883:11 5885:6,7 5886:20 5891:21 5895:5 5907:15 5908:24 5913:21 5914:18,23 5940:8,9,1 0 5949:3 5986:25 <b>illu</b> 5774:1 <b>illustrate</b> 5766:12 <b>illustrated</b> 5891:25 <b>illustration</b> 5740:3 5763:2 5765:1 5766:2 5767:1 5774:1 <b>illustrative</b> 5818:6 <b>im</b> 5784:3

I'm	5875:18	5815:18	19,23	<b>improved</b>
5727:13,17	5877:17		5729:7,12,	5784:22
,18,19	5878:12	<b>immersed</b>	14 5730:7	5864:3
5730:12,15	5884:24	5982:8	5731:3,5,7	5885:15
5732:19,20	5894:15	<b>impact</b>	,9,11,15,2	5965:5
5733:3,4	5904:5,10,	5760:10	2 5732:19	5968:1
5735:4	14 5906:24	5767:2	5733:12,14	<b>improvement</b>
5737:11,15	5907:4,13,	5776:15	5734:3,20	5787:16
5740:13	24 5911:14	5800:2,5	5736:20	5845:19,24
5741:16	5912:25	5801:13	5892:14	5846:8
5750:5,7	5913:14	5821:3	5895:5	5887:19
5769:1	5920:16	5854:15	5896:1	5888:3
5777:21	5926:20	5856:6	5902:12	5890:2
5780:10,11	5927:7	5884:7	5904:8,15,	5892:9
5781:16,17	5930:8,25	5891:22	22	<b>improvements</b>
,18	5931:14	5901:9	<b>importance</b>	5783:25
5782:16	5932:10,25	5904:3,6,1	5829:23	5784:3,9
5785:21,23	5935:25	4,16	5831:5	<b>improves</b>
5788:16	5941:25	5924:17	<b>important</b>	5883:15
5792:2	5944:25	5939:13	5775:3	5895:17
5795:9	5948:15	5980:13	5830:11,15	5940:11
5804:4,21,	5950:2,9	6000:12	5840:4	<b>improving</b>
22	5953:16	<b>impacted</b>	5854:11	5861:20
5805:12,13	5958:3,5	5758:25	5861:9	<b>inched</b>
,17,20	5960:11	<b>impacts</b>	5867:15	5755:11
5808:2	5968:21	5743:23	5879:19	<b>inclined</b>
5809:10	5971:2	5748:6	5888:21	5943:16
5811:9,21	5977:13	5756:5,12,	5899:3,7,8	<b>include</b>
5812:23	5978:5	14 5995:12	5917:2	5767:17,20
5813:20	5979:14,22	6000:7	<b>importing</b>	5816:14
5825:11	5980:15	6001:10,11	5733:24	5823:5,14
5832:5,6,1	5981:4,5	,15	5896:8	5830:23
7	5982:7	<b>imperfect</b>	<b>imports</b>	5838:14
5834:1,20,	5983:3	5897:10	5727:22	5866:18
22	5987:1,20	5978:22	5728:8	5990:6
5835:24,25	5989:10	<b>implementati</b>	5729:2,16	6002:1
5840:20,23	5991:21,22	<b>on</b> 5786:17	5730:3	<b>included</b>
5845:16	5992:6	<b>implementing</b>	5732:5	5781:20
5846:7,21,	5993:25	5871:4	5895:17,22	5782:4
24,25	5995:4	5884:12	5901:10,12	5808:24
5848:1	5998:21	<b>implication</b>	5902:4,8	5839:4
5851:21	6003:3	5830:10	<b>imposed</b>	5848:21
5852:16,18	6006:3,11	<b>implications</b>	5993:7	5855:10
5853:3,22	6008:21	5893:4	<b>impression</b>	5858:2
5856:10	6009:13	5911:20	6006:12	5868:21
5858:16	6010:20	<b>imply</b>	<b>improve</b>	5869:18
5859:14	6013:13	5755:16	5796:7	5893:22
5861:14	<b>imagine</b>	<b>import</b>	5857:16	5896:19
5864:9,13,	5890:7	5727:21	5896:7	5899:24
15,18	<b>immediate</b>	5728:7,16,	5940:12	5905:8
5865:5	5963:7			
5870:9,11,	<b>immediately</b>			
12,20				
5873:13				

5974:16	5916:15	<b>indic</b> 5988:1	<b>inferences</b>	12,13
5977:4	5927:23	<b>indicate</b>	5830:13	5898:5
5990:22,23	5968:18	5726:12	5894:8	5899:1,9
5992:7,24	5969:2	5853:8	<b>inferred</b>	5900:2
6005:8	5995:18,22	5945:9	5898:4	5905:9
<b>includes</b>	5997:3,4,8	5981:8	<b>inferring</b>	5928:22
5725:4	5999:17	6004:22	5893:15	5930:5
5733:8	<b>increased</b>	<b>indicated</b>	5897:12	5948:6
5767:16	5748:18	5788:10,21	<b>inflation</b>	5951:7,9
5772:17	5755:5	5801:13,16	5791:24	5953:15,18
5774:24	5758:2	5807:6	5996:15	5955:16
5781:2	5772:3	5852:23	6012:4	5956:1,12
5799:1,7	5793:9	5853:17	<b>influence</b>	5960:8
5836:21	5800:8	5922:1	5903:22,23	5973:18
5838:6	5819:16	5933:3	<b>inform</b>	5974:13
5839:2,15	5821:10	5948:2	5956:1	5975:24
5961:5	5879:11	5987:16	<b>information</b>	5977:8
6003:10,20	5969:8	5994:11	5739:19	5978:1,22
6007:4	<b>increases</b>	<b>indicates</b>	5740:7,11	5979:8,11,
<b>including</b>	5729:7,8	5925:3	5741:18	17 5980:20
5794:6,8	5735:10	<b>indication</b>	5742:4,10,	5985:17
5815:25	5771:17	6007:12	16	5986:17,20
5836:4	5912:9	<b>indications</b>	5743:12,25	5992:1
5840:11	5998:16,24	5857:21	5744:4,22	5998:25
5869:23	5999:8	<b>indicative</b>	5746:22,23	5999:23
5871:10	<b>increasing</b>	5775:2	,25 5747:5	6002:3,7,8
5885:11	5728:8	5984:24	5748:5,21	6003:3
5893:14	5767:24	5988:1	5749:4,7	<b>inherent</b>
6012:4	5834:16,24	<b>indicator</b>	5754:4	5935:17
<b>inclusion</b>	<b>incremental</b>	5894:12	5757:8,10	<b>initial</b>
5901:10	5778:22	<b>indicators</b>	5762:3	5884:5
<b>income</b>	5835:6	5985:3	5765:15	5891:14
5993:19	5956:21	<b>individually</b>	5790:3	5894:20
5994:14	5989:16	5842:18	5806:23,25	5896:20
<b>inconsistent</b>	<b>incur</b>	5857:25	5809:21	5900:5
5989:17	5786:16	5867:2	5810:13	5924:25
<b>incorporate</b>	5947:7	5932:18	5831:4,11	6003:18
5882:6	<b>incurred</b>	<b>industry</b>	5832:11	<b>initially</b>
5991:3,4,1	5785:9	5857:25	5833:14,15	5952:17
2,15	5786:16	5932:18	,24 5834:3	<b>initiatives</b>
5994:23	<b>indeed</b>	<b>inelegantly</b>	5840:9,14,	5871:5
<b>incorrect</b>	5888:5	5823:23	15 5842:9	<b>inject</b>
5751:22	<b>independent</b>	<b>inf</b> 5840:15	5848:12,23	5919:13
<b>increase</b>	5793:15	<b>infer</b>	5849:6	<b>injecting</b>
5728:22	5859:17	5840:12	5865:2	5968:16
5729:1	5861:10	5893:12	5888:1	<b>input</b> 5741:2
5735:15	5898:7	5899:1	5889:1,19,	<b>inputs</b>
5740:17	<b>index</b>	<b>inference</b>	22,24	5794:6
5764:18	5750:16,17	5836:3	5893:3,11,	<b>insert</b>
5799:19			17	5833:16
			5894:2,10,	

5895:5	5869:18	5826:21	5834:18	,18
<b>in-service</b>	5871:18	5887:24,25	<b>introduction</b>	5953:5,19
5819:8	5872:18,19	<b>interesting</b>	5739:16	5954:6
5930:24	5873:13	5776:2	5741:4	5956:21,24
5931:10	<b>integration</b>	<b>interface</b>	5834:14	5957:13,16
5960:13	5789:14,23	5728:14	5899:12	5959:5,22
<b>insight</b>	5790:2	5731:24	5903:6	5962:9
5897:23	5791:1,2	<b>InterGroup</b>	<b>invest</b>	5972:11
5900:17	5795:22,24	6008:15	5768:3	5974:14,16
5978:23,25	5796:6	<b>intermediate</b>	5924:10	5976:23
5979:5,10	5868:6	5917:13	5927:11	5983:13
5980:2	5920:14	5963:5	5939:8	5984:6,7
6001:14	<b>intend</b>	<b>internal</b>	5943:15	6006:13,22
<b>insights</b>	5914:8	5743:14	5958:4	,23
5898:17	<b>intended</b>	5751:11	5967:21	6009:18
<b>insignifican</b>	5851:3	5752:18,23	5970:11	<b>investments</b>
<b>t</b> 5972:18	5998:2	5753:25	<b>investing</b>	5767:17
<b>installation</b>	<b>intent</b>	<b>interpretati</b>	5923:10	5934:12
5983:14	5894:20	<b>ons</b>	5942:22	5944:6
<b>installed</b>	<b>interactive</b>	5985:24	5958:6,14	5957:22
5763:12	5911:7	<b>interpreted</b>	6006:15	<b>investor</b>
<b>Installing</b>	<b>interconnect</b>	5755:13	<b>investment</b>	5938:3
5778:22	5770:3,4	<b>interrogator</b>	5763:14	5943:22
<b>instance</b>	<b>interconnect</b>	<b>y</b> 5899:10	5764:6	5946:14
6000:16	<b>ion</b>	<b>intersect</b>	5767:15,20	<b>investor's</b>
<b>instances</b>	5727:21	5737:9	,23	5937:5
5949:10	5781:2,23	<b>intersection</b>	5768:3,11,	<b>invite</b>
<b>instead</b>	5782:5,7,9	5904:12	16	5900:17
5743:2	5822:22	<b>intersects</b>	5771:4,25	<b>invited</b>
5745:17	5823:2,10,	5904:2	5774:16	5850:14
5771:20	14 5847:15	<b>intervene</b>	5778:22	<b>involve</b>
5911:14	5901:11	5862:9	5779:5	5890:25
5920:7	5902:25	<b>intervenors</b>	5787:10	<b>involved</b>
5953:7	5904:6	5914:1	5815:12	5877:7
5966:1	5931:24	<b>intricate</b>	5820:13	5983:19,23
5999:7	5960:2	5911:14,17	5821:11,16	5992:3
<b>institution</b>	5961:18,19	5912:1	5824:20	5999:6
5936:9	5962:10,17	<b>intrigued</b>	5831:18	6006:13
<b>intangibles</b>	<b>interest</b>	5830:2	5839:2,6,1	<b>involves</b>
5941:7	5747:11	<b>introduce</b>	5 5860:18	5834:18
<b>integrated</b>	5760:9	5834:21,22	5900:20	<b>involving</b>
5724:6	5852:22	<b>introduced</b>	5925:9,11	5807:12
5812:8,13	5885:10	5903:4	5934:16,24	5860:1
5865:17,20	5897:20	5982:6,9	5935:9,18	<b>IR</b> 5790:14
,22,25	5925:16	<b>introducing</b>	5938:13,17	<b>ironically</b>
5866:4,18	5940:11		5939:1,16	5994:15
5867:4	5978:20		5940:22	<b>IRP</b> 5866:1
5868:9	5993:20		5941:4	5867:17
	<b>interested</b>		5943:23	
	5760:25		5944:9	
			5952:11,14	

5868:18	5735:9,23	5867:1	5974:1,7	5773:23
5869:4	5736:8,9	5874:17	5978:19	5774:20
5872:11	5738:10	5884:21	5982:13	5775:1
5875:15	5741:20	5886:8	5986:12	5798:12,18
<b>IRPs</b> 5811:18	5750:25	5887:13	5988:8	,24 5799:4
<b>IRR</b> 5940:19	5755:14,15	5888:12	5989:4	5800:1,17
<b>isn't</b> 5775:2	5756:8	5889:18	5992:9	5804:11
5805:24	5759:11	5893:18	5993:1	5811:10,12
5829:17	5764:12,24	5895:13	5994:25	5813:19
5831:1	5766:16	5899:13	5995:3	5814:6,10,
5873:24	5768:14	5902:9	5997:5	16
5910:3	5769:2	5904:25	5999:12	5815:1,5,9
5925:10	5770:2,5,6	5905:6	6000:20,23	,14,23
5955:8	,23 5771:8	5907:23	6004:19	5816:1,8,1
6006:23	5772:10,18	5909:23	6005:19,25	2,15,25
	,21	5912:3,19,	6006:16	5817:5,18,
<b>isolate</b>	5773:21	23 5913:25	6008:12	22
5750:4	5774:20	5914:10	6012:5,18	5818:11,19
5775:18	5775:6,9	5920:4,9	<b>I've</b> 5739:13	5819:6
5817:25	5778:24	5923:18	5754:10	5823:17,25
<b>issue</b> 5732:9	5780:24	5924:1,2,1	5773:5	5826:13,16
5778:6,17	5783:4,15	4	5779:23	5827:5,13,
5867:11	5785:17	5926:6,14,	5803:25	21
5879:19	5797:13	16 5928:3	5813:23	5828:1,4,8
5959:25	5800:17	5929:13	5824:10	,14,23
5990:13	5802:11,13	5930:17	5846:4	5829:1,7,1
	,14	5932:8,15,	5905:16	1,17
<b>issues</b>	5805:23	17 5933:25	5921:8	5830:7,25
5756:12	5811:14	5934:24	5923:7	5832:17
5794:2	5812:8,22	5935:17	5932:7	5833:7,13
5867:6	5818:6,11	5937:10,15	5944:24	5834:1
5869:23	5820:6,16	5938:6,21	5956:5	5843:4,11
5936:3	5821:21,22	5939:19	5972:16	5844:10,16
5959:24	5822:24	5940:12	5974:12,23	5848:1,6,1
<b>item</b> 5763:16	5823:19	5942:19	5977:14	0 5854:21
5993:12	5824:10,11	5943:19	5980:6	5855:21
5995:3	,13,19,20,	5944:14		5856:3,8
5996:11	21 5825:11	5945:11		5866:2
	5830:14	5946:12,21	<hr/>	5868:20
<b>items</b>	5833:15	5949:2,15	<b>Jessica</b>	5906:23
5992:24	5835:1,11	5951:2,3,2	5722:20	5907:7,12
5993:24	5837:7	5 5953:6	<b>John</b> 5723:8	5908:19
<b>it'll</b> 5800:9	5838:18	5955:4,5,6	5727:9	5909:4,10,
5912:1,2	5839:6	5956:5	5736:5,6,8	22 5910:8
5917:5	5842:7,8	5958:3,11	5739:12	5911:4,8,1
5940:9,12	5848:11,19	5959:23	5743:6	3,23
5959:4	5850:11	5962:22	5757:1,23	5912:11,15
5980:18	5851:5,22	5965:3	5760:3,8,1	,19,23
5986:17	5859:6	5968:21	2 5761:4	5913:2
<b>it's</b> 5727:20	5861:9,15	5969:2,4,1	5765:21	5919:13,18
5731:16,17	5862:7	4,18	5767:19	5938:7
,23	5863:21	5970:3,4	5768:2	5941:17
	5865:1	5972:25	5771:9,12	5944:12
	5866:12	5973:3		5947:10

5958:12	<b>K19/</b>	5958:10		5976:12,17
5963:16,24	<b>Conawapa25</b>	5960:13	<hr/>	5977:25
5964:17	<b>/750</b>	5989:25	<b>L</b>	5979:18
5965:1	5737:16	5990:6,17	<b>La</b> 5723:6	5982:12
5983:9,16	<b>K2</b> 5958:9	<b>Keeyask19</b>	5725:3,6,7	5983:11,25
5984:2	<b>K22</b> 5964:22	5922:12,20	,11,15,16	5986:15,22
5985:15	<b>Kapitany</b>	,22	5726:3,9,1	5991:2,19
5987:22	5721:14	5923:18	1,12	5994:17
5989:1,19	5769:23,24	5926:11	5727:7	5997:22
5990:3,11	5772:12	<b>Keeyask22</b>	5739:2	5998:5
5991:6,21	5813:22	5897:19	5745:6	6001:8,13
5993:22	5837:25	5953:1	5778:3	6002:3,21
5994:3,21,25	5864:7	5956:14	5785:14	6004:11,22
5995:10,23	<b>Keeyask</b>	5958:5	5792:21	6005:8
5996:8,17	5725:9	<b>Keeyask28</b>	5793:14	6007:3
5997:3,16	5733:20,21	5898:19,21	5799:6	6009:2
5998:4	5734:1,6	<b>key</b> 5861:20	5801:6,13,	<b>Lab</b> 5783:23
5999:12,19,25	5740:17	<b>kicks</b>	14 5803:7	<b>labelled</b>
6000:16	5749:11	5736:15	5812:2	5746:8
6001:17	5763:7,24	5927:18	5813:8,12	5751:16
6002:7	5764:17	<b>kilowatt</b>	5816:4	5841:13
6003:24	5766:17	5781:9,11,	5819:17	<b>laid</b> 5754:10
6004:11	5767:13	25 5792:19	5820:6	<b>large</b>
6005:21	5770:15,23	5793:4,10	5826:24	5761:10
6006:3,16	5771:2,3,1	5996:18	5832:8	5763:11
6007:7	7,21	5997:6,7	5833:23	5768:11,15
6009:7,13,19	5773:14,16	<b>kinds</b>	5836:16	5779:4
6010:6,14	5777:3	5744:21	5841:9	5868:20
6011:17,24	5803:4,10	5766:1	5843:2,20,	5948:5
<b>judge</b> 5899:7	5804:9	5933:25	25 5847:4	5964:3
<b>judgement</b>	5818:16	5941:11	5852:14	<b>largely</b>
5840:24	5819:8,17	5943:24	5854:8	5889:3
<b>judgment</b>	5822:21	<b>knell</b> 5824:6	5856:23	<b>larger</b>
5833:17	5836:22	<b>knew</b> 5984:7	5857:14	5772:8
5841:16	5837:6	<b>knit</b> 5874:6	5858:14	5774:24
5946:12	5847:7	<b>knowledge</b>	5861:20	<b>largest</b>
<b>jump</b> 5962:7	5879:20	5847:23	5868:20	5854:9
<b>jumpstart</b>	5880:22	5885:24	5874:10	<b>Larry</b>
5765:9	5881:1,4,15	5886:1	5877:5	5721:15
<b>juncture</b>	5897:17,23	<b>known</b>	5880:16	<b>las</b> 5763:11
5824:23	5898:1,7,15	5732:21,22	5886:19	<b>last</b> 5732:16
<b>jurisdiction</b>	5899:5,15,	5992:23	5887:9	5745:17
5868:19	17 5903:3	<b>KURT</b> 5739:7	5888:13	5748:24
	5918:5	5921:12	5892:20	5761:21
	5922:11	6013:7,10	5893:3	5762:25
	5928:9	<b>kV</b> 6002:20	5899:20	5763:11,12
	5931:3,4,11		5902:15	5765:6
	1		5903:7	5800:2
<b>K19</b> 5732:23	5951:8,16,		5905:10	5807:3
5733:7,16	24 5953:11		5908:1,18,	
			20,23	
			5910:11	
			5912:16	
			5913:23	
			5974:9	

5836:3	<b>Learned</b>	<b>lenders</b>	5731:16	<b>li</b> 5939:13
5853:4	5845:6	5936:12,15	5776:8	<b>liability</b>
5887:4	5885:1	5941:14	5821:4	6005:9,14
5892:3	<b>least</b>	<b>length</b>	5826:4	6007:4
5895:2,3	5765:11	5901:6	5827:16	<b>lieu</b> 5834:14
5899:19	5777:22	5972:18	5828:11,14	<b>life</b> 5784:17
5970:7	5826:5	<b>less</b> 5733:23	,20	5787:20,21
5981:10	5830:15	5746:6	5829:4,14	,24
5983:3	5832:13	5766:18	5830:7	5788:2,4
6008:5	5867:2	5784:13	5832:23	5789:12
6013:5	5890:15	5800:16	5836:21	5795:16
<b>late</b> 5747:14	5894:11	5811:13	5841:18,24	5917:21
5765:6	5900:7	5836:13	5847:6,24	5944:17
5930:8	5902:11	5840:14	5848:16	5945:6
<b>lately</b>	5924:24	5841:23	5877:12	5947:18
5846:5	5928:3	5894:9	5878:16	5990:16,18
<b>later</b> 5823:4	5937:11,17	5939:9	5880:19	<b>lifetime</b>
5842:12	5942:4	5940:10	5883:10	5788:25
5864:17	5950:25	5957:18	5884:12	5796:20
5898:12	5978:16	5958:11	5885:17,24	<b>light</b>
5952:8	5983:22	5973:13	,25	5754:18
<b>leave</b> 5782:1	<b>leave</b> 5782:1	5999:13	5921:22	5849:15
<b>latest</b>	5827:16	6011:15	5925:2	<b>lightly</b>
5932:20	5835:24	<b>lessens</b>	5926:20	5840:11
5988:9	5836:2	5920:16	5928:23,24	<b>likely</b>
<b>Lavigne</b>	5865:7	<b>lesser</b>	5929:3	5777:8
6013:25	5980:24	5734:9	5931:17,19	5786:15
<b>lawyer</b>	5986:25	<b>let's</b>	5976:24	5853:12
5807:4	6001:1	5728:21,22	5977:2	5887:17
<b>lay</b> 5772:6	<b>leaves</b>	5729:18,21	5979:9	5893:16
5973:4	5893:14	5738:8,9	5980:9	<b>likewise</b>
<b>layer</b> 5837:8	<b>leaving</b>	5769:15	5984:13	5842:20
<b>LCA-47</b>	5936:1,2	5771:18	5996:23	5883:18
5724:3	<b>led</b> 5863:1	5814:1,12	<b>levelized</b>	<b>limit</b> 5729:2
5739:6,9	5882:12	5822:17	5788:11,12	5731:15,22
<b>lead</b> 5776:24	<b>lef</b> 5799:15	5832:6,8	,20	5732:19
5778:16,24	<b>left-hand</b>	5849:23	5789:4,8	5733:12,14
,25	5762:5,13	5866:5	5791:15,22	5901:12
5779:3,5	5883:2	5877:5	5795:1,15	5903:24
5911:19	5928:24	5899:2	5796:4,7	5904:8,15
5939:6	5948:16	5936:7	6012:1	5932:6
6008:24	5951:22	5939:4,18,	<b>levels</b>	5981:6
<b>leading</b>	<b>legal</b>	20 5959:12	5740:22	<b>limitation</b>
5864:4	5858:17	5968:2	5742:22	5895:11
<b>leads</b>	<b>lend</b> 5936:24	5970:16	5873:3	5896:7
5797:24	<b>lender</b>	5971:24	5929:22	<b>limitations</b>
6010:5	5935:9	5984:2	<b>leverage</b>	5728:18
<b>learn</b>	5936:9	5991:16	6010:24	5731:10
5835:19	5946:15	6010:2	<b>leveraged</b>	5876:18
		<b>Lev</b> 5832:23	5984:7	
		<b>level</b>		

5895:5	5951:24	5759:11	5945:17	<b>Lord</b> 5858:25
<b>limited</b>	5954:20	5761:9	5980:12	<b>loss</b>
5743:8	5960:14	5762:11	<b>loads</b>	5767:24,25
5746:20	5961:14	5764:1	5866:19,20	5792:2
5747:3	5962:9,16,	5765:5	5980:10	<b>lost</b> 5752:24
5750:14	23 5963:3	5773:20	<b>loan</b>	5904:11
5763:25	5964:13	5779:21	5745:23,24	<b>lot</b> 5730:5
5851:20	5965:4,17	5787:10	5941:21	5731:1
5895:21	5966:6	5800:10,11	<b>loans</b>	5746:5,6,1
<b>limits</b>	5967:22	5827:11	5925:16	4 5747:5
5729:8,9	5973:8	5835:2	<b>local</b>	5766:18
5731:6	5976:6,13,	5842:12	5810:15	5768:10
5772:3	14 5981:4	5845:7	<b>lock</b> 5946:22	5777:3
5902:12	5994:8	5847:3	<b>locked</b>	5793:19
5993:7	5998:14,21	5881:21,23	5935:12	5810:5,11,
<b>line</b> 5728:4	6002:2,5,1	5884:18	<b>logical</b>	17 5837:13
5729:4,6,2	8,20	5914:23	5899:13	5842:3
4 5732:24	6003:4,11,	5923:3	<b>logically</b>	5843:5
5733:9	21	5926:11	5794:11	5847:18
5734:16	6005:6,7,9	5928:9	<b>long</b> 5779:4	5865:21
5736:2	6006:14,15	5941:5	5825:11	5887:19
5737:22	,18 6007:6	5951:17,21	5937:16	5911:25
5753:2,3	<b>lines</b>	5958:6	5939:13	5917:1
5754:19	5859:24	5959:8	5955:21,22	5920:2,3
5757:13	5860:8	5960:13	5985:1	5936:25
5761:15	5899:11	5971:24	6005:10	5937:14
5762:21	<b>line's</b>	5972:6	6012:13	5939:8
5763:20	5728:6	5973:13	<b>longer</b>	5940:9
5766:23	5734:2	5977:14	5770:4	5954:16
5767:25	<b>list</b>	5982:24	5839:10	5957:18
5770:17,23	5723:3,4	5986:21	5901:5	5964:7
,24	5724:1	5997:21	5937:13	5980:9
5771:7,19,	5725:1	5998:10	<b>long-lived</b>	<b>lots</b> 5747:17
20,23	5726:1	5999:9,13,	5939:13	5751:2
5772:14,16	5726:1	14 6000:6	<b>long-term</b>	<b>lovely</b>
,23 5773:3	5892:3	6011:4	5779:4,5	5905:23
5793:11	5912:20,22	<b>load</b>	5819:19	<b>low</b> 5726:13
5815:13	,24	5735:12,15	5888:23	5731:4
5859:8	5913:4,7	5740:22	5917:11,12	5736:14
5896:7	5929:7	5807:7,15	,20	5744:12
5901:16	<b>listen</b>	5808:5,9	5934:13	5745:1
5903:22	5837:10	5828:21	5935:4	5747:23
5904:2,4,1	5977:14	5829:6,23,	5937:25	5748:19
6 5905:5	<b>literature</b>	24,25	5943:22	5749:1
5913:22	5857:25	5841:21	5946:3	5758:3
5920:23	<b>little</b>	5872:5	6005:18	5775:11
5922:5,10	5739:15	5879:11	6011:2	5948:3,5,1
5923:19	5741:5	5925:2		8
5924:20	5752:10	5926:9		5949:11,16
5942:9	5753:17	5928:14		,22
5943:20	5755:6,8	5930:7,12,		5950:4,15
5950:3	5756:5	14 5931:6		
		5934:25		



6004:1,2,1 3,14,23	<b>manage</b> 5731:9	5810:21,23 5813:10 5814:4,8,1 8 5821:8 5833:11 5843:6 5847:18 5850:9,13 5851:6,11, 13,20 5852:13 5854:3 5857:17 5859:25 5873:15 5878:23,24 5889:21 5891:17 5901:20 5909:7 5910:12 5911:6 5912:18 5914:25 5915:13 5920:21 5921:20,21 5922:9 5923:4 5924:9,10 5926:6,15 5927:4 5928:1 5929:2,20, 25 5930:15 5931:4 5947:10 5959:7 5975:21 5982:1 5983:4,5,6 5985:18 5987:8,12, 14 5990:25 5992:7,25 5994:12 5995:20 5998:17 6001:10,16 6003:11,18 ,22 6005:8 6006:18 6007:4,11, 18 6008:23	6010:9,15, 23 6011:5 6013:5 <b>Manitobans</b> 5970:17 5971:5,18 5996:6 <b>mapped</b> 5841:15 <b>March</b> 5742:3,21 5859:6 5949:2 5952:6,7 5974:18 6001:25 <b>margin</b> 5752:22 5866:7 <b>marginal</b> 5819:19 5822:2 <b>Marilyn</b> 5721:14 5769:24 5772:12 5864:7 <b>mark</b> 5921:7 <b>marked</b> 5812:10,25 5850:19 5851:2 5921:11 6013:2,4,7 <b>market</b> 5880:1 5925:10 5934:7 5935:2,3,7 ,11 5936:18 5937:6,21 5940:11 5941:3 5944:7 <b>markets</b> 5924:6,23 5925:7 5934:9	5935:18 5938:2 5944:15 <b>Marla</b> 5722:6 <b>maroon</b> 5761:14,15 <b>Mary</b> 5723:9 5727:10 5752:5 5855:3,12 <b>match</b> 5854:19 <b>matches</b> 5946:3 <b>material</b> 5749:12 5792:15 5809:19 5830:19 5840:6 5845:22,25 5846:14,15 ,23 5884:7 5889:12,22 5890:5,8 5891:22 5897:13 5898:6 5937:11 5947:18 5953:25 5959:2,3 5968:8 5978:7 5979:16 5980:13 5981:11 5985:12,13 5995:1,6,1 4 6000:12 6002:19 6009:12 <b>materiality</b> 5889:17 5894:18 <b>materially</b> 5846:9,10 5857:16 5897:9 5979:25
<b>lower</b> 5762:7 5775:6 5781:19 5796:6 5872:11 5925:1 5927:5 5948:11 5965:15 6012:12,15 <b>lowering</b> 6000:12 <b>lowest</b> 5827:24 5936:12 <b>lucky</b> 5746:11 <b>lunch</b> 5849:17,25 5850:6 <b>luxury</b> 5905:4	<b>manageable</b> 5947:4 <b>management</b> 5870:7 <b>Mani</b> 6008:12 <b>manipulation</b> 5748:3 <b>Manit</b> 5762:2 <b>Manitoba</b> 5721:3,7,9 ,23 5722:5 5724:13,14 5726:10 5728:14 5729:14 5732:7 5735:3,10 5740:7 5741:2,10 5743:7 5744:1,4 5745:5,22 5748:6 5749:5 5752:9 5753:7 5759:7,12, 19 5760:18 5767:7 5768:7 5770:2 5771:24 5776:10,21 5777:20,22 5779:15 5782:19 5784:7 5785:6,16 5787:21 5789:15 5792:10 5795:5 5797:23 5800:3 5805:15 5806:6,9,1 2,16 5807:12 5809:12,25			
<hr/> <b>M</b> <hr/>				
<b>magic</b> 5845:23 5846:2 5876:21 <b>magnitude</b> 5894:11 <b>main</b> 5767:12 5778:11 5819:13 5844:19 5939:24 5964:24 <b>maintenance</b> 6005:9,19 6007:5 <b>major</b> 5735:15 5868:2 5934:15 <b>makers</b> 5831:4 <b>man</b> 5734:18				

5985:22,23	5940:8	5736:19	<b>members</b>	<b>message</b>
5986:3	5974:1	5738:11	5769:21	5844:19
<b>math</b> 5818:14	5977:15	5761:8	5812:2	<b>messages</b>
<b>matrix</b>	5981:6	5933:16	6012:20	5819:13
5766:7	5982:24	<b>meant</b> 5843:9	<b>memorized</b>	<b>method</b>
<b>matter</b>	5986:21	<b>measures</b>	5822:12	5990:16,18
5787:3,4,5	6006:19	5864:3	<b>memory</b>	<b>methodolo</b>
,7 5921:9	<b>mean</b> 5729:20	<b>mechanism</b>	5822:18	5911:17
6001:2	5736:18	5861:10	5868:17	<b>methodology</b>
<b>matters</b>	5738:4	5934:20	<b>mentioned</b>	5726:10
5787:11	5755:12,16	<b>medium</b>	5733:1	5745:6
5872:9	5761:5,10	5840:25	5745:24	5754:20
<b>max</b> 5905:1	5763:23	5939:9	5750:21	5854:23
<b>maximized</b>	5766:3	<b>meet</b> 5735:12	5758:1	5908:20,24
5735:7	5775:5	5866:5,6,2	5765:12	5909:7,19
<b>maximum</b>	5777:11	0 5933:21	5909:25	5910:3,7,1
5734:19	5783:15	5934:3	5944:12	3 5991:2
5902:4	5787:4	6013:15	5969:9	<b>metric</b>
5916:22	5791:7	<b>meeting</b>	6006:8	5743:14
5921:1	5793:24	5867:15,21	<b>Menzies</b>	5826:17
<b>maxing</b>	5806:22	5901:13	5865:6	5918:20
5905:1	5809:9,14,18	<b>megawatt</b>	<b>mer</b> 5937:7	5919:2
<b>may</b> 5774:4	5810:12,21	5727:20	<b>merchant</b>	5945:2
5780:10	,25 5811:3	5766:22	5933:17,20	5984:1
5792:5	5843:7	5767:25	5934:1,7,1	5985:16
5829:19	5867:1	5770:3,4	1,12,22	5998:16
5834:5	5879:24	5789:24	5935:16,23	5999:1
5850:13	5890:24	5818:16	5936:4,9	6002:4
5855:25	5896:17	5822:21	5937:4,8,2	6010:17
5860:18	5904:20	5823:2,10,11	1	6011:4
5881:22	5908:23	5836:22	5938:4,10,15,21	<b>metrics</b>
5886:5	5912:1	5901:11	5939:2,14	5743:11,14
5897:19	5913:14	5923:12	5940:8,14,18	5747:19
5901:19	5924:14	5945:24	5941:11	5751:2,6
5974:10	5932:9	5960:14	5943:2	5753:14
5982:7	5937:7,10	5961:18	5944:3,7,1	5755:23
6002:8	5938:5	5962:9	4,20,21	5759:1
6008:13	5940:22,24	5964:12	5946:14	5831:3,7
<b>maybe</b>	5943:18,25	5965:3	5948:2	5867:16
5765:23	5947:20	<b>megawatts</b>	5984:5	5923:9
5767:7	5954:25	5729:8	<b>merely</b>	5985:19
5813:11	5963:6,18	5790:1	5904:19	5988:2
5835:16	5965:22	5811:13	<b>merit</b>	5989:2
5864:12	5981:1	5817:20,21	5864:20	6009:16
5910:6	6000:16,23	<b>Member</b>	<b>merits</b>	<b>Meyers</b>
5917:20	6006:11	5721:14,15	5988:22	5853:17
5919:7	<b>meaning</b>	,16,17	5989:1,2	<b>MH-163</b>
5923:3	6003:14	5813:22	<b>mess</b> 5764:3	5724:10
5939:9	<b>means</b>	5837:24		5850:21
	5731:19			<b>MH-164</b>
	5733:11			

5724:13	5957:17	5815:20	<b>mission</b>	5991:7
5851:11	5958:4,11	5819:1	5900:5	5994:18
<b>MH-165</b>	5962:8,18	5906:2,11	<b>misspoke</b>	6007:15
5724:18	5964:12,14	5907:5,7,1	5843:14	6012:3
5852:1	5968:25	0 5950:11	5878:24	<b>modelling</b>
<b>Michael</b>	5971:11,14	5955:5,6	5907:2	5749:5
5722:18,24	5972:14,15	5964:7,12	<b>misstating</b>	5996:24
<b>microphone</b>	5988:19	<b>minute</b>	5978:6	5998:7
5775:21	5990:20,21	5842:11	<b>mistake</b>	<b>models</b>
5811:22	,22	<b>minutes</b>	5972:16	6012:5
5852:6	5995:5,17,	5778:17	<b>mitigate</b>	<b>modularity</b>
5914:19	19,22	5849:17,20	5917:18	5778:6,14,
<b>middle</b>	5996:1,2	,24	5946:20	16 5779:6
5774:12	6002:23	<b>MIPUG</b>	5964:15	<b>moment</b>
5780:17	6003:10	5722:15	<b>mitigates</b>	5814:18
5814:2	6010:11	5724:20	5947:1	5816:17
<b>midpoint</b>	<b>millions</b>	5726:14	<b>mitigation</b>	5819:14
6002:22	5955:7	5921:7,15	5917:23	5832:9
<b>midst</b>	<b>mind</b> 5753:5	5992:23	<b>mix</b>	5837:22
5735:15	5807:2	5993:13	5834:14,21	5847:5
<b>Miller</b>	5809:7	6004:20,24	,23	5849:10
5722:13	5837:7	6008:12	5866:21	5852:11
<b>million</b>	5876:20	6013:5	5867:12	5868:15
5752:8,10,	5933:12	<b>MIPUG-20-6</b>	5870:24	5869:13,15
12,13	<b>minimal</b>	5996:13	5871:9	5874:9
5753:10,17	5913:4	<b>MIPUG's</b>	5873:6,18	5878:23
,19,20	<b>minimi</b>	5986:14	5890:21,23	<b>moments</b>
5758:17	5866:22	5987:1	5919:10	5832:8
5768:6,9	<b>minimization</b>	5993:1	5920:15	5845:17
5800:7	5867:6,7	<b>mirror</b>	5949:11	5846:21
5814:14,24	5868:1	6008:19	5965:25	5875:19
5815:22	<b>minimizing</b>	<b>mishear</b>	<b>mixes</b>	5896:5
5816:6,24	5866:22	5830:6	5869:23	<b>Monday</b>
5817:3,4,9	5867:13,14	<b>misimpressio</b>	5876:2	5913:5
,10	,21	<b>n</b> 6001:2	<b>mixture</b>	<b>money</b> 5939:9
5818:15	<b>Minnesota</b>	<b>MISO</b> 5730:8	5876:13	5945:4
5819:1,3,2	5807:4,6,1	5731:4	<b>MKO</b> 5722:17	6010:10,13
3 5827:25	4 5808:3,9	<b>mispronounce</b>	<b>MMF</b> 5722:20	6011:22
5828:3	5809:1	<b>d</b> 5852:16	<b>MNP</b> 5853:17	<b>Monnin</b>
5855:19	5822:22	<b>misreading</b>	<b>mode</b>	5722:23
5883:17	5823:3,11	5734:22	5932:14,16	5723:11
5884:15,17	5824:6	<b>missed</b>	5934:11	5739:1,2
5906:10,11	5836:22	5901:1	<b>model</b> 5747:2	5768:25
,18	5847:11	5929:18	5873:25	5801:2
5907:3,5,1	5961:5,15,	<b>missing</b>	5901:23	5843:16,17
0 5951:12	19	5745:21	5911:3,6,1	5856:18
5953:20	<b>minority</b>	5933:4	0,15	5858:20
5954:5,7	5994:6	<b>minus</b>	5912:1,2	5861:13,14
5955:4	<b>minus</b>			5907:22,23
5956:7	5758:17			5909:14,17

5975:14	5777:14	5754:14	5814:14	5753:6
5977:21	5966:11	5758:23	5815:3	5759:20
5986:7	5968:17	5777:24	5821:22	5952:19
5992:12	<b>moving</b>	5809:15	5827:24	<b>ninety-eight</b>
6008:3	5816:5	5818:1	5828:3	5800:6
<b>month</b>	5880:11	5864:15	5872:23	5815:20
5981:10	5884:12,15	5867:5	5942:14	<b>ninety-nine</b>
<b>months</b>	5961:23,24	5890:24	5980:10	5789:25
5786:25	5970:18	5905:1	5993:19	5792:1
<b>morning</b>	5971:10	5954:25	5994:14	5901:24
5727:3,12	5991:1	5955:9	6011:10	5902:2,5
5739:12	<b>MP250</b> 5771:6	5979:5	6012:11,12	5916:11
5802:13,16	<b>MPA</b> 5746:2	5987:16	,13	<b>ninety-six</b>
5811:23	<b>multiple</b>	5988:2	<b>netted</b>	5760:21
5812:1,2,3	5817:24	6006:11	5773:7	5786:3
,6 5813:23	5917:15	6012:16	<b>netting</b>	<b>nodding</b>
5838:16,23		<b>necessary</b>	5767:2	5907:22
5840:2		5726:7	<b>news</b> 5821:12	<b>nominal</b>
5852:17	<hr/> N <hr/>	5791:25	5972:25	6010:18
5863:17,19	<b>naked</b>	5907:19	<b>NFAT</b> 5740:5	6012:6,17
5864:13	5761:11	5908:7	5741:12,18	<b>non</b>
5883:21	<b>narrow</b>	<b>negative</b>	,21 5763:5	5846:14,23
5884:25	5845:2	5752:15	5765:18	5891:1
5932:10	5861:2	5770:7	5767:6	5920:16
5963:1	<b>narrower</b>	5821:17,23	5776:7	5939:11
6008:1	5866:25	5894:24	5792:16	<b>non-</b>
6013:15	<b>National</b>	5948:10	5793:2	<b>committed</b>
<b>Mountain</b>	5783:23	5949:24	5814:13	5855:4,11
5811:15	<b>natural</b>	5950:18	5858:3	<b>Non-</b>
<b>move</b> 5745:20	5807:22	5963:4	5860:11	<b>controllin</b>
5792:6	<b>nature</b>	5967:5	5861:22	<b>g</b> 5993:20
5801:17	5756:14	5970:21	5864:4	<b>none</b> 5829:9
5805:24	5757:15	5972:1	5876:20	5923:21
5821:23	5775:19	<b>negativity</b>	5885:20	5924:11
5879:6,11	5842:1	5964:13,14	5886:23	<b>non-economic</b>
5880:20	<b>NEAL</b> 5723:9	,16	5893:23	5958:22
5883:10	5727:10	5971:11,15	5951:15	<b>nonexistent</b>
5894:22	5855:3,12	<b>negotiate</b>	5957:11	5989:6
5937:22	<b>nearer</b>	5947:15	<b>night/</b>	<b>non-hydro</b>
5961:1	5880:20	<b>neighbourhoo</b>	<b>weekends</b>	5939:11
5962:17	<b>nearly</b>	<b>d</b> 5900:11	5731:4	<b>non-</b>
5990:16	5916:15	<b>neighbouring</b>	<b>nine</b> 5766:5	<b>inclusion</b>
5998:22	5971:4	5947:11	5785:20	5886:6
6008:2	<b>nec</b> 5809:14	<b>net</b> 5730:13	5792:17	<b>non-</b>
<b>moved</b>	<b>necessar</b>	5751:7	5920:7	<b>investment</b>
5748:12	5750:5	5752:7	5961:1	5939:10
5754:23	<b>necessarily</b>	5755:3	6013:15	<b>non-</b>
<b>movement</b>	5747:2	5772:14	<b>nine-fift</b>	
5821:23		5773:5,8,9	5757:25	
<b>moves</b>		,21 5800:7	<b>ninety</b>	
		5804:7		

<b>material/</b>	5958:2	5766:9	<b>off-peak</b>	5791:13,20
<b>material</b>	<b>NPVs</b> 5834:24	5770:24	5731:9	5792:3,7
5876:22	5896:13	5772:6	5919:8	5798:18
<b>normally</b>	<b>nuclear</b>	5776:17	<b>off-ramp</b>	5799:3
5846:2	5941:18	5777:6,14	5864:20	5800:20
<b>North</b>	5944:13	5784:15	<b>offsetting</b>	5802:17
5809:13	<b>numerical</b>	5786:21	5836:13	5805:22
<b>Northern</b>	5995:11	5787:10,15	5968:20,22	5806:1
6002:5,17	<b>numerous</b>	5796:6	5969:9	5809:4
6003:11,21	5806:5	5809:19	<b>oh</b> 5733:13	5814:12
6005:7	5914:5	5821:15,17	5765:21	5815:16
6007:6	<b>NVP</b> 5726:6	5835:10	5803:24	5819:24
<b>note</b> 5744:3	5907:18	5836:12	5839:11	5820:19
5764:2	5908:5	5848:22	5858:25	5822:16
5812:17		5879:24	5859:5	5824:2
5814:2		5880:25	5878:24	5827:10
5888:21		5881:1	5897:2	5834:5
5982:14		5883:16	5904:17	5836:15
	<b>O&amp;M</b>	5891:24	5907:2	5837:9
<b>noted</b>	5792:17,22	5898:8	5908:22	5842:13
5789:21	5793:2,8,1	5903:16	5921:7	5846:20
5954:18	7 5794:9	5932:8,10	5922:15	5848:10,13
5987:3	6005:22,23	5936:15	5927:6	5849:23
5993:5	6006:7,17	5937:4	5929:14	5853:6
<b>nothing</b>	<b>oaks</b> 5737:16	5940:24	5930:23	5854:1
5807:1	<b>objectives</b>	5958:19	5959:7	5856:9
5919:22,24	5867:18	5968:16	5962:3	5862:2
5938:17,19	<b>obli</b> 5934:18	<b>occur</b>	5971:1	5864:24
<b>notice</b>	<b>obligations</b>	5893:16	5974:10	5865:5
5724:18	6006:17	5979:1	<b>okay</b> 5727:15	5868:23
5851:23	6008:6	<b>occurred</b>	5728:12	5869:11
5852:1	<b>observation</b>	5982:4	5731:14	5870:19
6012:21	5896:3	<b>occurring</b>	5732:16	5871:19
<b>notion</b>	<b>observations</b>	5758:3	5733:6	5874:25
6006:14	5755:25	<b>o'clock</b>	5734:10,25	5876:23,24
<b>notionally</b>	5909:18	6013:15	5737:7,15,	5877:13,19
5876:6	5910:2	<b>ODETTE</b>	20	5878:12
<b>np</b>	5995:11	5849:9	5738:5,19,	5881:20
5722:6,7,8	<b>obv</b> 5762:4	6007:16	22 5740:25	5882:1
,18,21	5903:16	<b>offer</b> 5845:8	5746:4	5885:6
<b>NPV</b> 5747:3,4	<b>obvious</b>	5861:20	5750:19	5890:13
5815:20,21	5749:10	5890:5	5757:1,23	5892:12
5816:24	5784:6	5900:17	5759:3	5895:1
5828:7	5809:6	5909:20	5761:20	5896:4
5839:14	<b>obviously</b>	5980:15	5769:1,14	5899:18
5906:2,10	5730:2,3	<b>offered</b>	5771:18	5900:3
5949:17	5749:10	5824:6	5774:14,22	5902:13
5951:8,25	5755:8	<b>offline</b>	5778:2	5903:15
5952:11	5762:5	5834:6	5782:18	5904:13
			5785:25	5910:9
			5789:13	5912:6
			5790:21	5913:13,20
				5926:23
				5927:6

5929:14,16 ,23 5930:25 5931:13 5950:9 5952:4,21 5960:11 5963:24 5967:21 5968:24 5975:16 5976:15 5982:10 5983:2 5984:2 5991:13,22 5992:22 5995:3,15 5996:10 6003:24 6004:4 6009:8 6013:3,6,9 <b>Oklahoma</b> 5811:5 <b>old</b> 5774:21 5944:24 5999:23 <b>onerous</b> 5997:1 <b>ones</b> 5738:13,16 5758:24 5774:11 5787:1 5794:2 5858:8 5945:25 5948:10,11 <b>one-third</b> 5741:22 <b>ongoing</b> 5724:11 5850:16,23 6007:4 <b>on-peak</b> 5919:8 <b>onshore</b> 5801:14 <b>onto</b> 5860:8	5969:1 <b>oops</b> 5814:20 <b>open</b> 5960:4 <b>opens</b> 5879:19 <b>operate</b> 5811:1 <b>operated</b> 5920:21 <b>operates</b> 5811:6,9 <b>operating</b> 5942:21 6005:19 6007:5 <b>operation</b> 5786:9,25 <b>opinion</b> 5806:23 5857:14 5858:5 <b>opp</b> 5848:9 5919:8 <b>oppo</b> 5733:23 <b>opportune</b> 5849:16 <b>opportunitie</b> <b>s</b> 5880:2 5895:21 5917:14 5919:11 <b>opportunity</b> 5730:2 5731:1 5732:12 5854:18,24 5855:4,11 5896:7 5917:1 5919:9 5923:8,10 5924:11 5925:21 5931:4 5932:22 5933:1 5934:13 5936:18	5937:23 5938:5,16 5940:8 5942:8 5946:25 5962:24 5982:8 5986:16 <b>opposed</b> 5779:4 5787:25 5810:20 5830:9 5834:23 5880:25 5888:24 5924:6,24 5929:5 5935:12 <b>opposite</b> 5848:9 <b>optimal</b> 5866:21 5867:12 <b>optimization</b> 5867:25 5873:21 5881:24 5882:13 5883:12 <b>optimize</b> 5873:6,17 <b>optimized</b> 5845:3 <b>option</b> 5770:4 5784:22 5837:8,18 5876:1 5886:21 5890:14 5901:17 5938:16,17 5940:13 5960:4 5963:11 5980:21 <b>options</b> 5770:18 5771:10	5857:15 5866:20 5873:7 5876:7,8,9 5939:5,6 <b>oral</b> 5853:14 5863:18 5864:13 <b>order</b> 5731:8 5764:1,5 5775:2,3 5795:14 5854:14 5890:4 5900:9 5992:21 5998:19 5999:9 <b>organization</b> 5869:2 <b>orig</b> 5798:3 <b>original</b> 5739:21 5740:5 5742:12 5752:9 5753:14 5754:16 5757:4,24 5759:19 5763:18 5766:4,24 5767:21 5768:12 5770:13,19 5774:1,12, 15 5798:2,3 5844:22 5876:19 5881:13 5882:6 5891:18 5957:10 5981:25 5991:7 <b>originally</b> 5770:13 5901:22 <b>Orle</b> 5722:17	<b>others</b> 5811:11 5821:24 5892:6 5908:21 6006:6 <b>otherwise</b> 5771:25 5936:5 <b>ought</b> 5788:12,22 ,24 <b>ounce</b> 5893:11 <b>ourselves</b> 5743:6 5967:7 6010:15 <b>outcome</b> 5738:16 5748:14 5787:6 5880:7,8 5941:2 <b>outcomes</b> 5738:12 5955:8 <b>outdated</b> 5857:18 <b>outlining</b> 5865:15 <b>outlook</b> 5894:25 5942:7,24 5943:7 5980:10 <b>output</b> 5747:2 5934:14 5937:12,18 ,19 <b>outside</b> 5878:13 <b>overall</b> 5729:16 5764:21 5787:14 5794:1
---	--	--	--	---

5797:6	<b>packed</b>	5875:8,10,	5923:20	<b>n</b> 5839:12
5845:25	6000:25	11 5878:22	5933:23	<b>particular</b>
5884:19	<b>page</b> 5723:2	5880:16	5946:13	5760:13
5914:25	5724:2,8	5882:18	5955:1	5772:11,20
5963:4	5725:2,19	5888:12,15	5956:12	5773:20
<b>overly</b>	5726:2,13	5895:2	5978:20	5808:15
5861:2	5727:19	5905:18	5982:6,9	5823:22
<b>overnight</b>	5750:25	5906:7	5986:1,8,1	5825:24
5862:12	5751:14	5907:4	3,17	5852:18
<b>over-spoke</b>	5754:16	5910:22	5990:13,19	5867:5
5844:13	5778:4,5	5912:7	5993:8	5872:10
<b>overstated</b>	5779:16,20	5915:2	5996:11	5877:7,8
5784:7	,24	5918:3,17	6012:20	5895:14
5795:23,24	5780:7,16,	5919:17	6013:18	5924:18
5839:16,22	17	5921:20	<b>panels</b>	5930:1
<b>over-time</b>	5783:4,7,1	5926:6	5923:7	5948:25
5784:4	6,21	5933:6	<b>papers</b>	5949:3
<b>overview</b>	5785:2	5945:17	5843:12	5951:18
5758:2	5794:20	5948:15	6002:12	5956:17
<b>owned</b>	5796:9	5951:9	<b>paragraph</b>	5957:15
5811:14	5801:10	5973:21	5780:18	5977:23
5984:15	5802:23,25	5974:24	5793:5,11	6003:2,5
<b>owner</b>	5803:1,3,2	5975:21	5801:11,12	<b>particularly</b>
5984:14	0,25	5982:13,19	5852:22	5731:3
<b>owners</b>	5804:23	5983:11	5983:3	5750:4
5994:6	5805:6,18	5988:10	<b>parameter</b>	5888:20
<b>ownership</b>	5812:9,23	5993:14	6000:18	5892:4
5811:16,18	5813:3,10,	5997:23	6010:22	5899:12
<b>owns</b>	11,18	6002:14	6012:18	<b>partners</b>
5811:6,8	5814:19,22	6004:13,19	<b>parameters</b>	5850:14
	5816:4	,24	5954:19	<b>Partnership</b>
	5817:8	6008:11	5984:12	5851:21
	5820:5	<b>pages</b>	5998:6	<b>party</b>
	5822:18,20	5721:25	6012:2,8	5937:15
	5826:23	5908:11	<b>parametric</b>	<b>pass</b> 5890:2
	5833:14	5996:13	5998:15	5997:2
	5836:18	<b>paid</b> 5947:17	<b>pardon</b>	<b>path</b> 5765:7
	5841:6,9	6010:13	5734:19	5836:21
	5842:10	6011:13	<b>parity</b>	5847:6
	5847:4	<b>panel</b> 5723:6	5842:4	5880:25
	5849:1,7	5727:7	5892:10	5988:4
	5851:5	5749:5	<b>partially</b>	<b>paths</b> 5730:7
	5852:11,13	5768:24	5886:5	5848:20
	5856:13	5769:21	<b>partic</b>	5899:16
	5857:3	5775:20	5932:17	5942:13
	5858:25	5778:12	<b>participate</b>	5988:4
	5859:7,24	5789:21	5941:15	<b>pathway</b>
	5860:7,8	5811:21	<b>participatio</b>	5837:8
	5868:14	5812:2		5880:15,18
	5869:13	5840:8		,23 5881:3
	5870:4	5893:25		
	5871:8,15,	5899:7		
	25 5872:1			

5899:4	5862:4	<b>pays</b> 5810:23	5788:8,16	,11,15
<b>pathways</b>	5863:13	<b>PDP</b> 5742:25	5789:5,8	5839:3,8,1
5778:18	5879:1,15	5814:13	5790:8,17,	1,17,23
5831:16	5881:9	5822:2	21	5840:7,21
5836:17	5882:20	5892:23	5791:8,13,	5841:1,6,1
5979:4	5886:11	5951:15,17	20	0
<b>pattern</b>	5893:7	<b>Peaco</b> 5723:7	5792:4,7,2	5842:13,19
5945:1	5896:23	5727:8,13,	4	,22
<b>Patti</b> 5722:5	5900:13	15,24	5793:6,12,	5844:4,7,2
5850:8	5905:13,20	5728:2,10,	18	3
5851:1,18	5906:21	13	5794:8,14	5845:4,12
<b>PAUSE</b>	5909:12	5730:18,21	5795:9,13,	5846:1,4,1
5735:21	5910:18,24	,25	19	4,24
5756:25	5923:25	5731:18,21	5796:5,13,	5847:9,12,
5757:21	5927:13	5732:3	16,18,21,2	16,20
5768:21	5933:9	5733:3,7,1	4	5848:19
5779:18	5947:25	3,18,21	5797:3,25	5849:6
5780:1,13	5957:5	5734:23	5799:17,21	5852:22
5783:18	5973:23	5735:4,13,	5801:12,20	5853:3,13,
5789:17	5975:4,12	18,23	,24	21
5791:11	5976:8	5736:7,10	5802:3,10,	5854:5,13
5792:12	5978:12	5737:11,14	21 5803:1	5857:6,12,
5794:17,23	5982:16	,17,20,22	5804:1,22,	20 5858:7
5797:16	5988:12,25	5738:2,5,2	24	5859:12,21
5798:10	5993:16	2,24	5805:6,17,	5860:5,13,
5799:25	5994:1	5742:17	22	19,24
5800:22	5995:8	5743:17	5806:1,8,1	5861:3,7,2
5802:8,19	5997:18,25	5745:24	4,18,21	3
5803:17,22	6000:3	5748:17	5807:10,16	5862:2,6,1
5804:13,19	6001:20	5762:15	,20,24	1,17
5805:4,9	6002:25	5770:10	5808:10,14	5863:15,25
5807:18	6004:6,17	5771:11,14	5809:2,17	5864:6,8,1
5808:20	6005:12	5772:15	5810:4	1,22
5813:15	6007:22	5773:11	5811:2	5865:3,14,
5816:19	<b>pay</b> 5925:15	5776:1,9,1	5812:3	19
5817:14	5940:10	2,16	5819:12,20	5866:10,15
5822:9	5947:12	5777:1,10,	,24	,24
5825:18	5954:3	20	5820:3,15,	5867:14
5826:11	5995:21	5778:8,15	23	5868:4,12,
5827:3	5996:6	5779:11	5821:5,14	21,25
5828:17	6003:12,22	5780:3,6,2	5822:6,13,	5869:20
5832:15	,23	1,24	24	5870:2,9,1
5834:10	6009:10	5781:3,5,1	5823:7,12,	6,19,22
5841:4	6010:9	6	16	5871:2,6,1
5845:14	6011:18	5782:8,15,	5824:3,10,	3,16,19,22
5846:18	<b>paying</b>	24	19 5825:9	5872:7,15,
5849:3,13	6011:22	5783:3,9,1	5826:2	21
5853:1	<b>payment</b>	4,20	5831:9	5873:10,22
5855:1	5761:8,9	5784:10,14	5835:1	5874:15,21
5856:16	<b>payments</b>	5785:12,21	5836:7,19,	,23
5858:11	5745:19	,25	24	5875:3,8,1
5859:3		5786:5,18	5837:2,11,	3,17
		5787:8,22	14,19	5876:3,10,
			5838:1,5,8	15,23,24



5877:3,11, 17,25	5918:1,11, 15,23	,21	5792:19	5756:11
5878:5,11, 18	5919:4,10	5966:2,7,1	5793:4,10	<b>percentile</b>
5879:9,13, 22	5920:19	5,21	5970:23	5737:9,25
5880:6,17	5921:2,5,2	5967:2,4,1	5988:19	5964:11,16
5881:16	4	0,17	5996:18	5966:24
5882:2,9,1	5922:3,7,1	5968:5,10,	5997:6	5967:2,7
5,25	5,18,25	14	<b>percent</b>	5970:18,19
5883:5,8,1	5923:5	5969:6,12,	5729:16	,20
4,24	5924:1,13	22,24	5738:11,12	5971:5,9,1
5884:10	5925:18,23	5970:15,23	,16	6,20
5885:3,6,1	5926:2,13,	5971:1,7,1	5744:12,13	5972:3,6,1
2,18	19,23	2,17,22	,14,15,25	1,24,25
5886:1,8,1	5927:6,15,	5972:4,9,1	5745:1,2,2	<b>percentiles</b>
7,25	22	3,20	3,24	5963:25
5887:5,7,1	5928:2,11,	5973:3,11,	5747:24	<b>perfect</b>
1,18	18	16,25	5748:18	5785:3
5888:9,17	5929:6,10,	5974:3,8,1	5752:20,21	5814:20
5889:14,18	14,17,23	7,25	5754:1,22,	<b>perform</b>
5890:16	5930:3,18,	5975:6	23	5828:20
5891:3,9,1	23	5976:1,4,1	5755:11,12	5883:25
9,24	5931:7,13,	5	,14,15	<b>performance</b>
5892:17,24	22,25	5977:5,20	5759:13	5777:25
5893:9	5932:5,23	5978:9,14	5762:11,12	5824:21
5894:19	5934:5	5980:5,22,	,13,15,17	<b>performing</b>
5895:8,13	5936:7	25 5981:23	5768:5,8	5744:2
5896:9,14,	5940:23	5982:2,5	5783:1,6	5784:22
18,25	5942:11	5983:1	5785:8,9,1	5836:14
5897:3	5943:5,10,	6003:1,13	0	<b>performs</b>
5898:13,20	18 5945:11	<b>Peaco's</b>	5786:10,12	5900:8
,24	5946:10	5740:2	,15	<b>perhaps</b>
5899:6,22,	5947:20	5750:22	5854:18	5812:6
25	5948:7,21,	5751:3	5903:24	5867:5
5900:4,19	24	5752:3	5905:5,6	5891:9
5901:2,5,1	5949:13,19	5754:5	5916:15	5895:13
5,18	5950:2,6,9	5977:22	5942:25	5913:20
5902:17,20	,11,13,19,	<b>peak</b> 5777:23	5943:7,11	5933:4,23
5903:2,9,2	21	5778:1	5945:2,8	5965:3
0,25	5951:13,18	5866:6	5955:6	5996:5
5904:11,17	5952:3,15,	5879:7	5984:8	<b>perimeters</b>
5906:5,12	21,23	5917:6	5996:5	5882:5
5907:20	5953:3,9,1	<b>pejorative</b>	5998:12,20	<b>period</b>
5908:15	3,23	5908:23	,23	5746:20
5909:8	5954:10	<b>people</b>	5999:3,9,1	5752:16
5913:6,14	5956:10,16	5743:7	0,13,14,15	5753:22
5914:3	5957:7	5933:15	,16,17	5756:3,4,8
5915:9,17,	5958:8,17	5955:16	6000:22	,9 5784:25
21	5959:21	5999:6	6003:23	5785:7
5916:1,7,1	5960:7,15,	6007:15	<b>percentage</b>	5786:8
9	22	<b>per</b>	5748:10	5789:3
5917:4,7,1	5961:4,21	5781:9,11,	5755:5,6	
2	5962:2,5,1	25 5783:6	5777:18	
	2,20,25	5789:24	<b>percentages</b>	
	5965:10,13			

5791:4	6013:13	5833:17	5814:23	5883:2,15,
5866:9	<b>Phase</b>	<b>places</b>	5815:3,17,	16,21,22,2
5869:5	5724:19	5832:6	18,25	4,25
5879:21	5851:24	<b>plan</b> 5721:10	5816:10,11	5884:1,5
5964:3	5852:2	5724:6	,23	5885:25
5985:1	<b>phases</b>	5725:5,19	5817:2,11,	5889:2
6009:6	5924:25	5726:6	20,21	5890:11,20
6011:11	<b>phonetic</b>	5728:17,19	5818:17	,24,25
6012:13	5746:2	5729:5	5819:1,18	5891:8
<b>periods</b>	5814:13	5732:22,25	5821:12,16	5892:4,9
5983:14	<b>phrase</b>	5733:7	,17,18,21,	5893:20
5985:4	5778:13	5735:16	24	5894:5,22,
<b>permutations</b>	<b>phrased</b>	5736:21,22	5822:4,20	25
5874:2	5894:17	5737:2,9	5823:2,4,9	5895:16,24
<b>perspective</b>	<b>physical</b>	5738:15,18	5824:4,15	5897:9,22
5744:6	5731:17	5742:6,10,	5825:6,23,	5898:1,2,8
5759:7	<b>pick</b> 5940:20	16,24,25	25	,17,18
5788:2	6009:24	5743:1,2	5826:5,7,1	5899:12,24
5819:19	<b>picky</b>	5747:18	8,21	5900:7,10,
5821:8,9	5915:21	5749:8,9,1	5827:7,19,	16,17
5822:1	<b>picture</b>	0,13,14,16	25	5902:19,24
5859:25	5761:11	,19,22	5828:3,6,1	5903:4
5863:22	5800:12	5750:2,3	1,13,21,24	5904:21
5910:4	5876:18	5751:19	5829:9,14,	5905:3
5924:16,19	5887:2	5752:8	18,19,25	5906:1,8,1
5937:4	5951:1	5753:2,18	5830:4	6
5942:8	5976:6	5754:19	5831:2,14,	5907:4,18
5957:8	<b>piece</b>	5755:2	17,21,23	5908:6
5983:6,7	5744:22	5756:6	5832:13,18	5912:9
5985:11,13	5745:21	5757:6	5833:4,5	5914:25
5986:15	5749:20	5758:6,11,	5834:3,13,	5928:25
6009:16	5781:17	16 5759:17	18,25	5929:1
<b>pertaining</b>	5864:16	5760:20	5836:4,5	5931:11,17
5924:4	5894:9	5761:16	5837:13,20	5942:12,13
<b>perturbation</b>	5930:4	5762:8,9,1	5839:7,15,	,17,19
5787:14	<b>pipeline</b>	6,18,24	21	5943:1,15
5794:1	5827:17	5763:5,7,1	5841:17,23	5948:4
<b>perturbation</b>	5828:21	7,23	5842:2,5	5949:8
<b>s</b> 5916:12	5829:6,22,	5765:19	5847:18,24	5952:11,19
<b>pessimistic</b>	24,25	5766:13,16	5848:15,22	5953:5,11,
5936:17	5879:11	5770:22	5855:15,18	20
<b>Peter</b>	5926:9	5771:3,8,1	5856:7,13	5954:5,6
5722:13	5930:7,12,	9 5774:14	5857:2	5956:4,25
<b>Peters</b>	14 5931:6	5784:15	5861:6	5957:1,9
5722:2	5945:17	5797:7,21	5866:5,18	5958:2,5
5849:10,15	<b>pipelone</b>	5798:7,8,2	5868:10	5960:1,2,9
,21	5829:5	3	5869:18	,12,13,20,
5852:18	<b>placed</b>	5799:2,9,1	5871:18	24
5859:5		9	5872:19	5961:17,18
		5800:3,9,1	5874:6	,24
		5	5876:1,13,	5962:1,3,4
		5801:18,19	19	,7,16,17,2
		5812:8,14	5877:8,23	2,23
			5881:4	5963:13

5964:1,2,1	5872:18	5893:5,21	5814:20	5888:7
1,22,24	5873:14	5895:16	5825:2	5889:23
5965:4,6,9	5877:7	5897:16	5849:8	5890:3
,14,17,18	5887:23	5898:5	5852:7	5892:22
5966:1,10,	5888:23	5902:7	5896:10	5893:2,24
12,13,18	5901:14	5924:8	5969:17	5894:16,23
5967:15,25	5911:7	5932:11,13	5975:10	5898:10
5968:1,2,1	5916:9	5948:3	<b>pleasure</b>	5899:3
5,18,22,25	5920:4	5960:10	5864:14	5920:1,13,
5969:16	5970:4	5964:1	5865:4	21 5924:14
5970:9,10,	<b>plans</b>	5977:3	<b>plenty</b>	5926:3
14,18,21,2	5737:12	5979:8,24	5730:6	5938:15
5	5740:6,12	5988:23	5923:17	5942:18
5971:1,3,9	5741:15,19	5989:23	<b>Plot</b> 5900:17	5943:19
,11,13,24	,23	5997:14	<b>plotted</b>	5947:10
5972:5	5742:6,24	5998:17	5736:3,12	5969:25
5973:6,14,	5743:5	6006:5,9,1	5963:19	5977:23
15	5749:10	2	5964:6	5979:11
5976:5,6	5750:15	<b>plan's</b>	<b>plus</b>	5981:3
5977:15	5755:9	5953:11	5770:15,16	5991:24
5978:18	5757:4,16	<b>Plans</b>	5771:6	5992:13
5979:3	5759:25	5725:17	5866:6	5994:4
5983:20	5763:25	5741:23	5955:5,6	5999:17,18
5988:2,21	5766:9	5751:15	5995:19	6000:20
5989:9,23	5774:3,7	5758:5	<b>pockets</b>	<b>pointed</b>
5990:5,7	5775:13	5829:5	5941:12	5875:4
5997:11,12	5784:16	5856:11,25	5984:22	5985:8
,14	5798:14	5899:21	<b>point</b> 5735:6	<b>points</b>
5998:20	5802:2	5908:12	5736:11,16	5725:8
6000:7,9	5804:9	5995:13	,21	5743:15
6008:16,17	5814:4	<b>plant</b>	5753:6,11,	5748:11
6009:11	5819:5	5933:20,21	16 5754:22	5755:6
6010:2	5821:13,20	5939:2	5755:5,10,	5758:7
6011:9,14,	,21	5940:3	11,15	5802:6
16,20	5822:12	<b>plants</b>	5756:15,16	5803:2,8
<b>planning</b>	5824:20,22	5807:22	,17	5892:13
5729:14,17	5825:12,21	5944:13	5762:12,15	5924:21
5731:25	5827:18,23	5990:17	5772:2	5964:19
5732:7	5829:16	<b>plausibility</b>	5784:6	5987:10
5750:6	5830:10,14	5881:2	5785:19,20	<b>policy</b>
5779:4	,16,20,22	<b>play</b> 5824:16	5786:3	5729:19
5845:9,18,	5831:7,22	5825:7	5792:8	5731:25
20,24	5834:25	5847:3	5801:14,17	5732:6,7
5846:9	5839:3	5867:7,18,	,22	5733:14
5857:16	5856:1	22 5877:23	5802:1,22	5998:8
5860:1	5871:10	5939:17	5807:3	<b>political</b>
5861:21,24	5872:4	<b>please</b>	5818:12	5936:2
5864:4	5877:12,24	5727:5	5823:25	<b>Portage</b>
5865:17,20	5882:8	5738:23	5842:7	5721:22
,22	5883:12	5769:3,23	5862:9	<b>portfolio</b>
5866:1,4	5884:14,16	5775:22	5877:15	5870:24
5867:3,4	5885:19			
5868:6	5892:5,10			

5871:1	5989:12	<b>PowerPoint</b>	5797:21	5739:3
5885:11,15	<b>postulated</b>	5739:17	5798:8,23	5804:7
,16	5728:4	5742:12,21	5799:2,9,1	5811:21
5886:4,5,7	5735:25	5743:13	9	5829:4
<b>portfolios</b>	5808:17	5880:16	5800:3,9,1	5863:9
5873:6,16	5821:18	<b>practical</b>	5 5819:18	5864:15
5881:25	5880:9	5868:9	5821:12,16	5909:20
5895:20	5892:9	5981:6	,23 5822:4	<b>preparing</b>
<b>portion</b>	<b>postulating</b>	<b>practice</b>	5827:25	5794:12
5917:23	5729:3	5810:24	5828:12	5874:11
5935:3	<b>potent</b>	<b>pre</b> 5877:21	5837:20	<b>preponderanc</b>
5941:15	5734:18	5908:17	5841:17,22	<b>e</b> 5811:4
5947:22	<b>potential</b>	6012:12	5842:5	<b>prepping</b>
<b>portioning</b>	5734:18	<b>pre-\$800</b>	5855:15,18	5747:15
5996:4	5776:14,15	5819:23	5856:12	<b>present</b>
<b>portrayed</b>	5777:6	<b>precise</b>	5857:2	5730:14
5899:20	5854:10	5833:22	5861:5	5743:15,18
5901:9	5866:20	<b>precision</b>	5883:22	5751:7,8,9
<b>pos</b> 5890:4	5868:2	5755:17	5894:22	5752:7
<b>posing</b>	5871:5	5961:8	5895:24	5755:3
5859:14	5872:23	5976:13	5902:19,24	5768:6
<b>position</b>	5880:15	<b>predicated</b>	5904:21	5773:21
5727:4	5888:2	6006:14	5942:18	5787:9
5769:21	5889:20	<b>preface</b>	5943:1	5797:7
5850:5	5926:9	6008:13	5948:4	5800:7
5856:5	5936:22	<b>prefer</b>	5949:8	5804:7
5890:4	5959:1,2,3	5840:9	5952:18	5814:14
5954:13	5971:15	5847:1	5953:4	5815:3
5959:19	5972:7	<b>Preferred</b>	5956:25	5827:24
6001:13,18	<b>potentially</b>	5721:10	5970:9	5828:3
<b>positive</b>	5740:20	5725:5,18	5977:14	5897:15
5766:21	5872:25	5729:5	5978:18	5956:21,23
5773:8,17	5972:23	5737:9	5979:3	5957:1
5949:18	<b>Potomac</b>	5738:15,17	5995:13	6010:17
5971:25	5853:10	5742:25	6000:6,9	6011:9,10,
5972:2	<b>power</b>	5743:1	6009:10	25
5994:15	5728:23	5749:14,15	6010:2	6012:11,14
<b>possible</b>	5729:12	,19,21	<b>prejudicial</b>	<b>presenta</b>
5794:13	5730:7	5753:1	5891:22	5752:2
5798:5	5734:20	5754:19	<b>prelimin</b>	5974:4
5802:4	5735:2,11,	5755:2	5857:8	<b>presentation</b>
5832:12	16 5808:3	5756:6	<b>preliminary</b>	5739:3
5840:18	5811:15	5760:20	5857:8	5740:2
5842:15	5822:22	5761:15	5878:8	5742:2,9,1
5848:24	5823:3,11	5762:8,16,	5921:9	2,17
5874:2	5824:6	18	5984:25	5750:23
5933:5	5836:22	5763:5,17,	<b>preparation</b>	5751:3
6001:9	5877:8,9	22 5765:18	5745:10	5752:3
<b>postulate</b>	20 5997:13	5766:12,16	<b>prepare</b>	5754:5
			5795:1	5757:7
			<b>prepared</b>	5797:14

5800:4	<b>previously</b>	5984:15	5934:1	5875:5,15
5831:10,24	5723:7,8,9	<b>pro</b> 5845:21	5944:18	5888:18
5838:16	5727:8,9,1	5926:18	5964:7	5941:5
5893:10	0 5843:14	5936:11,17	5979:15	5963:6,7
5956:19	5981:12	5970:23	5984:9,13	5992:10
5974:4	<b>pri</b> 5768:17	<b>proba</b> 5748:1	5985:25	<b>produced</b>
5978:15	<b>price</b> 5749:1	<b>probabil</b>	5988:5	5892:1
<b>presentation</b>	5750:9	<b>probabil</b>	5999:12	5922:1
<b>s</b> 5747:3	5758:1,14	5762:1	6002:9	5973:18
5748:7	5768:17	<b>probabilisti</b>	6007:14	5991:9
<b>presented</b>	5853:11,12	<b>c</b> 5756:18	6009:19	5998:17
5744:4	5925:25	5762:1,6	6012:23	<b>produces</b>
5821:13,19	5936:13	<b>probabilitie</b>	<b>probe</b>	5915:24
5825:21	5948:3,5	<b>s</b>	5889:25	<b>product</b>
5858:8	6012:1	5744:23,24	<b>problem</b>	5917:2
5876:19	<b>prices</b>	5748:4	5862:21	<b>production</b>
5877:21	5731:4,9	5758:1	5909:24	5777:23
5878:2	5758:3	5762:23	<b>proceed</b>	5786:22
5901:23	5854:18	<b>probability</b>	5724:18	5916:10
5982:1	5872:6	5744:6,12,	5851:24	5924:22
<b>presents</b>	5925:22	13,14,20	5852:2,12	5935:3
5902:14	5948:11,17	5745:1,2	5969:20	<b>profile</b>
<b>President</b>	5949:8,12	5747:25	6008:22	5940:6,21
5739:2	5950:5,15	5748:11,12	<b>proceeding</b>	5942:2,3
<b>pre-</b>	<b>pricing</b>	5754:24	5840:5	5963:19
<b>significan</b>	5784:9	5755:1,6	5860:21	5964:5,9
<b>t</b> 5822:1	5853:11,19	5756:9	5913:25	<b>profiles</b>
<b>presumably</b>	5854:4,11,	5758:3,14	6002:22	5745:7
5816:9	16 5856:6	5762:6,17	<b>proceedings</b>	5747:20
5847:10	5872:6	5943:12	5727:5	5755:7
5873:16	<b>primarily</b>	<b>probable</b>	5850:6	5757:5
5881:13	5776:10	5748:14	5912:24	5766:10
<b>presuming</b>	5896:6	<b>probably</b>	5914:18	<b>profit</b>
5930:11	5983:5	5743:4,5	6013:14	5773:8
<b>pretending</b>	5989:5	5753:4	<b>process</b>	<b>profoundly</b>
5979:14	<b>Principally</b>	5756:8	5747:15	5758:24
<b>pretty</b>	5747:9	5759:4	5773:25	<b>programming</b>
5736:14	<b>prior</b>	5765:11	5776:7	5911:12
5753:5	5746:10	5774:17	5845:21,24	<b>prohibition</b>
5786:25	5786:16	5786:19	5846:9	5807:7,14
5837:18	5801:22	5800:17	5860:1	5808:4
5852:23	5821:18	5829:17,24	5861:21,24	<b>prohibitions</b>
5917:2	5841:11	5835:17	,25	5807:13
5964:4	5853:4	5857:7	5862:18	<b>project</b>
5972:20	5861:11,22	5862:15,16	5863:1,2,1	5777:4
5973:1,13	5885:20	5866:25	1 5864:4	5782:2
6008:19	5994:9	5887:21	5867:20	5786:8
<b>previous</b>	<b>private</b>	5891:11	5868:7	5787:11,20
5952:5	5941:4	5894:9	5869:10	
	<b>privately</b>	5919:7	5873:25	

,21	<b>proportions</b>	5986:10	<b>punts</b> 5901:2	5894:3
5788:25	5952:25	5992:18	<b>pure</b> 5746:3	<b>qualify</b>
5789:2,9	<b>proposed</b>	<b>providing</b>	5937:7,8	5808:8
5809:25	5815:12	5767:1	5944:21	<b>quality</b>
5811:13	<b>proposition</b>	5772:3	<b>purpose</b>	5946:18
5935:7	5934:15	5791:21	5781:18	<b>quarter</b>
5936:14,20	5958:24	5863:16	<b>purposes</b>	5958:7
,25	<b>prospective</b>	5988:1	5738:10	<b>Quebec's</b>
5940:13	5857:22	<b>province</b>	5858:18	5932:16
5941:16	5943:22	5734:7	5866:13	<b>question</b>
5942:7	<b>prospects</b>	5736:23	5878:7	5724:14
5958:23	5854:4	5737:1	5900:7	5730:10
6002:18	<b>provide</b>	5848:18	5901:13	5734:14,15
6003:22	5725:3,6,7	5859:16	5916:9	5735:5,9,2
<b>projected</b>	,11,16	5874:13	5995:10	4 5769:22
5886:24	5726:3,9	5934:24	<b>pursuing</b>	5788:18
5930:17	5751:23	5935:6	5809:23	5789:20
<b>projecting</b>	5798:21	5947:11	5885:10	5790:7
5929:3	5799:1,6	5996:22	<b>purview</b>	5792:5,15
<b>projects</b>	5801:6	5998:8	5977:25	5793:13
5786:22	5802:22	6001:11,16	5992:18	5806:2
5787:25	5803:1,7	<b>provincial</b>	<b>pushed</b>	5807:21,24
5788:3	5831:3	5745:12,14	5752:17	5808:12
5809:24	5842:25	,20,23	5753:23	5809:7
5810:11,14	5843:11,20	5759:9,10,	5762:21,22	5824:14
5940:19	5856:5,11,	21 5760:24	,23	5825:2
5983:13	23 5873:3	5761:1,7,1	<b>puts</b> 5940:3	5829:13
<b>prominent</b>	5907:16	7	5957:20	5834:20
5887:12	5908:1	5762:2,7,1	<b>putting</b>	5843:4
<b>pronounced</b>	5909:6	0 5821:9	5739:20	5847:24
5734:5	5910:7,11	5860:3	5774:1	5850:12
5756:5	5925:4	5941:7	5776:25	5851:2,6,8
5776:18	5992:1	<b>prudence</b>	5821:3	,12
<b>propensity</b>	5998:25	5984:14	5832:1	5859:13
5940:1	6001:14	<b>PUB</b>	5840:19	5861:19
<b>proper</b>	<b>provided</b>	5913:12,18	5931:11	5862:10,19
5795:7	5742:3,10	5994:18	5945:5	,23 5863:7
5796:3	5743:13,20	<b>public</b>	5965:14	5864:7
5977:18	,25	5721:3,21	5969:10	5877:18
5993:3	5755:22	5765:8	5979:22	5881:5
6012:9	5768:7	5771:25		5889:10,25
<b>properly</b>	5790:4	5822:23		5899:14,17
5793:17	5801:1	5859:18		5900:24
6006:9	5850:11,18	5991:15	<hr/> <b>Q</b> <hr/>	5905:9,25
6012:3	5851:9	<b>pull</b> 5813:11	<b>Qual</b>	5906:25
<b>proportion</b>	5881:19	5820:6	5723:7,8	5909:23
5920:16	5901:22	5826:23	5727:8,9	5910:2,4
<b>proportionin</b>	5951:2	5871:15	<b>qualificatio</b>	5911:24
<b>g</b> 5996:9	5952:7,17	<b>pulled</b>	<b>ns</b> 5865:15	5924:2,4
	5954:1	5745:8	<b>qualifier</b>	5927:16
	5978:1			5933:18
				5945:14

5946:21	5836:5	5988:3	5984:19	5766:18
5949:7	5885:4	5996:18	<b>rating</b>	5767:11
5963:18	5918:5	5997:4,21	5728:15	5770:3,5,2
5966:3	5932:15	5998:16,23	5999:5	5 5772:9
5977:6,23	5964:13	5999:8	<b>ratio</b> 5789:9	5806:22,24
5979:13	5976:22	6012:4	5884:19	5807:1
5980:7,16	<b>quote</b>	<b>ratepayer</b>	<b>re</b> 5721:7	5808:2,11
5981:16	5819:21	5984:21	5855:16	5809:20
5984:4		6009:16	5901:20	5835:3,4
5991:23	<hr/>	6011:25	<b>reach</b> 5890:3	5842:4
6000:23	<hr/> R <hr/>	<b>ratepayers</b>	<b>reached</b>	5905:6
<b>questioning</b>	<b>Rainkie</b>	5924:10,18	5998:12	5928:8
5924:20	5987:14	5925:9	5999:3	5936:3
5943:20	<b>raise</b>	5930:15	<b>reaches</b>	5942:19
5994:9	5727:21	5935:5	5848:16	5943:3
6005:6	5733:11	5984:25	5926:24	5944:19
<b>questions</b>	5778:6	5995:21	<b>reaching</b>	5946:25
5738:21	<b>raised</b>	5997:1,2	5999:7	5972:18
5768:24	5747:11	6000:13	<b>reading</b>	5977:17
5775:21	5778:17	6001:12	5983:3,8	5979:2
5776:4	5990:13	6008:10,25	<b>ready</b> 5852:6	5980:10
5809:5	5992:14	6009:3,5,9	5868:14	5993:24
5811:21	5994:9	,17	5914:18	6007:13
5818:6	<b>raising</b>	6010:9,13	<b>real</b> 5741:7	6009:25
5864:10	5728:7	6011:1,13,	5761:14	<b>reason</b>
5873:13	<b>Ramage</b>	18,22	5767:12	5756:10
5899:11	5722:5	<b>rates</b>	5874:1	5775:16
5905:16	5850:8	5740:21	5944:14	5783:12
5910:1,21	5851:1,18	5747:11,12	5945:6	5852:18
5911:24	<b>ran</b> 5770:22	,22 5748:2	5987:15	5881:7
5919:22	5771:7	5760:9	5988:19	5893:18
5933:12	5998:14	5925:16	5991:4,16	5899:23
5987:14	<b>range</b> 5738:1	5941:1	6012:6	5903:14
<b>quick</b>	5884:17	5948:12	<b>realities</b>	5969:25
5741:1,9	5920:23,25	5949:23	5981:6	5979:13
5744:22	5942:16	5950:7,8,1	<b>reality</b>	6006:17
5751:17	5943:11	6 5990:15	5734:17	<b>reasonable</b>
5906:24	5947:13	5995:16,17	5755:12	5782:14
<b>quickly</b>	5955:8	,25	<b>realized</b>	5866:10
5758:21	<b>rank</b> 5884:23	5996:22	5899:11	5874:1
<b>quilt</b>	<b>rate</b> 5743:14	6000:7,12	5900:5	5979:20
5959:22	5747:12,24	6008:18,23	<b>realizing</b>	6011:3
5974:12,20	5748:1	6009:5	5978:20	<b>reasonably</b>
,22	5751:11	6011:1,13,	<b>really</b>	5937:13
5977:2,18	5752:18,23	18	5732:5	<b>reasons</b>
<b>quilts</b>	5753:25	<b>rather</b>	5736:24	5880:1
5948:19	5768:5,9	5790:14	5761:13	5941:18
<b>quite</b>	5782:20	5821:8		<b>rebuttal</b>
5788:17	5841:20	5822:17		5806:10,12
5824:17	5940:11	5854:24		5807:1
5825:7,9		5962:23		<b>rec</b> 5899:9
		5983:6		

<b>recall</b>	<b>ons</b>	5783:1	5877:22	<b>reflected</b>
5782:21	5874:19	5854:18	5878:16	5793:17
5797:5	5875:1	<b>reductions</b>	5885:21	5945:22
5831:15	<b>reconciliati</b>	5867:19	5888:11	<b>reflecting</b>
5837:23	<b>ons</b> 5726:8	5868:3	5896:12	5725:8
5838:15	5907:19	<b>re-enforce</b>	5911:2	5803:3,9
5850:13	5908:8	5758:21	5929:11,18	<b>regard</b>
5853:23	<b>record</b>	<b>re-</b>	5950:7,8,2	5855:14
5874:24	5824:4	<b>envisionin</b>	2	5874:9,13,
5875:1	5833:6	<b>g</b> 5863:10	5954:18,20	19 5985:24
5878:14	5847:23	<b>ref</b> 5742:5	5955:13,18	<b>regarding</b>
5883:19	5865:10	5743:10	5957:10,12	5810:3
5885:2	5875:10	5949:15,23	,19	5831:16
5897:4,20	5882:24	6002:6	5974:25	5854:4
5901:19	5885:24	<b>ref/ref</b>	5975:20	<b>Regis</b>
6003:5	6008:4	5951:25	5982:21	5721:13
<b>recalling</b>	6012:24	5964:23	6008:17,18	<b>regret</b>
5781:17	<b>recorded</b>	5965:19	<b>reference/</b>	5908:18,21
<b>receipt</b>	5850:12	5966:18	<b>reference/</b>	,24
5912:17	<b>recovery</b>	5967:13	<b>reference</b>	<b>regulator</b>
<b>received</b>	5934:20	5973:13	<b>referenced</b>	5868:19
5899:10	<b>red</b> 5734:15	<b>ref/ref/ref</b>	5824:3	<b>regulatory</b>
5901:20	5737:22	5816:22	5919:18	5807:5
5979:6	5773:16	5906:9	<b>references</b>	5858:14
5985:9	5799:15,18	5949:22	5858:16	5934:20
6003:18	5800:15	5954:6	5914:6	6002:22
<b>recent</b>	5817:8	5956:5	<b>referencing</b>	<b>rel</b> 5848:14
5740:6	5841:12	5960:24	5868:2	<b>relat</b>
5786:20	5901:16	5962:15,17	<b>referring</b>	5855:17
5974:19	5902:14	5969:15,18	5779:7	<b>relate</b>
<b>recently</b>	5903:16	<b>refer</b>	5785:5	5933:19
5787:1	5904:2,20	5868:10	5790:9	<b>related</b>
5887:12	<b>redo</b> 5726:11	5870:11	5792:25	5734:20
5979:6	5749:1	<b>reference</b>	5807:22	5767:24,25
<b>recess</b>	5750:21	5741:13,20	5808:2	5778:16
5849:16	5798:5	5742:5	5841:9	5933:12
<b>recessing</b>	5863:11	5743:10	5870:12	5988:17
5769:17	5893:19	5744:10,13	5895:10	5998:8
5850:1	5894:4	5745:2	5898:3,11,	<b>relates</b>
5914:14	5974:22	5747:25	22 5907:4	5841:12
5959:15	5975:8	5748:11,18	5929:6	5927:25
<b>recognize</b>	5976:11,17	,20	<b>refine</b>	5981:19
5813:18	<b>reduce</b>	5764:25	5794:5	5994:8
<b>recommend</b>	5724:16	5768:13	<b>refined</b>	<b>relating</b>
5848:15	5851:7,15	5785:22	5831:20	5726:5
5861:21	5994:14	5838:3	5912:4	5845:9
<b>recommendati</b>	<b>reduced</b>	5854:15	<b>reflect</b>	5872:5
<b>on</b> 5849:20	5795:22	5859:11,19	5809:8	5907:17
<b>recommendati</b>	5796:10	5870:4,5,1	5834:7	
	<b>reduction</b>	2,14		



5908:4	5916:9	5997:15	<b>reproduced</b>	5845:9,18
<b>relation</b>	5970:4	<b>reopen</b>	5988:15	5865:17,20
5724:10	<b>relies</b>	5961:10	<b>request</b>	,22
5850:16,22	5924:5	<b>reopened</b>	5790:3	5866:1,4,1
<b>relative</b>	<b>relieved</b>	5960:4	5799:18	8,20
5757:15	5900:25	<b>repeat</b>	5986:15,21	5867:4
5764:16	<b>rely</b> 5729:15	5825:2	5992:19,23	5868:10
5775:19	5732:5	6004:9	<b>requested</b>	5869:18,19
5786:7	5806:23,25	6007:1	5994:18	5871:10,18
5787:12	5894:10	<b>replaced</b>	<b>requests</b>	5872:4,18,
5809:13	<b>remain</b>	5784:19,21	5913:11	19,24
5821:17	5728:19	<b>replacing</b>	<b>require</b>	5873:14
5825:12	5826:20	5784:18	5911:24	5876:13,19
5837:19	<b>remained</b>	<b>report</b>	5923:22	5877:6
5842:2	5952:5	5805:16	5934:2	5914:1
5855:17	<b>remember</b>	5806:5	<b>required</b>	5970:2
5856:5	5736:5,24	5819:21	5747:1,6	<b>resources</b>
5883:15	5760:22	5874:17	5819:19	5736:19
5884:15	5857:10	5932:20,24	5929:22	5780:8
5904:6,14,	5956:19	6001:8	5930:2	5866:8,21
16 5935:18	5957:2	<b>reporter</b>	<b>requirement</b>	5869:15
5942:18	<b>remind</b>	5843:14	5984:23	5873:2
5947:6	5865:6	5844:14	5985:2	5874:3,4
5950:19	<b>reminder</b>	5856:21	<b>requirements</b>	5882:5
5956:23	5741:9	<b>reports</b>	5880:2	5888:8
5957:22	<b>remove</b>	5731:15	5924:6	5920:14,22
5980:14	5773:12	5732:10	5983:23	5929:21
5988:22	<b>removed</b>	5776:2	<b>res</b> 5777:1	<b>respect</b>
<b>relatively</b>	5824:1	5819:14	5778:13	5739:4
5751:4	<b>removes</b>	5844:19	5791:6	5777:9
5757:16	5820:12	5981:21	<b>reserve</b>	5778:11
5821:11	<b>removing</b>	<b>represent</b>	5866:7	5779:14
5826:6	5767:23	5776:3	<b>reservoir</b>	5782:19
5828:12	5821:11	5816:10	5731:10	5787:19
<b>relax</b>	<b>renewable</b>	<b>representati</b>	<b>residual</b>	5788:11
5732:13	5783:23	on 5853:22	5756:12	5789:14
5733:11	5869:24	<b>representati</b>	<b>resource</b>	5793:15
<b>relaxation</b>	5885:10	ve 5784:2	5724:6	5796:23
5901:11	5886:4,5,1	5817:10	5741:14	5798:22
5903:23	5,21	5850:15	5742:6,24	5806:10,17
5904:8,15	5891:1,2	<b>represented</b>	5749:8	5807:14
<b>relevant</b>	<b>rental</b>	5827:6,8	5763:16	5808:6
5986:9	5745:15,18	<b>representing</b>	5777:2,11,	5809:8,9
6006:6	5996:22	5734:16	12 5778:24	5834:13
6010:22	5997:4,9	<b>represents</b>	5779:3	5879:22
6012:18	<b>rentals</b>	5791:2	5809:22	5899:15
<b>reliability</b>	5996:12,14	5902:19	5812:8,13	5914:24
5867:15,22			5837:15	5917:18,22
5868:1				5918:17,18
5895:11				,24
5901:14				5925:20
				5926:10
				5928:20

5930:22	5854:16	5968:20,23	<b>Richard</b>	5928:8,9
5931:2,15	5897:23	5969:8	5721:16	5959:13
5932:3,20	5898:2	5983:23	5727:12,16	<b>roughly</b>
5933:2	5949:11	5984:23	,25	5761:2,3
5941:25	5954:21	5985:2	5728:3,12	5817:4
5950:17	<b>results</b>	6011:15,18	5730:11,19	5853:18
5962:15	5741:7,13,	,25	,22	5883:7
5969:15	14 5747:4	6012:14	5731:14,19	5996:3
5986:11,19	5829:14	<b>revenues</b>	5732:2,16	<b>row</b> 5820:13
5987:15	5836:8	5761:2	5733:6,10,	<b>rule</b> 5731:20
5988:16,19	5839:13,22	5854:10	15,20	<b>ruled</b>
5989:21	5847:24	6008:24	5734:10	5888:19
5990:8	5855:16	<b>revenue's</b>	5737:6,13,	<b>rules</b> 5998:9
5991:14	5897:21	6011:19	15,18,21,2	<b>run</b> 5750:16
5992:5	5898:16	<b>reverse</b>	4	5761:22
5995:16	5899:20	5969:3	5738:3,19	5765:23,24
6002:17	5900:9	<b>review</b>	<b>right-hand</b>	,25
6005:6	5901:19,23	5721:9	5762:14	5774:14
6008:10	5902:14	5821:11	5814:22	5808:23
<b>responding</b>	5955:19	5827:23	5820:9	<b>running</b>
5791:6	<b>resume</b>	5861:24	5821:2	5750:6
5814:3	5850:5	5875:9	5928:14	5827:11
<b>response</b>	5914:18	5882:24	5952:10	<b>runs</b> 5901:24
5724:13	<b>resuming</b>	5986:16	<b>ring</b> 5878:17	5902:2
5786:14	5769:18	<b>reviewed</b>	<b>ris</b> 5936:23	5920:11
5790:3	5850:2	5784:1	<b>risk</b> 5747:20	
5830:3	5914:15	5806:12,21	5757:5	<hr/>
5850:11,18	5959:16	5811:18	5766:10	<hr/>
5851:8,11	<b>retained</b>	5853:15	5777:8	S
5862:15	5985:20	5868:18,21	5935:2,10,	<b>sa</b> 5766:12
5863:16,18	<b>RETIRES</b>	5874:11	17	<b>safest</b>
5864:13	6013:18	6006:13	5936:15,24	5991:6
5980:16	<b>return</b>	<b>revise</b>	5937:1,4	<b>sale</b> 5764:6
6007:18	5731:5	5795:15	5940:2,5,2	5815:4,25
<b>responses</b>	5743:14	<b>revised</b>	1 5942:2,3	5816:14
5959:21	5751:11	5725:3	5963:19	5818:7
<b>responsibili</b>	5752:19,23	5795:1	5964:5,9	5823:3,5,1
<b>ties</b>	5753:25	5797:23,24	5966:23,25	1,14,19
5869:6	5935:6	5798:21,23	5967:8,15	5836:5
<b>responsibili</b>	5984:10	5799:1,7	5970:17,20	5847:11
<b>ty</b> 5869:4	<b>returns</b>	5801:23	5971:6,10,	5900:18,19
<b>rest</b> 5799:22	6000:10	5802:1,5	19	5945:24
5839:19	<b>revenue</b>	5912:13,18	<b>risks</b>	5952:14
5933:23	5750:13	5951:15	5776:14	5967:25
<b>result</b>	5912:8	6010:5	5925:7,8	5968:3
5747:3	5934:18	<b>revisit</b>	<b>robust</b>	5969:1,8,1
5758:18	5935:11,14	5938:23	5820:2	7,20
5776:13	5936:20	<b>reward</b>	5822:3	5970:11
5796:25	5946:19,21	5972:24	5861:6	5973:7
5816:22	5947:6,22		5882:11	<b>sales</b>
5841:17,22			<b>room</b> 5853:24	

5822:23	5954:18,20	5739:15	5749:17	5956:12
5854:25	5957:10		5783:16	5978:6
5855:4,5,1	5961:11	<b>scroll</b>		5979:23
1 5925:21	6002:2	5814:19	<b>seeing</b>	5995:20
<b>satisfactory</b>	6003:9,10,	5837:22	5731:13	<b>sensitivities</b>
5825:15	14,20	5849:7	5736:17	<b>s</b> 5746:21
5849:22	6004:2	5859:7,24	5770:20	5747:6,22
5856:21	<b>scenarios</b>	5869:14	5772:10,11	5748:9
5864:5	5742:5	5870:3	5775:19	5750:10
<b>satisfying</b>	5804:8	5982:24	5874:24	<b>sensitivity</b>
5894:9	5808:18,23	<b>scrolling</b>	5897:14	5747:10,12
<b>Saunders</b>	,25 5858:1	5814:20	5977:3	,23
5722:20	5872:5,20	5860:7	6011:21	5748:8,15,
<b>savings</b>	5873:1	5871:8	<b>seeking</b>	24 5749:1
5735:7	5877:15	<b>scrubbed</b>	5840:17	5750:13
5997:1	5878:3,9	6008:6	<b>seem</b> 5793:24	5758:14
<b>saw</b> 5766:12	5882:13	<b>S-cur</b> 5737:8	6000:14	5820:1
5880:8	5884:7	<b>S-curve</b>	<b>seems</b> 5927:4	<b>separate</b>
5894:21	5933:25	5730:13	5974:14	5729:15
5952:25	5943:11	5733:16	6011:6	<b>separately</b>
5968:1	5945:3,9	5939:16	<b>seen</b> 5786:22	5732:9
6010:1,4	5988:3	5948:8	5787:24	<b>sequence</b>
<b>scale</b>	<b>scerio</b>	<b>S-curve's</b>	5788:3	5746:13
5764:8,10,	5735:9	5939:18	5802:23	5818:1,2
13,14	<b>schedule</b>	<b>second</b>	5827:5	<b>sequencing</b>
5787:12	5860:9	5741:16,17	5857:24	5772:10,20
5872:24	5981:3	5773:13	5863:1	<b>sequentially</b>
<b>scales</b>	5997:23	5777:6	5890:15	5804:25
5764:9	<b>scheme</b>	5785:6,9	5932:2,7,1	<b>series</b>
<b>scapegoat</b>	5972:17	5791:9	9,23	5820:8
5852:19	<b>scope</b>	5793:11	5955:2	5826:5
<b>scemar</b>	5861:15	5816:4	5965:3,4	5832:12
5877:15	5862:10	5818:15	5976:22,23	<b>seriously</b>
<b>scenario</b>	5924:15	5837:15	5977:14	5960:6
5733:1	<b>scorecard</b>	5849:6	6008:14	<b>serve</b>
5735:9	5822:14	5896:11	<b>sees</b> 5945:7	5980:12
5741:13,20	<b>screen</b>	5899:19	<b>segregated</b>	<b>served</b>
5742:5	5804:2	5910:16	5952:17,18	5980:11
5808:11	5820:7	5926:7	<b>selected</b>	5983:21
5825:24	5933:6	5975:10	5804:8	<b>serves</b>
5853:11,12	5951:4	5976:2	<b>self-</b>	5868:17
5854:15	<b>screened</b>	<b>secondary</b>	<b>inflicted</b>	<b>service</b>
5856:6	5886:21	5761:12	5824:13	5772:1
5878:3,4,1	<b>screening</b>	5809:21	<b>sense</b>	5822:23
5 5879:4	5791:16	<b>seconds</b>	5781:14	5990:16
5883:23	5886:23	5859:23	5809:21	<b>sets</b> 5739:14
5898:19,22	5888:18	5868:7	5837:2	5751:24
5903:17	5889:16	<b>Secretary</b>	5840:23	5785:18
5934:1	<b>screens</b>	5739:5	5899:9	
		<b>section</b>	5904:5,14	

5836:4	5748:5	5733:17	5798:22	5905:2
<b>setting</b>	5751:8	<b>shoes</b>	5809:7	5935:11
5987:1	5752:6,19	5977:13	5922:11	5942:10
<b>seven</b> 5753:6	5759:21	<b>shoot</b> 5905:7	5931:11	<b>signs</b>
5758:16	5764:25	<b>short</b>	5954:17	5945:21
5767:4	5784:16	5740:10,11	5957:18	<b>sill</b> 5822:13
5770:16	5855:16	5769:5	5975:21	<b>similar</b>
5772:24	5888:22	5786:7	5994:11,13	5743:23
5773:6,9,1	5906:2	5892:15	,15,16	5756:17
5 5779:22	5907:5,17	5895:2	6006:7	5757:14,16
5780:19	5949:17	5899:19	<b>shows</b> 5751:1	5758:11
5815:20	5959:4	5900:23	5766:15	5767:6
5896:21	<b>seventy-five</b>	5901:2,3	5767:9	5792:14
5952:19	5738:9	<b>shorter</b>	5826:17	5795:4
5958:1	5756:9	5776:24	5841:12	5796:10
5961:12,14	<b>several</b>	5777:3	5876:11	5802:14
5963:13	5741:10	5778:24	5904:21	5836:9
5965:8,21	5750:1,9	5779:3	5949:11	5842:23
5971:14	5751:6	5983:14	5951:25	5880:8
<b>seven-fifty</b>	5774:6,7	5985:4	5953:19	5896:13
5763:10	5884:17	<b>shorter-term</b>	5958:25	5932:14
5766:25	5955:6	5917:15	6008:5	5938:25
5767:4	5985:18	<b>short-term</b>	<b>sic</b> 5734:2	5939:6,17
5965:22	<b>shaded</b>	5919:8	5929:13	6009:2
5967:22	5840:11	<b>shot</b> 5729:20	5966:24	6011:6
<b>seven-ninety</b>	<b>shaken</b>	5770:11	<b>side-by-side</b>	6012:8
5951:15	5822:5	5996:7	6010:21	<b>similarly</b>
<b>seven-</b>	<b>share</b>	<b>showed</b>	<b>sign</b> 5968:3	5752:25
<b>ninety-</b>	5893:25	5733:25	5969:1,19	5753:9
<b>eight</b>	<b>shared</b>	5753:15	<b>signed</b>	5754:2
5760:21	5857:7	5892:9	5837:5	5836:14
<b>seventeen</b>	<b>sharp</b>	5896:1	5855:6	5900:8
5737:21	6013:15	5985:1	5923:11,21	<b>Simonsen</b>
5781:8,11	<b>shed</b> 5978:25	<b>showing</b>	5924:12	5739:7
5782:1,4,6	<b>sheet</b>	5745:14	5928:17	5921:11,12
5930:16,18	5763:18	5750:22	5947:11	6013:2,7,1
5961:1	<b>Shefman</b>	5751:2	<b>significant</b>	0
<b>seventh</b>	5722:21	5759:18	5755:17	<b>simpler</b>
5759:4	<b>she'll</b>	5770:6,7,1	5766:13,23	5912:2
<b>seventy</b>	5945:1	1,23	5791:3	<b>simplest</b>
5753:6	<b>shift</b>	5773:6,21	5854:12	5939:4
5756:8	5732:24	5821:20	5855:17	<b>simplistical</b>
5908:4	5761:14	5842:17	5865:25	<b>ly</b> 5958:1
5944:10	<b>shifted</b>	5896:13	5884:13,19	<b>simply</b>
6000:10	5761:15	<b>shown</b>	5886:24	5772:10
<b>seventy-</b>	5979:3	5754:14	5887:3	5781:22
<b>eight</b>	<b>shifts</b>	5760:17	5967:14	5808:15
5726:5		5768:1	6000:10	5827:23
5743:16		5771:1	<b>significantl</b>	5858:18
5747:4,19			<b>y</b> 5776:24	
			5819:16	

<b>single</b>	5873:5	6005:5	<b>sixty</b>	5837:17,22
5812:23	5877:19	6008:13	5788:13	,24
5876:1	5878:13	6009:17	5889:4	5838:3,20
5983:13	5879:4,18	<b>sit</b> 5791:23	5944:10	5841:7
<b>sir</b> 5778:5	5881:11,20	<b>site</b> 5724:19	5962:2	5842:16,21
5779:13,20	5882:22	5851:24	5971:14	5843:2,7,9
5780:9,11,	5883:4,9,1	5852:2	<b>sixty-eight</b>	,15,24,25
17 5781:4	9 5884:24	<b>sits</b> 5728:13	5789:1	5878:23,25
5783:2,11	5885:14	5731:11	5956:8,15,	5879:3
5784:6	5886:5,14	<b>sitting</b>	22 5960:17	5882:23
5785:11,15	5887:2	5938:18	5961:24	5892:20
,24	5888:11	5945:20	5969:5	5895:2
5786:14	5889:17	5977:13	<b>sixty-five</b>	5896:5,10
5787:20	5890:23	5979:14,15	5737:25	5899:19
5789:14,21	5892:22	<b>situation</b>	<b>sixty-nine</b>	5901:5,9
5790:13,23	5894:18	5764:23	5764:23	5915:1
5791:19	5904:5,13	5766:6	5768:15	5922:1
5792:9,15	5905:25	5730:23	<b>sixty-seven</b>	5926:6
5795:8,25	5906:13	5734:21	5815:21	5942:3
5796:12	5907:3,11	5932:9	<b>size</b> 5764:16	5943:14
5797:1,20	5911:10,18	5938:25	5778:21	5957:3
5803:14	,22	5981:17	5840:25	5975:24
5804:7	5912:22	5984:23	5968:21	5978:15
5805:11,14	5914:9	<b>six</b> 5742:6	<b>skills</b>	<b>slides</b>
,16	5921:23	5773:21	5844:6,13	5749:15
5806:13	5922:6,13	5785:19,20	<b>skip</b> 5756:22	5754:10
5807:3	5923:11	5786:2,3	5805:13	5760:17
5808:22	5925:14	5793:10	<b>slide</b>	5767:17
5814:5,9,1	5929:2,22	5814:3	5725:14	5768:7
5,21,25	5932:2	5815:20	5727:19	5769:6
5815:25	5947:8	5869:18	5732:17	5933:3
5816:4,7,1	5948:16,20	5872:4	5735:19	<b>slight</b>
7,24	5949:5	5903:18	5736:12	5761:6
5817:4,9,1	5951:7	5952:20	5737:7,13	5765:17
2,17	5952:2	5953:5	5739:3	<b>slightly</b>
5818:4,14,	5953:25	5954:6	5740:1	5800:16
25	5956:9	5960:18	5741:16	5819:2
5820:10,11	5959:6	5963:3,8	5750:22	<b>slower</b>
,19	5962:19	5964:7	5751:4	5912:2
5822:5,11	5974:13	5965:11	5752:3	<b>small</b>
5826:1,5	5976:21	5966:10	5757:18	5755:20
5827:10	5979:12	5968:12,15	5758:15	5761:17
5828:10	5981:19	5969:21	5785:17	5779:3
5829:16	5982:23	5972:14	5797:4,14	5905:25
5830:5,18	5987:7	<b>six-fourteen</b>	5798:22	5921:9
5833:12,20	5989:18	5973:14	5832:8	5951:23
5843:9	5990:2	<b>six-sixty-</b>	5833:15,23	5963:25
5853:16	5992:8	<b>two</b>	5835:24	5964:4
5855:24	5993:18	5973:14	5836:3,16	5989:6
5860:12	5995:16	<b>sixteen</b>		<b>smaller</b>
5861:19	5996:14	5760:20		5751:13
5864:5	6002:14,18			
5871:21	6003:8			
	6004:9			

5787:14	5839:16,22	5890:18	<b>spec</b> 5731:3	<b>stage</b> 5913:3
5794:1	5880:9	5892:10		
5819:3	5883:15	5893:19	<b>specific</b>	<b>stand</b>
<b>smaller-</b>	5928:20	5902:6,10	5781:17	5991:14
<b>scale</b>	<b>somewhere</b>	5904:18	5808:11	<b>standalone</b>
5778:23	5737:10	5913:15	5809:18,24	5881:4
<b>smart</b>	5738:10	5917:13	5852:21	<b>standpoint</b>
5746:12	5900:10	5925:8	5871:4	5787:5
5877:8,9	5916:17	5934:20,21	5913:7	5834:13
<b>snapper</b>	5918:21	5935:13	5935:18	5936:1
5895:2	5919:1	5937:11	<b>specifically</b>	5968:19
5899:19	5926:8,16	5941:4,20	5728:22	5984:18
5901:5	<b>sophisticate</b>	5944:21	5809:3	<b>start</b> 5727:4
<b>snappers</b>	<b>d</b>	5946:18,20	5837:5	5741:7
5892:15	5911:12,14	5947:5,21	5954:11	5813:8
5900:23	<b>sorry</b> 5735:4	5957:8	<b>specifics</b>	5814:1,12
5901:3	5737:11	5984:8	5872:17	5877:5
<b>snippets</b>	5753:19	<b>sounds</b>	5874:8	5898:12
5977:14	5756:23	5819:20	5875:23	5914:11,23
<b>solar</b>	5761:23	5847:18	<b>specified</b>	5922:21
5857:15,23	5769:7	<b>soup</b> 5845:19	5866:8	5925:15
5873:18	5780:11	5846:1,13,		5959:11
5886:16,21	5785:21	23 5876:21	<b>speculate</b>	5964:21
5887:2	5795:9	5877:4	5835:14	6000:24
5888:7,13	5804:16	5889:10	<b>speedier</b>	<b>started</b>
5889:16	5805:12,17	5914:6	5911:21	5750:22
5890:2,19,	5825:1	<b>source</b>	<b>spend</b>	5956:5
23,24,25	5834:22	5780:25	5793:19	5959:11
<b>solars</b>	5849:9	5809:21	<b>spending</b>	<b>starting</b>
5886:20	5852:16	5901:12	5786:24	5753:6
<b>sold</b> 5937:16	5870:9	5948:25	5942:21	5770:15
<b>Soldier</b>	5878:24	<b>sources</b>	<b>spent</b> 5810:5	5859:8
5721:15	5904:13	5725:12	<b>SPLASH</b>	5915:8
<b>solely</b>	5908:23	5777:14	5901:22,23	<b>starts</b>
5923:14	5921:8	5842:17	<b>split</b> 5744:9	5735:25
<b>solve</b> 5874:1	5926:20	5843:1,22	5747:24	5736:15
<b>somebody's</b>	5950:2	5915:5	5951:4	5737:4
5932:21	5952:9	<b>south</b>	<b>splitting</b>	5783:21
<b>somehow</b>	5959:8	5815:13	5786:11	<b>state</b> 5807:6
5919:3	5971:2	<b>space</b> 5926:1	<b>spoke</b>	5941:8
5969:7	5996:16	5927:9,11,	5743:17	5979:10
<b>someone</b>	6007:16	23 5945:22	5748:17	<b>stated</b>
5944:8	<b>sort</b> 5758:23	<b>speak</b>	5749:13	5820:16
<b>somewhat</b>	5770:14,15	5881:17	5762:15	5823:23
5755:9	5783:22	5986:8	<b>spot</b> 5979:23	5954:11
5784:22,24	5808:11,15	5992:15,20	<b>stack</b>	5980:6
5787:15	5837:3	5996:9	5945:23,24	<b>statement</b>
	5841:25	<b>speaking</b>		5767:8
	5864:16	5996:4		5790:23
	5867:1			<b>static</b>
	5873:25			
	5889:24			

5857:19	5963:2	<b>stronger</b>	5947:1	5880:14
<b>station</b>	<b>Stevens</b>	5828:12	<b>substantiall</b>	<b>suggesting</b>
5781:9	5781:22	5986:21	<b>y</b> 5955:12	5734:17
5874:14,20	5784:24	<b>structure</b>	6012:12	5787:13
5917:21	5785:4	5872:25	<b>substituting</b>	5814:14
5918:4,6	5788:6,10,	5874:5	5964:24	5825:6
<b>stations</b>	21 5794:25	<b>structured</b>	<b>subtitle</b>	5844:5
5785:24	5795:22	5738:6	5922:16	5851:4
<b>statistics</b>	<b>Stevens's</b>	5837:5	<b>subtract</b>	5853:10
5751:6	5786:6,19	5874:3	5815:19	5864:12
<b>statutes</b>	<b>stockholder</b>	<b>stu</b> 6000:25	<b>successful</b>	5869:17
5875:4	5984:15	<b>stuck</b>	5945:21	5888:1,6
<b>stay</b> 5784:19	<b>story</b> 5933:2	6000:25	<b>successfully</b>	5891:13
5822:17	5959:23	<b>studies</b>	5944:20	5908:17
5842:10	5960:24	5783:25	<b>suddenly</b>	5911:10
5959:12	5961:3	<b>studying</b>	5996:1	5960:3
6011:3	5973:19	5811:17	5998:21	<b>suggestion</b>
<b>stayed</b>	5976:22,24	<b>stuff</b> 5787:9	<b>sufficient</b>	5769:9
5757:16	5979:25	5831:23	5892:2	5860:9
5761:18	5980:3	<b>subject</b>	5925:10	5867:11
5953:1	<b>straight</b>	5814:11	5946:6	5895:4
<b>staying</b>	5772:24	5815:19	5963:12	5986:20
5819:22	5935:8	5848:14	5979:19,21	6007:24
5852:23,24	5958:20	5871:17	<b>sufficiently</b>	<b>suicide</b>
<b>step</b> 5770:21	<b>strategies</b>	5913:9	5941:14	5824:5
5771:2	5869:15,19	5921:10	<b>suggest</b>	<b>sum</b> 5765:3
5772:5,16	<b>strategy</b>	5933:1	5812:9,25	<b>summarizing</b>
5773:13,18	5870:5,12,	6001:23	5817:3	5987:21
,25	14	6003:24	5820:22	<b>summary</b>
5830:15	<b>stream</b>	<b>submission</b>	5824:15	5751:1
5837:8	5916:12	5792:17	5827:24	<b>sunk</b>
5867:24	5935:11,14	5793:2	5828:10	5987:13,16
5899:3	5936:20	5858:3	5845:20,23	5988:7
5963:5,7	5947:22	5896:20	5846:7	5989:3,10,
5976:6	<b>stretch</b>	5957:11	5861:9	11,15,24
5989:14	5892:18	<b>submit</b>	5865:6	5990:7
6010:3	5959:12	5812:5	5866:17	5991:5,14,
<b>stepping</b>	5999:7	<b>submitted</b>	5875:25	18
5770:14	<b>stretched</b>	5812:18	5883:11	<b>superimposed</b>
5771:24	5999:17	<b>Subsequent</b>	5886:20	5956:20
<b>steps</b> 5763:6	<b>stretching</b>	5742:8	5904:18	<b>supplanted</b>
5765:8	6001:14	<b>substantial</b>	5911:19	5911:11
5861:20	<b>strict</b>	5888:3	5985:10	<b>supple</b>
5863:10	5935:16	5894:25	<b>suggested</b>	5838:20
5866:17	<b>striped</b>	5913:16	5783:1	<b>supplement</b>
5867:10	5833:22	5924:21	5830:3	5895:22
5917:13	5837:17	5925:3,5	5845:2	5896:2
5984:3		5934:14	5861:4	5904:23
<b>step-wise</b>				

<b>supplied</b>	5846:21	5808:4	5855:24	5929:5
5742:1	5848:1		5950:17	5941:19
6007:10	5855:8	<b>swapped</b>		5948:8
	5861:15	5764:5	<b>taking</b>	5952:25
<b>supplies</b>	5862:13	<b>swing</b> 5971:4	5771:22	5957:19
5879:24	5864:25		5772:5	5982:23
<b>supply</b>	5873:13	<b>switch</b>	5788:22,25	5983:12
5807:8	5877:17	5997:21	5815:3,7	5994:22
5808:5,9	5882:2	<b>switching</b>	5821:15	5997:8
5836:11	5884:24	5736:1	5867:11	5998:22
5922:5,10,	5886:8	5903:11	5904:21	
20,21	5893:2	<b>system</b>	5936:23	<b>tandem</b>
5923:17	5898:10	5728:9,13	5975:20	5869:8
5924:24	5901:7	5730:4,5,1	5989:8	<b>tar</b> 5998:20
5925:4,5	5907:13	7	6006:19	
5926:10	5911:14	5776:11,15	<b>talk</b> 5733:5	<b>target</b>
5927:17	5924:3	,18,21	5741:5	5998:11,12
5928:12	5940:23	5777:7	5779:13	,22
5945:23,25	5945:8	5778:1	5863:16	6000:22
	5954:22	5810:23	5868:5	6001:1,15
<b>supply-side</b>	5955:15	5835:9	5917:10,17	<b>targeted</b>
5866:8	5968:21	5866:23	5933:22	5870:25
5873:7	5980:15	5867:13	5971:24	
5876:1	5989:10	5915:15,24	5997:21	<b>tasks</b>
<b>support</b>	5991:21	5920:3,18		5979:17
5925:11	5994:21	5922:9,23	<b>talked</b>	
5936:14	5995:4		5732:9	<b>tax</b>
5938:3	6006:2		5740:3,4	5745:15,16
	6008:4		5760:7	,18
<b>supposed</b>	6009:13	<b>Tab</b> 5785:14	5778:19	5756:12
5745:16		<b>table</b> 5723:1	5793:22	5761:7,8
6000:9	<b>surely</b>	5751:1,2,1	5795:4	5786:22
	5886:8	3,25	5802:13,15	5984:12
<b>sure</b> 5727:18		5752:1	5841:11	<b>TCN</b>
5733:3,4	<b>surmise</b>	5754:5	5881:21	5850:15,17
5734:13	5885:12	5783:10	5903:10	
5735:18		5831:21	5915:12	<b>TCN's</b>
5741:2	<b>surpassed</b>	5838:18	5929:24	5724:10
5768:14	5911:11	5839:1	5976:5	5850:15,21
5773:4	<b>surplus</b>	5841:11	5980:9	<b>team</b> 5868:21
5777:21	5733:22	5848:21		
5778:15	5835:10	5855:22	<b>talking</b>	<b>technical</b>
5781:18	5928:4	5884:1	5733:14	5724:3
5782:13	<b>surprised</b>	5919:14	5762:12	5739:5,9
5783:14	6010:20	5930:6,11	5768:14	5745:10,13
5788:17		5949:6,20,	5770:21	,25
5789:12	<b>surprising</b>	24 5950:25	5780:18	5746:7,10,
5798:12,25	5753:22	5956:4	5859:16	15,17
5800:1	6000:5	5965:14	5915:3,4	5748:12,25
5807:20	<b>suspect</b>	5974:19	5917:25	5749:18
5818:25	5813:18	5981:13	5918:4	5750:1,10,
5831:1			5920:14	25 5754:17
5832:18	<b>Sven</b> 5722:3		5926:20	5757:2
5834:1	<b>Swanson</b>	<b>tables</b>	5927:1	5759:8
5842:19	5807:4,5	5838:24	5928:20,25	5766:4



5804:16	5795:5	5892:7	5985:7	5789:3
5935:25	5816:21		5987:4	5790:6,12,
<b>techniques</b>	5839:14	<b>tests</b>	5993:8	24 5791:18
6012:6	5845:1	5890:10	6002:15	5793:4,5,1
<b>technologies</b>	5846:2,7,1	<b>thank</b>	6004:4	0 5794:14
5858:6	2 5848:17	5734:10	6013:6,16	5795:19,25
5888:14	5858:14	5769:14,24	<b>thanks</b>	5797:11,12
5889:6	5861:20	5772:12	5739:20	5798:1,18,
5891:1	5867:18,24	5775:25	5752:5	22
<b>technology</b>	5870:13	5776:1	5899:18	5801:2,22,
5739:21	5872:11,23	5778:2	<b>that's</b>	24 5804:11
5784:1	5875:19	5779:12	5728:2	5806:8
5887:20	5878:14	5780:15	5730:3	5808:12
5890:10	5879:19	5782:18	5731:12,16	5809:17
5911:18,20	5880:2	5785:14	,23	5810:12,13
<b>ten</b> 5755:5	5889:15	5786:1	5734:23	5811:7,13,
5781:11	5891:12	5787:2	5735:11	20 5814:16
5782:1,6	5894:9	5788:9	5736:20	5815:1,14,
5801:18	5898:10,11	5789:13	5738:20	24
5828:7	,14	5792:8	5739:7	5816:12,15
5896:21	5902:15	5794:15	5742:15	,25
5923:22	5909:1	5799:3,23	5743:24	5817:22
5925:17	5911:17	5800:20	5745:9,16	5818:5,19,
<b>tend</b> 5943:25	5912:8	5801:4,11	5746:15	20
5954:20	5913:8	5802:17	5749:23	5819:4,6,1
<b>tending</b>	5925:6	5803:5,14	5751:14	0
5774:11	5937:22	5804:5	5752:2	5820:3,15
<b>tends</b>	5940:25	5809:5	5754:2,6,7	5821:5,14
5984:21,23	5941:9	5820:7	5755:1,4	5823:7
<b>ter</b> 5870:25	5945:6	5824:2	5756:13	5826:2
<b>term</b> 5763:18	5978:16,17	5843:17	5758:15	5827:21
5778:16	5996:17	5852:5	5760:14,15	5828:1,4,1
5845:19	<b>test</b> 5728:22	5859:5	5762:10	5,23
5867:2	5729:21	5867:23	5764:1,2	5829:7,11
5937:13	5732:12	5869:11,12	5766:23	5832:2
5944:1	5854:15	5870:19	5767:5,8,1	5834:3
6005:10	5890:18	5874:8	0	5837:4,23
<b>terminology</b>	5905:4,7	5884:4	5768:1,2,1	5838:5
5846:25	5979:18	5892:12	4,18,23	5839:17,18
<b>terms</b>	<b>tested</b>	5895:1	5769:8,11	5840:18
5731:25	5858:2	5898:9	5770:25	5841:13
5734:15	5979:8	5913:23	5772:9	5842:3
5762:22	<b>testified</b>	5914:2,9	5773:17	5844:10,11
5765:19	5782:22	5921:13	5774:20	5847:12
5767:1	<b>testimony</b>	5925:12	5775:6,10	5848:22
5770:6	5778:11	5945:18	5777:4,21	5850:18
5777:8	5781:18	5949:18	5778:10,16	5851:23
5787:6	5782:23	5959:6,20	5779:6,11	5854:7,21
5788:20	5853:14	5961:8	5781:5	5856:3
	5954:1,2	5963:23	5782:14,24	5861:13
	<b>testing</b>	5970:7	5783:4	5863:1
		5979:12	5785:3	5864:11,14
		5981:14	5788:6	,24
		5982:20		5866:2,10,

24 5872:15	5966:9	5811:17	,16,21	<b>thirty</b>
5874:22	5968:8,22	5824:4	<b>they're</b>	5751:10
5876:3,10,	5969:12,20	5826:17	5728:16	5792:17
11,14,15	5970:13	5830:10	5737:24	5805:1
5878:5,11,	5971:2,23	5834:19	5761:2	5927:18
18,19	5972:18	5835:11,16	5791:14,21	5940:4
5879:13	5974:17	5839:9	5809:9	5944:16
5880:9	5977:24	5847:10	5831:25	<b>thirty-eight</b>
5884:19	5979:10	5848:12	5836:14	5927:19
5886:25	5981:15	5859:8	5876:5	<b>thirty-five</b>
5888:20	5982:12,13	5869:14	5883:6,7	5751:10
5889:7	,19,22	5873:23	5888:22	5752:15
5890:6,19	5983:1,9	5874:3	5896:18	5753:12
5891:3	5984:13	5887:19	5901:2	5756:15
5893:17	5986:8	5888:2,5	5935:9	5865:16,19
5897:7	5988:15	5889:21	5936:12,14	5906:15
5898:3,24,	5989:19	5895:21	,24	5942:24
25	5992:21	5896:19	5937:3,5,6	5944:16
5899:6,7	5996:19	5916:15	5939:3	5985:5
5901:8,18	5997:22	5917:14	5941:6	5996:15,16
5902:20	5999:19	5919:10,21	5955:17,18	<b>thirty-four</b>
5903:6,9	6000:19,20	,24	5964:18	5926:24
5905:23	6008:3	5920:23	5981:2	5928:13
5913:18	6009:19	5925:3,13	5991:10	<b>thirty-nine</b>
5915:7	6010:6,17,	5934:6,9,1	5992:20	5793:3,9
5916:1,16	18	9	5998:10	<b>thirty-one</b>
5919:16	6011:2,6	5935:6,17	6006:5	5764:23
5920:13	<b>then-CFO</b>	5936:3	6007:12,13	<b>thirty-six</b>
5921:12,25	5994:10	5937:23	<b>they've</b>	5906:3
5924:13	<b>therefore</b>	5938:8	5875:25	<b>tho</b> 5917:14
5926:11,18	6006:7	5941:24	5887:11,12	5948:9
5927:2,9,2	<b>there's</b>	5945:2	5922:1	<b>thorough</b>
3	5727:25	5946:11,24	5932:14	5862:16
5928:2,25	5728:24,25	5949:9	<b>third</b>	<b>thoughts</b>
5929:9,11,	5731:2,3	5958:25	5752:21,22	5857:8
15 5930:13	5732:3,4,6	5959:1,2	5785:10	5864:17
5935:3,4	,17	5963:25	5786:4	<b>thousand</b>
5936:9,25	5741:10	5964:3	5810:20	5779:22
5937:15,24	5755:19	5968:6	5820:8,11,	5780:19
5939:24	5760:5	5981:6	13,19	5903:17,18
5943:2,5	5761:5	5985:18	5823:22	5926:25
5944:8,9	5764:7	5987:7,10	5824:14	5927:19
5945:8	5766:8	5993:19	5825:22	5928:13
5947:4,20,	5771:4	5994:5	5833:18	<b>thousands</b>
21,22	5772:6	6006:17	5867:24	5997:6
5948:7	5776:23	6013:12	5871:9	<b>three-o-</b>
5949:19	5777:17,18	<b>thermal</b>	5892:21	<b>eight</b>
5951:4	5778:20	5736:13,17	5937:15	5774:18
5957:23	5783:9,22	5737:4	5948:18	
5958:24	5798:6	5920:4,10,	<b>third-party</b>	
5960:8	5808:4	15 5929:4	5810:22	
5961:2	5810:5,10	<b>they'll</b>	5811:4	
5962:12		5936:14,15		
5964:17				

<b>throughout</b>	5759:16	5987:23	<b>s</b> 5839:12	5813:24
5915:11	5782:10	5988:15	<b>travel</b>	5819:11
5932:7	5888:15	<b>transcripts</b>	5894:21	5840:12,19
<b>tie</b> 5832:3	5906:8	5987:20	<b>treatment</b>	,23 5846:7
5896:6	5922:4,11,	<b>transfer</b>	5759:13	5859:15
5965:25	13 5929:13	5729:2,7,9	5889:11	5862:23
<b>tied</b> 5775:9	5945:24	5745:19	5891:13,17	5897:3
5777:25	5983:11	5746:3	,22	5904:5,14
<b>tie-line</b>	6008:15	5761:9	<b>trends</b>	5912:25
5895:10	<b>topic</b>	5772:3	5782:19	5913:15
<b>timings</b>	5933:13	<b>translate</b>	5783:25	5934:3
5897:5	<b>total</b>	5925:8	<b>triangulate</b>	5935:25
<b>title</b>	5765:18,19	<b>translates</b>	5831:12	5981:15
5920:23	5912:8	5760:23	<b>tribunal</b>	<b>tune</b> 5958:10
<b>today</b>	5915:12	<b>transmission</b>	5859:18	<b>turbine</b>
5728:14,20	5919:19	5728:4,6,1	<b>tried</b> 5763:6	5778:23
5731:6,11	5920:22	8	5978:16	<b>turbines</b>
5740:14	5946:21	5729:4,24	5981:8	5788:23
5749:13	5951:15	5733:9	<b>triggered</b>	5795:17
5750:7	6009:4	5736:2	5743:4,5	5944:15
5761:23	<b>totality</b>	5763:8,20	<b>trouble</b>	<b>turn</b> 5735:19
5765:12	5955:25	5764:19	5897:4	5775:21
5831:21	<b>towards</b>	5766:23	<b>true</b> 5839:21	5805:24
5857:11	5860:7	5767:13	5938:16	5811:21
5863:1	5991:1	5770:24	5992:5	5820:5
5872:9	<b>tra</b> 5763:20	5771:5,16	6000:20	5836:16
5889:1	5903:10	5772:8,17,	<b>try</b> 5727:16	5849:1
5893:12	<b>tracks</b>	19,22	5758:23	5852:6,21
5914:2	5946:18	5781:2,9,1	5764:4,9	5858:25
5930:6,22	<b>tradeoff</b>	4,20,22,24	5765:4,9	5860:7
5937:21	5873:24	5782:5,7	5767:11	5868:8
5939:22	<b>traditional</b>	5815:13	5775:8	5869:12
5980:9	5869:25	5835:9	5798:24	5871:25
6013:12	<b>trailing</b>	5836:23	5809:21	5875:7
<b>today's</b>	5753:3	5839:2,15	5817:25	5882:17
5727:5	<b>training</b>	5881:6	5818:2	5883:20
5840:13	5724:11	5896:1,8	5891:14	5892:20
5886:22	5850:17,23	5900:21	5909:25	5905:17
6013:14	<b>tran</b> 5766:22	5903:7,13,	5982:11	5910:22
<b>Todd</b> 5743:6	<b>trans</b> 5729:3	22	5995:12	5914:18
5947:10	5771:22	5904:4,16	6002:9	<b>turned</b>
<b>to-do</b>	5875:9	5905:5	<b>trying</b>	6010:25
5912:19,22	<b>transcript</b>	5963:9,11	5730:12	<b>turning</b>
5913:4	5723:16	5966:4	5759:11	5837:21
<b>tomorrow</b>	5744:17	6002:2,5,1	5766:11	5905:10
6008:1	5851:5	8	5768:18	5912:7
6013:15	5853:15	6003:11,21	5770:12	<b>turns</b> 5941:3
<b>top</b> 5730:13	5858:16,25	,25 6005:7	5773:25	<b>twelve</b>
5751:18		6006:13,15	5775:17	5786:24
		6007:6		5931:5,8,1
		<b>transmission</b>		

0 5965:11	5881:12	5730:11,12	5876:16	5872:10
5966:9	<b>types</b> 5779:5	,13 5733:4	5878:7,19	5873:9
<b>twenty</b>	5858:1	5734:13	5881:16	<b>undertaking</b>
5751:10	5948:19	5770:8	5882:4	5785:14
5752:16	<b>typical</b>	5791:5,7	5893:13	5791:6
5753:12	5786:25	5795:25	5894:1	5798:21
5756:16	5872:22	5798:13	5897:20	5799:6
5787:25	5932:18	5799:18	5911:6	5800:25
5788:1,23	<b>typically</b>	5800:2	5912:14	5801:6
5795:17	5867:22	5806:22	5913:17	5803:7
5853:19	5873:10	5807:21	5924:2	5843:15,20
5929:8	5934:12	5819:11	5925:6	5850:13
5937:17		5831:25	5926:4	5851:2
5942:6,20		5833:21	5934:19	5856:11,23
5944:17	<hr/> U <hr/>	5838:3	5942:5	5863:8
5947:13,17	<b>ultimate</b>	5842:1	5945:12	5864:1,2
5956:15,23	5889:12	5854:23	5947:21	5865:9
5963:21	<b>ultimately</b>	5855:9	5954:12,24	5907:24
5973:9	5876:12	5873:5	5955:17	5908:1
5985:5	5935:5	5890:23	5982:6	5909:15
<b>twenty-eight</b>	<b>una</b> 5938:10	5901:7	5989:18,20	5910:11
5785:20	<b>uncertainty</b>	5902:14	5990:2,10	5940:22
5786:3	<b>s</b> 5777:12	5903:16	5993:7,24	5975:8
<b>twenty-five</b>	5942:16	5904:3	5994:3	5976:4,11,
5738:15	<b>uncertainty</b>	5924:3	5996:19	17 5991:25
5756:16	5741:13	5927:16	5998:5	5992:9
5787:24	5742:4	5930:11	6001:25	6004:10,22
5788:4,6,2	5743:11	5933:2	6009:24	6007:2,18
4 5795:17	5744:11	5934:23	<b>understands</b>	6008:5
5849:24	5745:7	5935:25	5893:2	<b>undertakings</b>
5946:7,8	5747:20	5942:25	<b>understood</b>	5723:4
<b>twenty-four</b>	5750:12	5945:12	5735:5	5725:1
5974:2	5854:12	5949:20	5744:19	5726:1
<b>twenty-seven</b>	5917:18	5954:9,13	5770:1	5785:16
5738:13	5946:4	5955:21	5917:16	5913:11
5758:16	5955:19,23	5977:17	5954:2	<b>undertook</b>
5759:20	<b>uncomfortabl</b>	5981:11	5966:3	5854:17
<b>twenty-two</b>	<b>e</b> 5861:12	5987:9	5970:6	5898:15
5789:24	<b>undercut</b>	5994:22	5979:18	<b>unfair</b>
5791:25	5889:6	5995:12	<b>undertake</b>	5792:6
<b>two-fifty</b>	5890:20	5998:2	5842:25	<b>unfortunatel</b>
5763:8,9	5896:3	6003:19	5856:18	<b>y</b> 5746:7
5764:19	<b>underestimat</b>	<b>understandin</b>	5907:16,19	5810:12
5772:25	<b>ed</b> 5787:21	<b>g</b> 5815:15	5909:6	<b>unit</b> 5836:11
<b>tying</b>	<b>underlaying</b>	5822:25	5979:18	<b>units</b>
5930:24	5725:14	5823:8	<b>undertaken</b>	5997:13
5965:16,21	5843:2,24	5831:19	5725:18	<b>unless</b>
<b>type</b> 5792:15	<b>understand</b>	5834:13	5784:24	5934:13
5873:8,20	5727:17	5837:4	5848:15	5937:23
5879:18		5840:8	5856:12	5938:19,20
		5847:13	5857:1	
		5852:12	5860:22	
		5873:2		

<b>unleveraged</b>	5795:4	5955:1	<b>valuation</b>	5960:17
5982:21	5798:6	5959:15,16	5740:5	5961:23,25
5983:3	5799:1,8	6013:20	<b>value</b>	5962:8
5985:3	5802:22	<b>upside</b>	5743:15,18	5963:20
6011:4	5803:2,7	5936:22	5745:5	5965:6,11,19
<b>unlikely</b>	5815:7	5955:11	5749:18,20	5966:11,18
5845:22	5820:12	5959:1,2	5751:7,8	5967:13
<b>unreasonable</b>	5838:7,12,22	5972:7,12	5752:7,11,12,13	5968:25
5893:18	5839:24	<b>US/Canada</b>	5753:10,11,16,19	5969:2,5
<b>unusual</b>	5840:25	5809:9	5755:3	5973:6
5932:8	5893:4	<b>useful</b>	5758:7,10,16	5978:17
<b>update</b>	5930:1	5980:4	5763:2	6010:1,10,17
5739:20	5933:3	5983:12	5764:16,19,22	6011:9,10,25
5740:14,23	5942:4	<b>usually</b>	5765:18	6012:1,11,14
5741:18,25	5948:6,20	5874:3	5766:4,13,15	<b>values</b>
5743:9,11	5949:2,5,6	5944:16	5767:12	5748:16
5744:5,9	5951:1,7,8	5963:19	5768:6,19	5751:9
5748:22	5953:18	<b>util</b>	5770:7	5760:10
5749:7,11,22	5960:8	5905:2	5771:17	5770:6
5750:14,23	5974:13	<b>utilities</b>	5773:8,20,21	5804:8
5753:7	5975:24	5721:3,21	5775:13,16	5809:11
5754:7,11	5986:16,22,23	5810:19,25	5787:9	5834:24
5755:21	5999:23	5811:17	5790:24	5884:20
5760:1	6003:14	5859:18	5797:7	5964:23
5762:4	<b>updates</b>	5869:6,9	5800:7	5973:7
5802:15	5758:22	5923:13	5814:14	5975:20,25
5804:2	5802:12	5932:12	5815:3	5989:16
5814:3,4,7	5822:1	<b>utility</b>	5817:11,20,23	<b>value's</b>
5819:23	5838:14,23	5811:8,15	5818:3	5730:14
5832:12	5982:4,7	5866:5	5826:17	5775:11
5838:9,22	5985:11,12	5869:5	5827:24	<b>Van</b>
5840:6	<b>updating</b>	5939:4	5828:3	5722:8
5877:22	5912:17	5983:22	5841:16,22	<b>varia</b>
5892:23	5913:9	5984:18	5873:3	5776:16
5949:3	<b>upon</b>	5991:16	5894:22	<b>variability</b>
5951:21	5727:1	<b>utilize</b>	5897:15	5776:17
5952:7	5769:17,18	5730:16	5900:18	<b>variable</b>
5973:19	5796:1	<b>utilized</b>	5924:23	5998:10
5974:7	5819:25	5737:5	5951:17	<b>variant</b>
5975:19	5837:17	<b>utilizing</b>	5953:11,19	5955:12
5981:2	5838:3	5905:2	5954:2,5,14,21	<b>variety</b>
5985:9	5840:3	<hr/>	5955:2,3,8,12,13,15,19	<b>various</b>
<b>updated</b>	5850:1,2	<b>v</b>	5956:7,8,14,21,23	5827:8
5725:4,7	5865:16	<b>vaccination</b>	5957:1,20	5869:23
5739:22	5866:22	5845:23	5958:7	5908:13
5744:8	5879:5	5846:2,13		5915:3
5749:2,3,15,23	5889:1			
5750:11	5891:23	<b>vaccine</b>		
5762:3	5893:19	5876:21		
	5912:17	<b>val</b>		
	5914:14,15	6011:10		
	5924:23			

5940:19	5760:24	<b>vintage</b>	5839:18	5751:19
<b>vary</b> 5933:24	5819:17	5741:12	5893:14	5798:25
5936:1	5820:1	5743:10	5978:10	5814:22
<b>ventures</b>	5821:8	<b>virtue</b>	<b>waterfalls</b>	5815:18
5932:22	5824:17	5733:18	5894:20	5816:2
<b>venue</b>	5825:8	5927:17	<b>watt</b> 5823:10	5828:19
5982:11	5826:9	<b>visual</b>	<b>ways</b> 5728:25	5829:4
<b>verify</b>	5840:5	5948:14	5729:9	5832:7
5848:6	5843:6	<b>volume</b>	5750:16	5846:20,21
6007:8	5854:8	5724:20	5774:9	5847:2,3
<b>Vermont</b>	5857:21	5921:7,10,	5862:23	5849:5
5811:15	5887:14	15 5945:16	5980:13	5858:19
<b>versions</b>	5918:25	6002:14	<b>weakness</b>	5859:7,23
5949:4	5921:21	6008:11	5795:5	5863:25
<b>versus</b>	5926:7		<b>we'd</b> 5812:5	5865:9
5740:23	5927:9		5835:4,18	5869:14
5741:8	5930:1		5894:4	5874:8
5747:18	5932:21		5926:17	5896:5
5750:2	5936:18		5928:8	5909:14
5751:19	5937:5		5947:16	5918:8
5757:5	5946:1		5948:2	5919:22
5758:11	5952:8		5960:20	5949:6
5762:11	5983:25		5961:19	5980:23
5775:19	5991:5,25		5999:9	<b>we're</b> 5728:8
5797:21	5992:2		6003:1	5736:16
5798:7	5993:1		<b>week</b>	5739:13
5817:21	<b>viewed</b>		5742:3,21	5745:14
5829:23	5746:2		5765:7	5754:15
5833:9	5760:16		5812:20	5757:2
5846:10	<b>viewing</b>		5864:8	5763:15
5883:2	5940:16		5952:7,8	5768:14
5897:11	<b>viewpoint</b>		<b>weekend</b>	5770:11,21
5904:6,15	5759:9,10		5820:24	5773:24
5931:11	5762:2,8,1		<b>weeks</b> 5853:4	5787:5
5933:20	0		5952:9	5798:25
5938:12	<b>views</b> 5854:2		<b>weight</b>	5819:1
5941:2	5933:14		5862:16	5822:14
5956:15	5987:2,3		5925:5	5825:11
5958:4	5992:23		<b>weighted</b>	5842:11,14
5988:18	<b>VII</b> 5724:20		5943:12	5848:14
6011:10	5921:10,15		<b>Weinstein</b>	5851:4
<b>verus</b>	5945:16		5722:24	5852:6,12
5762:13	<b>Vill</b> 5769:6		<b>welcome</b>	5859:9,10
<b>viable</b>	<b>Villalus</b>		5859:14	5878:21
5874:4	5769:7		5868:24	5884:16
<b>view</b>	<b>Villegas</b>		5914:3	5889:8
5745:12,14	5769:10		<b>we'll</b>	5892:11
,20,22	<b>Vince</b>		5739:17,20	5893:25
5759:20	5994:10			5898:3
		<b>water-based</b>		5912:12
		5776:11		5913:25
		<b>waterfall</b>		5914:1,17,
				24

5915:3,4,7	5841:11,15	5853:17,18	5723:12	5804:4,15,
5916:4,14,	5848:21	,24	5769:4,10,	21
24	5857:24	5859:16	12	5805:11,19
5917:10,25	5881:20,21	5874:10	5775:24,25	,23
5920:13	5889:11	5877:8	5776:13,19	5806:3,9,1
5922:19,20	5892:25	5879:20	5777:5,16	5,19
,22	5909:24	5889:22	5778:2,9	5807:2,11,
5923:2,9	5915:10,12	5897:13	5779:8,12,	23
5924:9	5917:1,17	5898:5	20	5808:1,13,
5926:11	5918:4	5909:18	5780:5,9,1	22 5809:4
5927:11	5923:16,17	5927:9	5,22	<b>Williams</b>
5930:14	5924:15	5930:7	5781:1,4,6	5722:10
5932:5	5928:19,25	5931:18	,21	5723:13
5935:22	5936:10,11	5955:4	5782:12,18	5769:2
5939:17	5945:8	5957:18,19	,25	5811:22,25
5942:24	5946:4	5978:7	5783:5,11	5812:1,4,1
5950:17	5947:9	5979:19,20	5784:5,11,	6,17
5952:25	5948:16	,23	23	5813:6,7,1
5957:15	5949:14	5980:2,19,	5785:13,23	7,20
5958:1	5951:20	20 5984:14	5786:1,6	5814:7,11,
5960:12,14	5954:18	5985:19	5787:2,18,	17
,25	5955:2,3	5986:2,4,1	19	5815:2,6,1
5961:11,23	5957:9	8 5988:3	5788:5,9,1	0,16,24
5962:7	5961:9	5989:4	9	5816:2,9,1
5964:11,13	5964:22	5991:11,15	5789:7,13,	3,16,21
5967:6	5965:2,4	5992:2	19	5817:1,7,1
5968:2,11	5967:20,22	5997:5	5790:12,20	6,19
5970:10	,25 5970:8	6001:14	,22	5818:4,13,
5971:10	5972:6	6003:5,8,9	5791:18	24
5972:25	5976:21,23	,19 6005:7	5792:3,5,8	5819:10,22
5978:17	5977:7	6007:3,13	,14	,25
6001:17	5980:9,16	6009:3	5793:1,7,1	5820:4,18
6007:8	5982:23	6012:16	3	5821:1,7,2
<b>wettest</b>	6002:8	<b>whichever</b>	5794:7,10,	5
5916:19,20	6011:2	6012:15	15,19,25	5822:11,16
,21	6012:23	<b>white</b>	5795:11,14	5823:1,9,1
<b>we've</b>	<b>whatever</b>	5923:15	,21	3,21
5732:8,9	5865:3,4	5926:1	5796:8,14,	5824:2,12,
5739:13	5913:10	5927:9,11,	17,19,22,2	24
5746:8	5955:5	23 5945:22	5	5825:1,4,5
5749:14	<b>where's</b>	<b>whole</b>	5797:11,18	,14,20
5750:11	5749:20	5839:18	,19	5826:3,15,
5759:6	<b>whether</b>	5961:10	5798:4,17,	19
5762:14,20	5728:22	<b>who's</b> 5944:8	20	5827:10,15
5770:2	5766:7	5945:20	5799:3,11,	,22
5786:22	5782:13	<b>whose</b> 5807:4	12,20,23	5828:2,6,9
5787:22,24	5793:14	5857:15	5800:13,20	,19,24
5788:2	5799:15	<b>wildly</b>	,24	5829:3,9,1
5793:22	5808:25	5945:20	5801:4,8,9	2
5806:24	5818:7	<b>William</b>	,21,25	5830:1,17
5811:18	5824:12	5722:12	5802:4,17,	5832:5
5826:3	5830:15		25	5833:3,12,
5835:7,13			5803:5,13,	20 5834:5
			14,19,24	

5835:22,23	23	21	5810:20,22	5868:16
5836:1,2,1	5869:11,22	5904:1,9,1	5811:1,7,9	<b>Wojczynski</b>
5,20,25	5870:3,11,	3	,12	5859:14
5837:9,12,	17,21,23	5905:10,15	5834:14,22	<b>won</b> 5868:8
16,21	5871:3,7,1	,22	5835:3,5,1	<b>wonder</b>
5838:2,6,9	4,20,24	5906:6,13	2	5734:12
,13,25	5872:8,16	5907:2,9,1	5857:15,23	5826:22
5839:5,9,1	5873:4,12	5,21	5873:18	5848:25
3,20	5874:7,17,	5908:10,11	5876:7	5862:8,10
5840:1,20,	22,25	,16,22	5885:11,15	5868:8
22 5841:8	5875:6,14,	5909:5,16	,25	5875:7
5842:10,14	18	5910:5,9,1	5888:12	5909:6
,20,24	5876:5,12,	5,20	5891:12,14	6013:11
5843:8,13,	17	5911:1,5,9	,18 5892:2	<b>wondering</b>
18	5877:1,4,1	,16	5920:22	5730:15
5844:3,4,8	3,19	5912:6,12,	5937:14	5864:9
,12,18,24	5878:1,6,1	16,21,25	<b>Wind/</b>	<b>worded</b>
5845:5,16	2,21	5913:13,20	<b>Conawapa</b>	5910:6
5846:6,16,	5879:3,10,	5914:4,8	5801:19	<b>wording</b>
20	17	5977:7	5835:17	5976:25
5847:2,10,	5880:4,13	<b>willing</b>	<b>wind/gas</b>	<b>work</b> 5724:19
14,17,22	5881:11,20	5937:24	5800:16	5742:9
5848:5,8,1	5882:3,10,	5941:14	5801:18	5749:2
3,25	16,22	5992:8	5835:7	5753:8
5849:5,10	5883:1,6,9	<b>wind</b> 5725:8	5885:15	5807:5
5850:12,14	,18	5776:6,20,	<b>Winnipeg</b>	5831:23
5852:7,9,1	5884:4,24	22	5721:23	5835:20
0	5885:4,8,1	5777:1,2,7	5864:9	5843:12
5853:6,16	4,23	,10,11,14,	<b>winter</b>	5846:23,25
5854:1,6,1	5886:3,13,	18,23	5777:23	5851:24
4,22	19	5778:7,23	5879:7	5852:3
5855:8,13,	5887:1,6,8	5779:10,14	<b>Wisconsin</b>	5866:13
23	,13	5780:4	5771:25	5868:18
5856:4,9,1	5888:4,10	5784:12,15	5822:23	5869:9
9,20	5889:9,15	,17	<b>wise</b> 5755:5	5913:8,24
5857:5,6,1	5890:13,22	5786:8,17,	5862:11	5924:15
3	5891:4,10,	20	<b>wish</b> 5830:8	5992:3
5858:4,13,	20	5788:2,12	5831:8	6002:12
23,24	5892:12,19	5789:2,9,1	<b>wished</b>	6011:5
5859:13,22	,25	4,23	5850:15	<b>worked</b>
5860:6,14,	5894:15	5790:1,2,2	<b>wishes</b>	5811:5
20,25	5895:1,9	5 5791:3	5913:19	5936:11
5861:4,8,1	5896:4,10,	5794:12	<b>withdraw</b>	5728:1,6
7,18	15,25	5795:22,24	5865:9	5730:4
5862:1,13	5898:9,14,	5796:5	5908:24	5763:15
5863:5,6,2	21	5797:7	<b>witness</b>	5860:10
0	5899:2,18,	5801:14	5854:3	5869:8
5864:2,25	23	5803:2,9	<b>witnesses</b>	5881:14
5865:5,13,	5900:3,15,	5805:16		5932:12
14,24	22	5806:6,11		
5866:3,12,	5901:4,16	5808:6,8,1		
16	5902:13,18	2,16,24		
5867:9,23	,21	5809:8,22		
5868:5,13,	5903:5,15,			



6005:22	5923:12	5740:2	5860:9,16	5964:8
6006:4	5928:17	5742:18	5870:4	
6007:8	5945:24	5745:25	5879:4	
<b>works</b>	5952:11,14	5748:17	5883:19	
5846:15	,18	5751:3	5900:24	
5977:2	5953:5,19	5752:3	5906:8	
	5954:6	5754:13,20	5907:19	
<b>world</b>	5959:22	5759:18	5910:6,7	
5805:24	5962:9	5762:15	5993:18	
5894:3	5967:25	5765:9	<b>yours</b>	
5926:7	5968:3	5770:1	5822:18	
5946:1	5969:1,17,	5778:19	<b>you've</b>	
5952:8	20 5970:11	5797:4,14	5735:7	
5981:1	5973:7	5813:9	5760:11	
5987:15	5974:14,16	5820:5	5773:22,24	
5988:19	5976:23	5824:3	5788:23	
5991:4,17	6006:14,23	5831:10,15	5804:6,7	
<b>worry</b>	<b>wrap</b> 5813:24	5832:4	5805:14	
5972:16	<b>write</b>	5837:3,12,	5809:15	
<b>worse</b>	5878:13	25 5839:19	5818:5	
5965:18	<b>writing</b>	5840:10	5824:8	
<b>worth</b>	5864:17	5844:5	5843:5	
5809:23	<b>written</b>	5852:23	5852:23	
5961:13	5850:11	5865:16	5857:7	
5962:22	5863:8,17,	5878:14	5860:25	
5965:3	21 5864:16	5897:19	5861:4	
<b>woul</b> 5782:20	<b>wrong</b>	5898:16	5863:6,7	
<b>WPS</b> 5740:21	5751:24	5901:6,20	5877:20	
5763:13,18	5753:3	5932:10	5888:5	
,19 5764:5	5780:11	5956:19	5891:10	
5766:6,8	5934:4	<b>yet</b> 5770:5	5909:23	
5767:14	<b>Wuskwatim</b>	5906:24	5913:24	
5768:3,11	5874:13,19	5945:4	5919:1,2,5	
5773:20	5994:8	5979:6	5929:5,24	
5774:15,18		5992:16,17	5933:3,13	
,24		<b>yield</b>	5942:19,22	
5775:5,16	<hr/>	5773:7,8	5948:1	
5815:4,12,	<b>Y</b>	5999:18	5949:5	
25 5816:14	<b>year-by</b>	6000:9	5955:20,21	
5818:7	5747:7	<b>York</b> 5932:17	5968:16	
5820:12	<b>year-by-year</b>	<b>you'll</b>	5969:9	
5821:11,16	5748:21	5736:11,12	6003:17	
5823:5,14,	<b>yell</b> 5844:14	5743:20	<b>Yup</b> 5921:4	
18,19	<b>yellow</b>	5744:24	<hr/>	
5831:17,18	5923:12,19	5754:11	<b>Z</b>	
5832:1	5927:3	5758:18	<b>Zavadil</b>	
5836:4,5	<b>Yep</b> 5976:3	5815:18	5810:8	
5837:1,4	<b>yesterday</b>	5818:25	<b>zero</b> 5754:22	
5839:2,10,	5734:14	5827:17	5755:10,14	
11	5738:21	5837:23	,16	
5900:18,19		5853:8	5764:11,14	
5917:24		5859:8,24		