

Manitoba Industrial Power Users Group Book of Documents – Volume 1
 Manitoba Hydro 2017/18 and 2018/19 GRA

Tab #	Description	Reference
1	2004 General Rate Application Transcript	June 14, 2004, transcript pages 201 - 206
2	2012/13 and 2013/14 General Rate Application Transcript	January 7, 2013, transcript pages 2221 - 2224
3	2010/11 and 2011/12 General Rate Application Transcript	March 2, 2011, transcript pages 3622, 3628 - 3632, 3651 - 3661, 3701 - 3708, 3712 - 3714
4	Board Order 32/09 references (directives regarding risk review)	Pages from Exhibit MIPUG-8 in 2010/11 & 2011/12 GRA
5	October 2010 – Manitoba Hydro Corporate Risk Management Report pages	Exhibit MIPUG-9 in 2010/11 & 2011/12 GRA
6	Needs For and Alternatives To Review Transcript	March 14, 2014, transcript pages 2559 - 2562
7	Needs For and Alternatives To Review Transcript	March 21, 2014, transcript pages 3240 - 3252, 3294 - 3296
8	Boston Consulting Group Presentation pages	PUB-MFR-72, pdf pages 136, 220, 296

TAB 1

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MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO
2004 GENERAL RATE APPLICATION

Before Board Panel:

- Graham Lane - Board Chairman
- Lens Evans - Board Member
- Robert Mayer - Board Member

HELD AT:

Public Utilities Board
400, 330 Portage Avenue
Winnipeg, Manitoba
June 14th, 2004
Volume I
Pages 1 to 232



1 at this time?

2 MR. VINCE WARDEN: Yes, I believe that's a
3 correct term.

4 MR. BOB PETERS: All right. It would be
5 available to be either advanced or requested to be advanced
6 by either party, or I suppose, there could be -- excuse me --
7 there could be a joint request to discontinue the matter?

8 MR. VINCE WARDEN: Yes.

9 MR. BOB PETERS: One (1) of the directives
10 that was also asked of Manitoba Hydro was to file a detailed
11 debt management strategy. Do you recall that, Mr. Warden?

12 MR. VINCE WARDEN: Yes, I do.

13 MR. BOB PETERS: Would it be correct to say
14 that there's not a detailed policy in place on that -- on a
15 debt management at this point in time?

16 MR. VINCE WARDEN: We don't have a detailed
17 policy per say. There's nothing really complicated about
18 managing our debt as I -- as I think I mentioned -- alluded
19 to in my opening remarks. But we don't have the paper that I
20 can put before the Board at this time just describing that
21 process.

22 MR. BOB PETERS: I gathered from the
23 materials filed, Mr. Warden, that there was going to be an
24 effort to present a policy, or at least a report or paper, to
25 the Manitoba Hydro Board in early 2004 on the subject of debt

1 management.

2 MR. VINCE WARDEN: It's certainly been
3 discussed with the Board but there hasn't been a document
4 that I can bring from the -- from the Board to the -- to this
5 proceeding at this point in time.

6 MR. BOB PETERS: Can you advise the Board at
7 this time as to what is the status of the Manitoba Hydro's
8 review of the debt management strategy?

9 MR. VINCE WARDEN: It's, I guess best
10 described as a work in progress. But I -- it's just one of
11 those things that has not been completed because of other
12 priorities. It's -- it's not a huge task to -- to complete
13 it by any means. I wouldn't want to leave that impression.

14 So, I will endeavour to provide an update be
15 -- on the status of that within the next few days.

16 MR. BOB PETERS: Okay, that -- that's really
17 where I was -- was going Mr. Warden. My recollection is that
18 the PUB had suggested Hydro consider being more aggressive in
19 reducing its debt and wanted Hydro to look at that as part of
20 its review. Is that your understanding?

21 MR. VINCE WARDEN: Well, that was certainly
22 the -- one (1) of the recommendations in -- in the Public
23 Utilities Board Order, of course reducing -- there's all
24 kinds of implications as Ms. Wray indicated earlier.
25 Reducing debt means that we have to do things that would

1 incur other risks that may not be desirable. So, reducing
2 debt, in itself is probably not a isolated objective.

3 MR. ROBERT MAYER: Mr. Warden, reduce -- we
4 talked about reducing debt. We -- we've already brought into
5 this Hearing, at least once, that a part of the IFF is
6 predicated upon advancing Wuskwatim to an in-service date;
7 and we'll still use 2010 because I've been listening to that
8 date for four (4) months now.

9 I -- I am assuming that when we're talking
10 about increasing debt, we're talking-- or decreasing debt,
11 we're talking about that decreasing that debt other than the
12 extraordinary debt which Hydro is has always assumed would
13 occur when you are talking of construc -- constructing new
14 generation facilities.

15 Am I correct in that assumption?

16 MR. VINCE WARDEN: Well, Mr. Mayer, if I can
17 -- I'm not sure I'm going to answer your question quite as
18 directly as you might like, but, if we -- anytime we're
19 expanding as we are with -- expect to be with Wuskwatim then,
20 of course, reducing debt is -- is not possible, nor is it
21 desirable because debt is good; that's where we get our
22 source of funds. So borrowing for purposes of growth, as I
23 indicated earlier, is a good thing to do. It's good for
24 Manitoba Hydro; good for its ratepayers.

25 So reducing debt is -- is contrary to the

1 whole concept of growth and in itself is not -- is not a good
2 objective for Manitoba Hydro.

3 So in the absence, though, of a major project
4 like Wuskwatim or a major transmission line, then reducing
5 debt should normally occur as long as our capital coverage
6 ratio that we talked about earlier exceeds one. So we're --
7 we're generating funds over and above the funds needed to
8 fund capital construction, and therefore, any excess of funds
9 can be used to reduce debt.

10 MR. ROBERT MAYER: Okay. Then what you're
11 telling me sounds like doing this reducing debt plan in a
12 period of projected expansion because I'm having a little
13 trouble forgetting what I've heard for the last four (4)
14 months. I mean, we have talked about Wuskwatim. We've
15 talked about Bi-Pole 3 and we talked about the possibility of
16 Gull and/or Conawapa over the next number of years depending
17 upon certain other things happening.

18 Are we asking you to do an exercise in
19 futility by preparing this report?

20 MR. VINCE WARDEN: Somewhat, I would agree
21 with that. Yes, it's a difficult concept to explain but I
22 understand that it's one that we should do. We should just
23 explain what the debt management strategy is of Manitoba
24 Hydro because I think there is a concern -- an unfounded
25 concern, I would say, that Manitoba Hydro's debt is too high

1 and that is definitely not the case, as I indicated in my
2 opening remarks.

3 As long as the fixed assets exceed the debt,
4 then that's a good thing. So we're investing in assets for
5 the growth of -- of the Utility and that's been the approach
6 of Manitoba Hydro ever since we -- we were formed in -- in
7 1961.

8 So the debt has gone up each and every year
9 since that date and as long as we're growing, that's good and
10 I would encourage that. Somehow I'll have to put that into a
11 paragraph or two (2) that I can file with this proceeding so
12 everybody can understand that.

13 THE CHAIRPERSON: Debt management isn't
14 necessarily a plan for absolute aggregate debt reduction. It
15 presumably could be a description of -- of managing within
16 all of the various financial ratios.

17 MR. VINCE WARDEN: And perhaps, Mr. Chairman,
18 that's probably the best approach we can take. We can
19 probably file a paper that details our debt management
20 strategy for the next year or so which Treasury prepares on
21 an ongoing basis and that just indicates the -- the
22 borrowings we will undertake, from where, from what source,
23 whether it be Hydro bonds, short term, long term.

24 So that debt management is something we do
25 every day and that's probably what should be filed in these

1 proceedings.

2

3 --- UNDERTAKING NO. 2: Provide Board with details of
4 debt management strategy.

5

6 THE CHAIRPERSON: I agree. Mr. Peters, could
7 we take five (5) minutes and we'll come back and then we're
8 going to close at 4:00 today.

9 MR. BOB PETERS: Yes, sir.

10 THE CHAIRPERSON: Thanks, we'll be back in
11 five (5) minutes.

12

13 --- Upon Recessing at 3:10 p.m.

14 --- Upon resuming at 3:20 p.m.

15

16 THE CHAIRPERSON: Mr. Peters, do you want to
17 continue?

18 MR. BOB PETERS: Yes, I do and thank you. As
19 I --

20 MS. PATTI RAMAGE: Perhaps -- oh, Mr. Peters,
21 before you begin, something that Mr. Peters and I had
22 discussed at the break was perhaps we would have Mr. Wiens
23 sworn in at this point because he can -- he has more direct
24 knowledge as to Mr. Peters' current line of questioning.
25 Hence, we've sent Mr. Surminski to the bench and brought Mr.

1 ask of Mr. Wiens, since he's here, to just check those Diesel
2 rate schedules that are in the filing for accuracy in light
3 of they may have been filed prior to the Diesel orders being
4 issued by the Board and there may be some need to revise
5 those and I'll give him a heads up of an issue that we'll
6 take up with him later.

7 MR. ROBIN WIENS: Mr. Peters, perhaps after
8 we adjourn you could advise us of the particular schedules or
9 the particular Information Request responses that -- that
10 you're directing us to.

11 MR. BOB PETERS: I'd be pleased to. And with
12 that, Mr. Chairman, I'm prepared to stand down for the day.

13 THE CHAIRPERSON: Thank you, Mr. Peters.
14 Thank you everyone else. We stand adjourned.

15
16 --- Upon Adjourning at 3:55 p.m.

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19 Certified Correct,

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23 Wendy Warnock, Ms.

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TAB 2



“When You Talk - We Listen!”



MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO
GENERAL RATE APPLICATION
2012/13 AND 2013/14

Before Board Panel:

Regis Gosselin - Board Chairman
Raymond Lafond - Board Member
Larry Soldier - Board Member

HELD AT:

Public Utilities Board
400, 330 Portage Avenue
Winnipeg, Manitoba
January 7, 2013
Pages 2087 to 2384

1 Would you accept that, subject to check?

2 MR. MANFRED SCHULZ: Subject to check.

3 MR. BOB PETERS: Okay. Turning to page

4 215 -- well, just before I do that, one thing that

5 struck me on the -- on the net debt is that it's got a

6 downward slope at some point in time. And I -- I

7 always remember Mr. Warden telling me that, in essence,

8 debt is -- all debt is good debt and never paid off.

9 Mr. Warden, help me out here.

10 Is -- even though debt eventually will

11 go down for this Corporation?

12 MR. VINCE WARDEN: Yes. Not sure

13 whether I will see it or not, but... Yes, our good

14 debt/bad debt discussion goes back a few years, Mr.

15 Peters. But good debt is -- is debt that we borrow for

16 investment in new facilities, as -- as we do here.

17 But when we put a station like Conawapa

18 in -- in service and we start generating significant

19 revenues after the in-service date in Conawapa, and

20 that's what we're seeing here, the revenues are

21 contributing towards a reduction in that debt.

22 MR. BOB PETERS: There's no major

23 projects planned right after Conawapa that are going to

24 keep driving that debt higher?

25 MR. VINCE WARDEN: No, that's right.

1 MR. BOB PETERS: And I'm sure you'll
2 see it, Mr. Warden. And we'll have that discussion.
3 If we turn to page 215, the only point on this document
4 -- this has also been updated by -- I think the Board
5 will find at page 2 of IFF-12, which is Manitoba Hydro
6 Exhibit 9, some of this information is -- is updated.

7 The most significant of which, Mr.
8 Warden, appears to be that the debt equity ratio -- I
9 was going to say bottoms out, maybe it tops out at 90
10 percent debt, 10 percent equity, out in 2022, around
11 that time?

12 MR. VINCE WARDEN: Yes, that's right,
13 Mr. Peters.

14 MR. BOB PETERS: And I know the -- the
15 debt equity ratios will -- will change from what's
16 depicted here. But I think the Board has that
17 information at least in summary form on page 2.

18 To respond to a question about the --
19 the interest rates, perhaps we can -- I guess en route
20 to getting there, page 216 of the book of documents,
21 Mr. Warden.

22 Just remind the Board that back in 1992,
23 when Limestone was -- was being constructed, the debt
24 was 94 percent?

25 MR. VINCE WARDEN: The debt ratio was

1 94 percent; 94 debt, 6 percent equity, yes.

2 MR. BOB PETERS: And in the drought
3 year of 2003 and '04, particularly '04, the debt equity
4 ratio -- the debt reached 87 percent with 13 percent
5 equity?

6 MR. VINCE WARDEN: Yes, that's right.

7 MR. BOB PETERS: If we follow that line
8 item across, Mr. Warden, not only do we see the large
9 net-income loss suffered by Manitoba Hydro, but the
10 DBRS bond rating didn't correspondingly take a downturn
11 at that point in time, did it?

12 MR. VINCE WARDEN: No, it didn't. And
13 that's why it's so important for Manitoba Hydro to keep
14 in -- in close contact with its rating agency. So they
15 always understand what our situation is, and that's a
16 good example of that.

17 MR. BOB PETERS: And -- and that's
18 something you do on an annual basis?

19 MR. VINCE WARDEN: We do.

20 MR. BOB PETERS: Perhaps you travel
21 there or they travel here?

22 MR. VINCE WARDEN: Typically they
23 travel here. And it's -- it's really more than an
24 annual basis. We're -- we're in contact with them
25 whenever the need arises.

1 MR. BOB PETERS: Quarterly?

2 MR. VINCE WARDEN: Formally on an
3 annual basis. But they don't hesitate to pick up the
4 phone and call us if they have a question.

5 MR. BOB PETERS: All right. Looking at
6 the interest sensitivity, which is on page 217, this
7 was prepared based on IFF11-2, correct?

8 MR. DARREN RAINKIE: That's correct,
9 Mr. Peters.

10 MR. BOB PETERS: And what it shows the
11 Board, if we can cut to the chase, Mr. Rainkie, is that
12 if the interest rate increases at 1 percent and the
13 Board follows it over, there's going to be an extra
14 billion dollars of long-term debt needed.

15 MR. DARREN RAINKIE: No, I think what
16 it's showing is our retained earnings would go down by
17 724 million, Mr. Peters.

18 MR. BOB PETERS: You're -- you're ahead
19 of me on that, Mr. Rainkie. I was just looking at the
20 top lines. That the long-term debt issued would be
21 \$18.2 billion over a ten (10) year period, but if it
22 went up 1 percent on average, that would increase it by
23 a billion dollars?

24 MR. DARREN RAINKIE: Yes, Mr. Peters, I
25 see where you're at now.

1 I will stand down and I will remind the Board that
2 tomorrow morning we will have new witnesses before the
3 Board relating to Manitoba Hydro's rates, and I believe
4 also a little bit on the diesel issue, if -- to the
5 extent there's questions. Thank you.

6 THE CHAIRPERSON: If there is no
7 business to attend to, then I would adjourn the
8 proceedings, and we'll see some of you tomorrow morning
9 at nine o'clock. Thank you.

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11 --- Upon adjourning at 4:54 p.m.

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15 Certified Correct,

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21 Cheryl Lavigne, Ms.

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TAB 3

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MANITOBA PUBLIC UTILITIES BOARD

Re: MANITOBA HYDRO'S APPLICATION
FOR APPROVAL OF NEW ELECTRICITY RATES
FOR 2010/11 AND 2011/12

Before Board Panel:

- Graham Lane - Board Chairman
- Robert Mayer, Q.C. - Board Member
- Len Evans (np) - Board Member

HELD AT:

Public Utilities Board
400, 330 Portage Avenue
Winnipeg, Manitoba
March 2, 2011
Pages 3560 to 3757

1 APPEARANCES

2 Bob Peters (np))Board Counsel

3 Anita Southall)

4

5 Patti Ramage)Manitoba Hydro

6 Marla Boyd)

7

8 Byron Williams)CAC/MSOS

9 Myfanwy Bowman (np))

10

11 Antoine Hacault)MIPUB

12

13 Michael Anderson (np))MKO

14

15 William Gange)RCM/TREE

16

17 Delanie Coad (np))SCO

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19 Denise Pambrum (np))City of Winnipeg

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21 Gavin Wood)Independent Experts

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1 considered in that report?

2 MR. WILL LIPSON: Generally, yes.

3 MR. ANTOINE HACAULT: Okay. There should
4 be a part of Appendix 77 distributed to all the parties,
5 which is an extract from the corporate risk-management
6 report by Manitoba Hydro, as I understand it. It has
7 three (3) pages, and I'd ask that it be marked as the
8 next exhibit for MIPUG, Exhibit 9.

9 THE CHAIRPERSON: Yes, sir.

10

11 --- EXHIBIT NO. MIPUG-9: Excerpt from the corporate
12 risk-management report by
13 Manitoba Hydro

14

15 CONTINUED BY MR. ANTOINE HACAULT:

16 MR. ANTOINE HACAULT: Now, I
17 appreciate this is not the entire report. The report is
18 a lengthier document. Is this what you would understand
19 to be the Manitoba Hydro corporate risk-management report
20 which has been updated since the one (1) referred to in
21 the decision of Board Order number 32/09.

22 MR. WILL LIPSON: On the surface that's
23 what it appears to be, yes.

24 MR. ANTOINE HACAULT: Okay. Now, on page
25 6 of that report, Hydro sets out its view of what it

1 despite the fact you'd discussed meeting with the -- with
2 the Board's advisors and staff. You on your own
3 volition, with no influence by Hydro, chose not to -- not
4 to meet with our staff or our advisors.

5 Is that correct?

6 MR. WILL LIPSON: That's correct. Again,
7 I -- I've touched on this, but let me provide a bit more
8 context to -- to our rationale. Again, we had started
9 not with a full understanding of what the nature of the
10 work would be. You know, when -- we were just writing
11 our November proposal letter to be engaged in the first
12 place.

13 We did our, you know, couple of week
14 exercise to get a pretty good idea of what needed to be
15 done. We scoped that out. We went back to our client to
16 say, Does this fulfill the terms of reference, because we
17 were hired by Manitoba Hydro to fulfill a terms of
18 reference. And we were basically given a go-ahead to
19 say, Yes, you can now go ahead and do those activities,
20 those tasks, those various analyses, and in doing so,
21 that would be a fulfilment of our terms of reference.

22

23 CONTINUED BY MR. ANTOINE HACAULT:

24 MR. ANTOINE HACAULT: I'd ask you to have
25 two (2) documents in front of you before you answer this

1 question, sir. Firstly, the MIPUG number 8, which is the
2 Board Order number 32/09, and the last page of Exhibit 9,
3 which is a corporate risk map which forms part of the
4 Manitoba Hydro corporate risk-management report.

5 First, with respect to the corporate risk
6 map, what's your understanding of what Hydro tried to do
7 in this map? I'm going to suggest to you that it tried
8 to identify all of the operational and business risks
9 facing the Corporation.

10 Do you agree or disagree?

11 MR. FRANK CHEN: This map relates to
12 their corporate risk-management program, and in using
13 kind of general industry terms that's -- that are known
14 as an enterprise risk-management framework.

15 So the depiction or graph here is
16 essentially a -- a common used tool called a heat map.
17 And it depicts what Hydro has identified as key business
18 risks throughout the entire enterprise and mapped them
19 accordingly ac -- across two (2) variables, which is the
20 consequence termed here, which is the -- the financial --
21 potential financial impact of a risk event, and the
22 probability of that event, qualitatively here labelled,
23 low, medium, and high.

24 And by depicting the risks in this chart
25 they're able to identify risks that are obviously high

1 probability events with high -- high potential financial
2 impact, and those with low financial impact and low
3 probability and they can draw their attention to mitigate
4 those risks that fall into a high -- you know, the
5 quadrant that's high impact, high likelihood.

6 MR. ANTOINE HACAULT: Thank you. So to
7 create the link, in the Board order we've seen that
8 Manitoba Hydro had provided a previous version of such a
9 report to the Board and the Board said, Okay, we've got
10 all these operational risks from a business and an
11 operational perspective. We want an independent study of
12 these risks.

13 Now, I'd like to take you then to
14 paragraph 4 of the Board Order at page 47.

15
16 (BRIEF PAUSE)

17
18 MR. ANTOINE HACAULT: And I read for the
19 record:

20 "MH to file by September 30, 2009, for
21 Board approval, a conceptual outline
22 for an in-depth and independent study
23 of all operational and business risks
24 facing the Corporation."

25 I would suggest to you that this was part

1 of the first mandate set out in the first letters. There
2 was supposed to be a conceptual outline of all
3 operational and business risks.

4 Do you agree with that suggestion?

5 MR. WILL LIPSON: I don't think you said
6 it quite precisely. There was to be a conceptual outline
7 for an in-de -- for an in-depth and independent study as
8 called for under 32/'09 to be carried out on behalf of
9 Mani -- by us on behalf of Manitoba Hydro. And then once
10 approved, the -- you know, the next task was to go ahead
11 and implement that work.

12 MR. ANTOINE HACAULT: So that at Tab 1 of
13 the Board's book of documents, at page 1 of 2, in the
14 terms of reference, at paragraph 2, and I'm quoting,
15 Hydro is requesting as follows:

16 "Provide a conceptual outline to
17 Manitoba Hydro for the in-depth and
18 independent study as directed in PUB
19 Order 32/'09 [and it continues] and
20 meet with PUB staff and/or advisors as
21 necessary to review the PUB's orders
22 and concerns with respect to Manitoba
23 Hydro's risks."

24 But the first part of that sentence, which
25 I was -- is that -- one (1) I wanted to draw your

1 attention to. So consistent with that fourth paragraph,
2 at least in the very first instructions, there was a
3 matching between the Board's order and the terms of
4 reference. Is that correct?

5 MR. WILL LIPSON: I've lost track of what
6 you're comparing to what. I do see the page 1 of 2, the
7 last item on that page, but you're asking me to compare
8 it to -- to what?

9 MR. ANTOINE HACAULT: To the very first
10 sentence of Board Order number 4, which I referred you
11 to, and I'll quote again:

12 "MH to file by September 30, 2009, for
13 Board approval, conceptual outline for
14 an in-depth and independent study of
15 all operational and business risks
16 facing the Corporation."

17 MR. WILL LIPSON: Yes, there is a
18 tracking of language between those two (2).

19 MR. ANTOINE HACAULT: Thank you. Now the
20 next sentence in Board Order number 4, or the fourth
21 paragraph of Board Order 32/09 reads as follows:

22 "The study to be a thorough and
23 quantified risk analysis, including
24 probabilities of all identified
25 operational and business risks."

1 at. It isn't a complete independent review of every
2 aspect of the Corporation. Again, for example, the --
3 the gas operations, we've said several times, is not part
4 of our scope.

5 And when we looked at these things we
6 said, Nothing looks so far amiss that, you know, people
7 should be talking about potential bankruptcies.

8 MR. ANTOINE HACAULT: Hydro is doing a
9 reasonable job, correct?

10 MR. WILL LIPSON: Well, again, our
11 conclusions stand on their own, but in essence, yes.

12 MR. ANTOINE HACAULT: Dealing with
13 liquidity crunches, aren't we dealing with a temporary
14 liquidity crunch based on graphs that we've seen?

15 Let me explain, flows are actually mean
16 reverting. Isn't that correct? I mean, you may have
17 some low flows, but you'll have high flows so that, based
18 on the graphs that you've done, there's some liquidity
19 pressures, but they do come back?

20 MR. WILL LIPSON: That's right. On
21 average things are more on the positive than on the
22 negative. It is a viable Corporation and there are
23 reserves in place to, you know, mitigate a lot of the
24 risk of the low flows.

25 MR. ANTOINE HACAULT: And I'd suggest to

1 you, sir, that in the Manitoba context, we've got a
2 strong monopoly with no competition in Manitoba, so the
3 Corporation has the ability to seek increases in prices.

4 Is that correct?

5 MR. WILL LIPSON: Yeah, that's our
6 understanding.

7 MR. ANTOINE HACAULT: Now, you -- I don't
8 know whether the panel has an knowledge with respect to
9 this context, but what's the understanding of the panel
10 with respect to Manitoba Hydro debt? Is it Manitoba
11 Hydro that goes and gets it, or is it government backed?

12 MR. WILL LIPSON: Yeah, I actually think
13 we do touch on it in chapter 2. I think all but
14 approximately 1 percent is government backed, and I do
15 believe Manitoba Hydro is the issuer.

16 MR. ANTOINE HACAULT: So that, I'd
17 suggest to you, that the rating agencies do a flow
18 through of the province's rating as a general rule?

19 MR. WILL LIPSON: That would be logical.

20 MR. ANTOINE HACAULT: I'm skipping to the
21 third part of what I said I would do, the four (4) risk
22 issues, and it's the organizational issue. And I have a
23 series of questions that break down that statement of
24 issue as outlined in the Board's scoping order.

25 The first one: In the panel's opinion, or

1 KPMG's opinion, does Hydro have the required capabilities
2 needed to appropriately manage the export and drought
3 risks?

4 MR. FRANK CHEN: So, in general terms,
5 capabilities comprise, I'll say generally -- in general
6 terms, the people, the processes, and the infrastructure
7 or technology, and I would say, yes.

8 MR. ANTOINE HACAULT: Okay. Now, there
9 are recommendations that were made; are they all
10 contained in the April and May reports?

11 MR. WILL LIPSON: Yes, those are the only
12 recommendations we've made in this regard, yes.

13 MR. ANTOINE HACAULT: Okay. Breaking it
14 down further down again; in KPMG's opinion, does Hydro
15 have the required internal organization needed to
16 appropriately manage the export and drought risks?

17 We've heard some discussion about the
18 middle office and the general organization of Manitoba
19 Hydro. Can I have a response to that question? I'll
20 repeat it again.

21 In KPMG's opinion, does Hydro have the
22 required internal organization needed to appropriately
23 manage the export and drought risks?

24 MR. FRANK CHEN: So, yes, we did have an
25 extensive discussion on middle -- middle office and the

1 governance structure and oversight structure. When you
2 refer to the internal organization, broadly or generally,
3 are you referring to just the people themselves?

4 MR. ANTOINE HACAULT: I'd distinguished
5 internal organization from seeking outside counsel and
6 help, so, you know, is it structured appropriate
7 internally as a hydro corporation; because you've dealt
8 with organizational issues and you've made
9 recommendations. So it's in that context I was asking
10 the question, sir.

11 MR. FRANK CHEN: So given the review of
12 the power supply operations and the various departments
13 that support all the planning and the production
14 schedules and managing the drought issues and the
15 engineers involved and the oversight in the -- in the
16 middle office and such, I would say that it does have the
17 required internal organization.

18 But like any other organization, it
19 doesn't operate in -- in a bubble and, therefore, would
20 always seek periodic independent review of their
21 processes to gauge themselves against what other -- what
22 -- what their peers are doing as well.

23 MR. ANTOINE HACAULT: Thank you. Again,
24 KPMG's recommendations with respect to any improvements
25 are all in the April and May reports.

1 Is that correct?

2 MR. WILL LIPSON: Yes.

3 MR. ANTOINE HACAULT: The next item,
4 breaking down again that first section in the scoping,
5 focusses on a more particular matter. In the panel's
6 opinion, does Hydro have the required qualified staff
7 needed to appropriately manage the ex -- export and
8 drought risks?

9 MR. WILL LIPSON: Yeah, it wasn't
10 explicitly within our mandate to assess the capabilities
11 of staff. We didn't go out and interview everyone and
12 say, you know, What qualifications have you got for your
13 job? But I would say, you know, on behalf of my
14 colleagues too, that we were quite favourably impressed
15 with the capabilities of the people we did deal with.

16 You know, again, we have experience from
17 other utilities and other circumstances, and in the
18 context of the challenges that Manitoba Hydro faces, it's
19 got a very capable staff. And, I think, again, KPMG was
20 favourably impressed.

21 MR. ANTOINE HACAULT: And I guess a
22 subset of that, is it KPMG's opinion that the staff knows
23 when to seek outside help when it requires it?

24 MR. WILL LIPSON: Again, that's -- that's
25 a very specific question. I would say that the staff, in

1 general, have on, you know, several occasions gone out to
2 seek outside help; and presumably that's good, you know,
3 prima facie evidence of -- that they do have that
4 sensitivity as to when they need the help and when they
5 don't. I -- I think, again, we have commented on our
6 recommendations on the potentially increased need for
7 peer review on a more structured basis, but, you know, in
8 general the answer would be yes.

9 MR. ANTOINE HACAULT: And we've seen a
10 number of examples, for example, I think in your
11 evidence, on a monthly basis they're getting updated
12 forecasts to input into the HERMES software as I -- I
13 think.

14 Is -- is that correct?

15 MR. JONATHAN ERLING: Yeah, they purchase
16 monthly forecasts for use in developing price assumptions
17 within HERMES, yes.

18 MR. ANTOINE HACAULT: Again, all the
19 recommendations that KPMG has and it -- they're fairly
20 exten -- extensive on the issue of qualified staff and --
21 and looking for external advice for all contained in your
22 April and May reports.

23 Is that correct?

24 MR. WILL LIPSON: Yes, all the
25 recommendations, as we've said it twice now, are in the

1 April and May reports, that's correct.

2 MR. ANTOINE HACAULT: Sorry for the
3 redundancy but I don't know, for example, whether or not
4 there was follow-ups to the May report where there were
5 additional recommendations made, so that's why I'm asking
6 with respect to each area of whether or not we have to
7 look further than the reports. And if your answer is
8 "there are no other recommendations or discussions that
9 have occurred since May on all the issues in your
10 report," I won't keep on asking the question.

11 MR. WILL LIPSON: And that is the case.
12 The end of our assignment prior to being engaged to
13 prepare for this hearing and to attend this hearing was
14 with the delivery of the second report, the one in May
15 2010, and there were no subsequent follow-up assignments
16 of any sort or further recommendations.

17 MR. ANTOINE HACAULT: Subject to the
18 recommendations made in the April and May reports, is it
19 KPMG's opinion that Hydro has in place the required
20 policies and procedures needed to appropriately manage
21 the export and drought risks?

22 MR. FRANK CHEN: So, Manitoba -- Manitoba
23 Hydro has the appropriate policies and procedures,
24 however, those documents will -- will obviously keep or
25 rec -- Manitoba Hydro recognizes the need that they will

1 continually -- continually change, given the changing
2 business environment as well as the internal processes
3 that change. So those documents need to keep pace with
4 internal and external changes.

5 At the moment they're -- you know, the
6 policies and procedures are, as I've referred to in the
7 May report, a collection of a number of different
8 documents such as the G190 and 195, delegation of
9 authority. So it's a collection of documents that kind
10 of fall under that umbrella "policies and procedures,"
11 but yes, they do.

12 MR. ANTOINE HACAULT: Thank you. This is
13 a very general question with respect to the
14 recommendations: Is KPMG aware of any of its
15 recommendations being rejected by Manitoba Hydro?

16 MR. WILL LIPSON: Not to our knowledge.

17 MR. ANTOINE HACAULT: In fact, I think
18 you testified earlier that to your knowledge Manitoba
19 Hydro has implemented a plan, at least with -- with
20 respect to some of the recommended improvements. We
21 talked about software and other things. So they seem to
22 be taking your very thorough work very seriously.

23 MR. WILL LIPSON: I agree. Again, we
24 have put in our direct evidence and subsequently a couple
25 of times we've mentioned a few of the initiatives that we

1 understand have been followed up on and, you know, some
2 intentions that they're in the process of following up on
3 -- or some recommendations they're in the process of
4 following up on.

5 MR. ANTOINE HACAULT: Now I realize there
6 may be a little bit of overlap in this next question but
7 it's also part of the scoping question so bear with me.

8 In KPMG's opinion does Hydro have the
9 required oversight and governance structures -- that
10 relates to the internal organization, again -- needed to
11 appropriately manage the export and drought risks? It's
12 re-worded but would that re-wording make any difference
13 in your opinion?

14 MR. FRANK CHEN: No, it doesn't change
15 our opinion. Yes, they do have the adequate oversight
16 structure in place.

17 MR. ANTOINE HACAULT: Now, when we talked
18 about different policies and procedures I'd like to just
19 draw your attention to the issue of what I would call a
20 "drought preparedness plan."

21 I'd asked earlier whether you had read the
22 ICF report. ICF recommended that there be a more
23 explicit drought preparedness plan, although, it
24 acknowledged that -- and I'm paraphrasing, de facto,
25 Manitoba Hydro really had one, it's just that they hadn't

1 taken time to formalize it in a written -- written
2 comprehensive format.

3 Do you have any comments with respect to
4 that recommendation?

5 MR. WILL LIPSON: Yeah, we actually
6 commented on it either yesterday or the -- or the day
7 before. I guess, first, we also recognize that drought
8 awareness and management of drought risk permeates
9 through the organization. This is not something people -
10 - because there isn't a formal plan, and there hasn't
11 been a -- a formal plan in the past -- there is a draft
12 plan that we're aware of, but there wasn't in the past --
13 it wasn't an issue that people were unaware of because of
14 the absence of such a plan.

15 And, you know, I guess I personally see
16 some merit in having a plan prepared, but again, I don't
17 think it is a significant deficiency that is being
18 addressed by preparing such a plan. It is an improvement
19 in terms of documenting it all in one (1) place and
20 communicating it out to stakeholders and other interested
21 parties.

22 MR. ANTOINE HACAULT: Thank you. Now,
23 I'll go into an area which I understand was the subject
24 of some criticism by the New York consultant, implying
25 that perhaps Manitoba Hydro wasn't doing the best job it

1 could in carrying out negotiations for long-term export
2 contracts.

3 In the opinion of KPMG -- this is a very -
4 - a -- a more specific issue here -- does Manitoba Hydro
5 have qualified people and seek infor -- information as
6 and when appropriate to carry out those negotiations?

7 MR. ANURAG GUPTA: It is our opinion that
8 Manitoba Hydro brings the right level of people to the
9 negotiations with the right level of experience and the
10 background necessary, and they do go out and seek
11 information as required to help them in -- in the
12 negotiation's process.

13 MR. ANTOINE HACAULT: Thank you. Does
14 KPMG have any recommendations on additional information
15 which Manitoba Hydro should have going forward in
16 negotiating such term sheets and contracts?

17 MR. ANURAG GUPTA: I think our -- our
18 recommendations are as they are in the report; I don't
19 think we have anything further than what -- what we wrote
20 up in -- in our April report.

21 MR. ANTOINE HACAULT: Thank you. The
22 second area of questioning deals with whether Manitoba
23 Hydro's approach to risk management is appropriate for a
24 Crown owned regulated public utility. And I'd like to
25 direct your attention to pages 254 to -- up to 257. It's

1 MR. ANURAG GUPTA: I think that's fair,
2 and I should have said, all things remaining equal and
3 the sale was a no-sale scenario.

4 MR. ANTOINE HACAULT: Now, based on your
5 knowledge of this sale scenario, because my question was
6 specifically directed to Manitoba Hydro, does your answer
7 remain true, Mr. Gupta, that all things being the same
8 with respect to Manitoba Hydro, if you changed that
9 discount rate in that model, it would result in a lower
10 net present value?

11 MR. ANURAG GUPTA: With the sale and no-
12 sale scenario as we analyzed it, everything else
13 remaining equal, in -- in those scenarios, yes.
14 Directionally, if you increased the discount rate at
15 which the NPV was calculated, it would result in a lower
16 NPV.

17 MR. ANTOINE HACAULT: Now, a lower rate
18 like this, would it pick up the long-term horizon? One
19 (1) of the issues in this proceeding is we in -- invest
20 in plants that are going to last sixty-seven (67) years,
21 or at least on an amortised basis, and may last as long
22 as a hundred years?

23 MR. WILL LIPSON: Well, while Mr. Gupta's
24 looking, I know the cashflow analysis is over a long-term
25 horizon; if I recall, thirty-five (35) years, although

1 I'll let Mr. Gupta confirm. The discount rate, again, I
2 suggest we be patient and wait until Manitoba Hydro
3 follow through on its undertaking.

4

5 (BRIEF PAUSE)

6

7 MR. ANTOINE HACAULT: Okay, I'll hold off
8 on questions on that then. Turning to page 157. The
9 middle of the page it's noted:

10 "KPMG notes that contract term sheets
11 were signed with counterparties at --
12 with the caveat of pending Manitoba
13 Hydro Board approval."

14 Does that continue to be your
15 understanding, sir?

16 MR. ANURAG GUPTA: That's right.

17 MR. ANTOINE HACAULT: So does KPMG have
18 any knowledge as to whether or not those term sheets have
19 now received Manitoba Hydro Board approval, or is that
20 something that's not a public...?

21 MR. ANURAG GUPTA: I -- I can't comment
22 on that. At the time, when we wrote this report, the --
23 the term sheets had been provided to the Board for appro
24 -- for information, and they were pending MH Board
25 approval.

1 MR. ANTOINE HACAULT: So is anybody from
2 the panel able to answer my question: Have they been
3 approved by the Board?

4 MR. ANURAG GUPTA: I -- I can't answer
5 that, sorry.

6 MR. ANTOINE HACAULT: I see all panel --
7 panel members indicating they have no knowledge.

8 Now, we've heard some evidence here with
9 NSP that the term sheets -- actually, the conditions
10 changed between the initial term sheets being signed and
11 the final contracts being negotiated.

12 Has KPMG seen or reviewed any of the draft
13 contracts with respect to the two (2) term sheets that
14 we're talking about here; the Minnesota Power and WPS?

15 MR. ANURAG GUPTA: Again, we reviewed the
16 -- the proposed term sheets -- sorry, the -- the term
17 sheets for the proposed long-term sales for WPS and MP.

18 MR. ANTOINE HACAULT: Okay, so you'd be
19 unable to con -- comment with respect to whether or not
20 you would have any suggestions on different approaches or
21 different terms in the proposed contracts?

22 MR. ANURAG GUPTA: I think, again, it's -
23 - it's very difficult to secondguess Manitoba Hydro
24 management who -- who have tonnes of experience in
25 negotiating these term sheets. We analysed the term

1 sheets for what they did to Manito Hy -- Manitoba Hydro's
2 risk exposure, sale versus no-sale scenarios, and -- and
3 our findings are contained in our report.

4 It's very difficult to speculate on
5 whether a different outcome could have been achieved or
6 not.

7 MR. ANTOINE HACAULT: Once again, you're
8 comfortable with the recommendations you've made in the
9 report, that the Manitoba Hydro Board will have the
10 information it needs, and its staff has the information
11 it needs to properly assess those term sheets?

12 MR. ANURAG GUPTA: That is our
13 understanding. And -- and in our conversations with
14 Manitoba Hydro, they understand that these -- these -- it
15 -- it takes a long time to go from a signed term sheet to
16 a signed contract; conditions will change. And they
17 understand and recognize the need that they have to
18 update their analyses and -- and take it forward for
19 approval while the economics still -- still hold up.

20 MR. ANTOINE HACAULT: Thank you. I'd ask
21 you to -- or the panel to go to page 28 of the
22 presentation; it's the graph that shows the incremental
23 adding of power generation.

24 MR. ANURAG GUPTA: I'm there, sir.

25 MR. ANTOINE HACAULT: So hydroelectric

1 generation such in Manitoba you can't add little clumps
2 of power; you have to do big incremental additions.

3 Do you accept that premise?

4 MR. ANURAG GUPTA: In general, you can
5 have small hydro, you can have large hydro. Our
6 understanding is Manitoba Hydro has determined that this
7 is the most economic sequence for it to develop its hydro
8 in -- in these large chunks.

9 MR. ANTOINE HACAULT: And prudent
10 practice would have it that you'd make sure that your
11 incremental additions are done enough in advance to
12 ensure that you don't risk a situation where you don't
13 have enough hydro-electric power because of increased
14 domestic demand?

15 MR. ANURAG GUPTA: Manitoba Hydro has a
16 very clear capacity planning criterion and energy
17 planning criterion. And our understanding is, and -- and
18 we've seen this, they do respect those planning ci --
19 criterion in -- in developing the PRPs and other plans.

20 MR. ANTOINE HACAULT: The question I
21 have, sir, is: Did KPMG look at any of the policies or -
22 - with respect to advancing plant further in advance of
23 Manitoba load to serve, specifically, export contracts?

24 MR. ANURAG GUPTA: We absolutely reviewed
25 -- reviewed that in the -- the power resource plan. The

1 preferred development sequence actually calls for
2 advancement of -- of the -- of Keeyask, for example, in
3 advance of when it is required to meet Manitoba load.
4 Tha -- that's a preferred development sequence, so, yes,
5 we did look at.

6 And the entire economics of comparing sale
7 versus no-sale is -- is another extension of that
8 analysis to see what happens if you do advance the
9 construction of plants in order to -- and -- and ahead of
10 the time required to meet the Manitoba load.

11 MR. ANTOINE HACAULT: Against what
12 criteria should we be evaluating whether to advance plant
13 construction? I'm not talking about whether it's needed
14 or not eventually, but I'm talking about advancing the
15 construction schedule when it's not reasonably needed for
16 Manitoba load at that particular time but we advance it
17 specifically to be able to export.

18 What criteria should we establish in
19 looking at whether that's a good thing for Manitoba
20 ratepayers?

21 MR. ANURAG GUPTA: I think -- again, the
22 way Manitoba Hydro does it is appropriate. I think
23 looking at the NPV of -- of the scenario, which calls for
24 a certain development sequence in which plants may be
25 advanced ahead of the time needed to look at -- needed to

1 serve Manitoba load as opposed to the NPV of a plan which
2 puts those plants online at -- at a later date. I think
3 if -- if you have a positive NPV, that, to me, is -- is
4 one (1) criteria you should look at.

5 You should also then test that NPV under
6 various scenarios to see whether or not your preferred
7 development sequence holds up, if -- if any of your
8 assumptions change, and these are forward looking
9 analyses, things can and will change.

10 So, again, it's important to test the
11 robustness of that NPV against a variety of scenarios.
12 And, again, Manitoba Hydro does that. We extended that
13 analysis. So that would be the criteria.

14 MR. ANTOINE HACAULT: Now -- and here you
15 may not be able to answer the question, but I'm wondering
16 why would you do that on thirty-five (35) years instead
17 of sixty (60) years?

18 MR. ANURAG GUPTA: It's -- the -- let --
19 let me just take a second to phrase my answer. The
20 explicit cashflows are modelled for thirty-five (35)
21 years, but there is value to the plant and the assets
22 after the thirty-five (35) year period. There is a
23 terminal value associated with it, which is -- which is
24 factored into the analysis, sale versus no-sale.

25 MR. ANTOINE HACAULT: And what terminal

1 value is assumed for purposes of that calculation?
2 Because if you're looking at practically a seventy-year
3 (70) plant and you're only taking thirty-five (35) years,
4 you've got practically another thirty-two (32) guaranteed
5 years of production. I don't know how you'd deal with
6 that.

7 MR. JONATHAN ERLING: My recollection --
8 and the specific details of the terminal calculation are
9 not in my head at the moment, but it is a form of
10 levellized cost analysis that is used to come up with the
11 terminal value, so it's not a book-value concept.

12 MR. ANTOINE HACAULT: And that is a
13 methodology which KPMG thinks is a reasonable methodology
14 to --

15 MR. JONATHAN ERLING: It certainly --

16 MR. ANTOINE HACAULT: -- access this?

17 MR. JONATHAN ERLING: -- it's certainly a
18 methodology that is very commonly used in the utility
19 sector and particularly with regulated utilities in
20 comparing different options that have different time
21 frames. And -- and different options with different
22 generation plant lives.

23 MR. ANTOINE HACAULT: Now next I jump to
24 -- and my colleague of the Board Council had done some of
25 this, she had gone through some quick numbers and,

1 future as to how much money they spend at the present
2 time.

3

4

(BRIEF PAUSE)

5

6 MR. ANTOINE HACAULT: I'll move to the
7 last area. I just have a couple of questions and I'm --
8 I'll be finished.

9 It was the area where risk exposure cannot
10 be modified or addressed to other appropriate risk
11 management practices. What are the financial reserves
12 required to be targeted to address the residual risk
13 items?

14 I understand you haven't specifically
15 dealt with that, but my questions are as follows.

16 Does KPMG have any view on the
17 reasonableness of the two point (2.) -- I think it's two
18 point seven (2.7) number that you've chosen as a number
19 that represents the drought risk.

20 MR. ANURAG GUPTA: I -- sorry, on -- on
21 page 173, yes, you -- you're -- you're correct. Exhibit
22 4-18 is -- is something which Manitoba Hydro had put
23 forward to the PUB in response to one of the orders. And
24 -- and the cumulative impact on retained earnings for a
25 five (5) year drought, as mentioned there, is \$2.764

1 billion.

2 MR. ANTOINE HACAULT: But my question was
3 with respect to KPMG's opinion of the reasonableness of
4 that in the context of being a Crown corporation.

5 MR. ANURAG GUPTA: We -- we tested -- we
6 tested Manitoba Hydro's quantification of drought risks;
7 our results are in Section 4(11) of our -- of our report.
8 And -- and we -- I -- I think we were in agreement with
9 Manitoba Hydro on -- on the numbers that they had
10 presented earlier, with regards to impact of a five (5)
11 year drought on -- on net income and what it would do to
12 retained earnings at the end of the period.

13 MR. ANTOINE HACAULT: Because there's
14 different numbers that can be chosen under different
15 scenarios -- that's kind of second subset that I'm asking
16 now -- between the different scenarios, choosing the
17 scenario that leads to the two point seven six four
18 (2.764), is that, in the opinion of KPMG, a reasonable
19 approach for this Crown utility?

20 MR. ANURAG GUPTA: I -- I think the
21 number will change as -- as the analysis is updated.
22 That two point seven six four (2.764) number was -- I --
23 my understanding is -- is at 2009 -- sorry, it was for
24 five (5) year drought lasting from 2009 to 2013.

25 I think the important point to note here

1 is that we found that Manitoba Hydro has an appropriate
2 methodology for examining drought risk, the
3 quantification of that drought risk. The exact number
4 obviously will change depending on -- on the various
5 inputs which go into that analysis.

6 MR. ANTOINE HACAULT: And although I'd
7 asked very many questions as to what wasn't done by KPMG
8 in the report, I'd suggest to you that the highest risk
9 and highest cost facing this utility is, in fact, this
10 drought risk, at least as analyzed by it in its Corporate
11 Risk Management Report.

12 Do you agree with that?

13 MR. ANURAG GUPTA: It is certainly a
14 very, very significant risk.

15 MR. ANTOINE HACAULT: Thank you. Those
16 are my questions, members of the Board. Thank you very
17 much.

18 THE CHAIRPERSON: Thank you very much.
19 Very helpful.

20 Mr. Gange, you're still estimating about
21 forty-five (45) minutes?

22 MR. WILLIAM GANGE: Forty-five (45)
23 minutes at most, yes.

24 THE CHAIRPERSON: Okay, well, we would
25 appreciate it because the Board has a few questions and

1 MS. MARLA BOYD: I believe it should
2 Manitoba Hydro Exhibit number 63.

3 THE CHAIRPERSON: So it would be Manitoba
4 Hydro Exhibit number 63.

5
6 --- EXHIBIT NO. MH-63: Response to Undertaking 74

7
8 THE CHAIRPERSON: So with that we thank
9 the -- the panel and all participants and we stand
10 adjourned until next Monday morning at 9:30, and we hope
11 you have a good trip back.

12
13 (PANEL STANDS DOWN)

14
15 --- Upon adjourning at 4:04 p.m.

16
17 Certified Correct

18
19
20 _____
21 Cheryl Lavigne, Ms.

22
23
24
25

TAB 4

MANITOBA
THE PUBLIC UTILITIES BOARD ACT
THE MANITOBA HYDRO ACT
THE CROWN CORPORATIONS PUBLIC
REVIEW AND ACCOUNTABILITY ACT

Order No. 32/09

March 30, 2009

Before: Graham Lane CA, Chair
Robert Mayer Q.C., Vice-Chair
Susan Proven, P.H.Ec., Member

**AN ORDER APPROVING APRIL 1, 2009 RATES
FOR MANITOBA HYDRO**

5.0 IT IS THEREFORE ORDERED THAT:

1. MH's Application for approval of a 4% rate increase, effective April 1, 2009 BE AND IS HEREBY VARIED.
2. MH is to immediately file, for Board approval, revised rate schedules, to take effect April 1, 2009 and demonstrate and recover a 2.9% increase in revenues derived from energy rates (consistent with the methodology as contained in Appendix 9, Attachment 'D' to the February 2, 2009 Status Report) from all customer classes, except for Area and Roadway Lighting.
3. MH to prepare a series of alternative 20-year scenarios (IFF/Power Resource Plan/Capital Plan), to reflect:
 - a) A pessimistic view of export prices (minimal U.S. - CO₂ pricing levels).
 - b) A periodic one-year drought (e.g. 2003-04).
 - c) A periodic multi-year drought (e.g. 1940's or 1980's).
 - d) Zero long-term contract commitments.
 - e) A strong movement to domestic electric heating.
 - f) Existing transmission tie-line constraints.
 - g) Potential carbon tax on MH's imports and a doubling of water rental rates.
4. MH to file by September 30, 2009, for Board approval, a conceptual outline for an in-depth and independent study of all the operational and business risks facing the corporation. The study to be a thorough and quantified Risk Analysis, including probabilities of all identified operational and business risks. This report should consider the implications of planned capital spending taking into account export revenue growth, variable interest rates, drought, inflation experience and risk, and potential currency fluctuation.

TAB 5

MANITOBA HYDRO

**CORPORATE
RISK
MANAGEMENT
REPORT**

**THIS REPORT INCORPORATES PRIVILEGED AND
CONFIDENTIAL INFORMATION AND IS FOR
INTERNAL REFERENCE ONLY**



October 2010

- 9) The prices proposed for long-term firm contracts appear reasonable and adequate, and MH pricing processes appear adequate.
- 10) The models used by MH (hydrological forecasting models) are similar to models used by other hydro-electric dependent companies.
- 11) ICF considers MH's quantification of risk exposure to drought to be reasonable.
- 12) ICF concludes that MH's risk mitigation strategy related to an extended drought is adequate, and helps meet a key goal of avoiding rate shocks.

B. KPMG

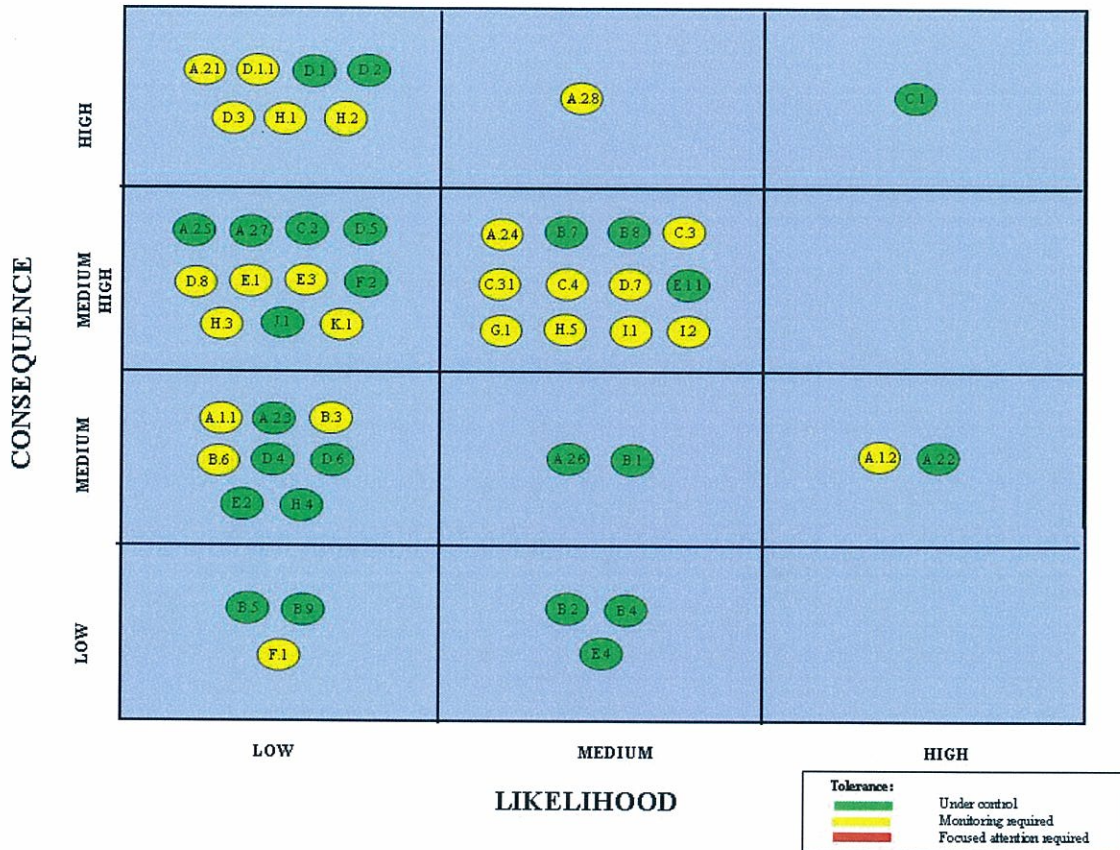
KPMG was retained in November 2009 to carry out an independent assessment of Manitoba Hydro's risk management practices and to address assertions raised by a former consultant of Manitoba Hydro (referred to as the New York Consultant or "NYC"). The scope of KPMG's review was as follows:

- review the assertions that have been made by the NYC and the reports and services provided by the NYC;
- identify the positions of Manitoba Hydro staff on each of the assertions and the services provided by the NYC;
- perform a review and validation study of the merits of the NYC's assertions and services; and
- prepare a report summarizing KPMG's findings

In carrying out its review, KPMG focused on four major themes:

- 1) Forecasting models;
- 2) Power sales management;
- 3) Risk governance; and
- 4) Power risk management.

CORPORATE RISK MAP



A. Market

1. Domestic
 1. Competition
 2. Uneconomic Loads
2. Export
 1. Regulatory Environment
 2. Competition
 3. Transmission
 4. Special Interest Groups
 5. Protectionism
 6. Domestic Requirements
 7. Commodity Availability
 8. Term Sheets with WPS and MP

B. Financial

1. Exchange
2. Interest Rates
3. Credit
4. Inflation
5. Gas Price Volatility
6. Gas Derivative Instruments
7. Capital Structure
8. Shortage Pricing / Fuel Price Volatility
9. Power Financial Instruments

C. Environmental

1. Water Supply/ Drought
2. Climate Change / Water Resources
3. Operational Impact and Infrastructure
 1. Legal - Species at Risk Act
 4. Reliability of Supply

D. Infrastructure

1. Loss of Plant (all property, all perils)
 1. Dam and Dyke Structures
2. Insufficient Supply (drought peril)
3. Prolonged Loss of System Supply
4. System Shutdown (Short Term)
5. System Shutdown (Natural Gas - S.T.)
6. Technology
7. Special Interest Groups.
8. Emergency Management Program

E. Human

1. Safety and Health
 1. Infectious Disease
2. Union / Employee Issues
3. Succession Planning
4. Technology

F. Business Operational

1. Supply Chain
2. Operational Controls

G. Reputation

1. Reputation

H. Governance / Regulatory / Legal

1. Regulation and Licensing
2. Export Market Access
3. Legal Compliance
4. Contracts and Ventures
5. NERC/MRO Reliability Standards

I. Aboriginal

1. Relationships
2. Legal

J. Emerging Energy Technologies

1. Emerging Energy Technologies

K. Strategic

1. Strategic Direction and Implementation

TAB 6



“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
March 14, 2014
Pages 2440 to 2708

1 believes the uncertainty is in future gas prices. So I
2 used all that information to develop my -- the range of
3 gas prices that I then put into the engineering model
4 to -- to project the potential electricity prices in
5 the future under various combinations of gas prices and
6 also CO2 prices, et cetera.

7 So I -- I didn't have any involvement
8 with Dr. Borison when he wrote this paper but I -- I
9 believe that the approach that -- that the Brattle
10 Group took with respect to its forecast that went into
11 Manitoba Hydro's consensus took into account these
12 concerns.

13 Is it perfect? Probably not. Is it the
14 best that we can do? Again, speaking only for the
15 Brattle Group's forecast, given the -- given the
16 resources and information available, I think it -- I
17 think it goes some way toward taking -- taking account
18 of the kinds of concerns that Dr. Borison raised in
19 this paper.

20 MR. ANTOINE HACAULT: Thank you. If we
21 could turn to page 63 of the document book. There's
22 the title, 'Anchoring on the Past and Present'. And
23 the second full -- the sentence starts:

24 "The second major problem identified
25 above was the lack of focus on the

1 future, and underlying assumption of
2 little change. While often viewed as
3 extremely stable, the power industry
4 is actually a dynamic and changing
5 industry."

6 Again, with bringing that up to 2014,
7 sir, as it relates to Manitoba Hydro's projects, does
8 this statement continue to be true?

9 DR. ADAM BORISON: I thank you very
10 much for bringing this statement up, because I did -- I
11 do want to comment on that. I do think that statement
12 is still true.

13 And I -- I guess the point I would like
14 to emphasize is that this is an industry that has been,
15 for decades, quite dynamic, quite changing, and quite
16 uncertain. And that I was looking back in the
17 literature for the use of the term 'unprecedented
18 uncertainty', which I have used, and Dr. Murphy has
19 used. And I found that in every single year, at least
20 going back ten (10) years on the Internet, and then I
21 actually found an article from 1983 about -- that said
22 the -- the utility industry is facing unprecedented
23 uncertainty.

24 But I actually don't think that's
25 untrue. I think what 'unprecedented' means in that

1 context is there are a set of things that appear very
2 uncertain right now that -- that haven't been there
3 before. And so in '83 it were -- was things like Three
4 Mile Island, or something of that nature,
5 electromagnetic fields. There were issues that were
6 there that people had never heard about before which
7 all of a sudden made things very uncertain.

8 I think the -- the fantasy though is
9 that -- that somehow those are going to go away and
10 what happens instead is those go away -- I mean, we now
11 don't worry so much about electromagnetic fields -- but
12 something else shows up. And so I -- again, to -- to
13 defend myself and Dr. Murphy, I think he'd say, Yes,
14 the uncertainty is different. Now it's structural
15 uncertainty. It may be uncertainty about the nature of
16 the market in MISO. It may about regulation in
17 California.

18 But it is not as if somehow we can wait
19 magically for a few years and the uncertainty will go
20 away, because most likely what's going to happen is
21 there'll be some other issue that comes up. And I
22 think the past thirty (30) or so years have been
23 evidence of that. Anyway, that's a long -- a very long
24 answer to that very brief question. I think things are
25 quite similar to when this was written, in that sense.

1 MR. ANTOINE HACAULT: I might have a
2 question of -- I'm going to call him Dr., because he's
3 so knowledgeable, Cormie. What's your view as to what
4 the uncertainty does with respect to your negotiations?

5 Does it help you get better prices?

6 MR. DAVE CORMIE: Yes, clearly that's
7 an advantage that works in our favour, because it's --
8 it's not only Manitoba Hydro that uses a consensus
9 forecast and goes to multiple forecasters; our
10 customers also do exactly the same and they're making
11 their forward decisions based on the exact same
12 information that we have. Gas prices could be ten
13 dollars (\$10) in the future, it could be eight dollars
14 (\$8), it could be four dollars (\$4), it could be three
15 dollars (\$3).

16 And so it shouldn't be a surprise that
17 their view of the future is not much different than
18 ours and -- and they are risk averse just as we are.
19 And in -- in talking to them -- and their customers are
20 very similar to our customers. And the first thing
21 they want is a reliable supply of power. And the
22 second thing they want is stability in pricing. They
23 don't want to be exposed to volatile pricing. The
24 third thing they want is absolute price. But absolute
25 price is less important than stable pricing.

1 Intervenors and advisors. So have a good weekend,
2 everyone. Thank you very much.

3

4 (PANEL RETIRES)

5

6 --- Upon adjourning at 4:26 p.m.

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10 Certified correct,

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14 Cheryl Lavigne, Ms.

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TAB 7



“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
March 21, 2014
Pages 3224 to 3501

1 MR. ANTOINE HACAULT: Okay. So that if
2 we had chosen an end point of 2032, we would have seen
3 the line go on the same trajectory up to 2032, and then
4 as another graph we'd see a big drop. That's what we
5 would see.

6 That's what Xcel would have done,
7 correct?

8 MR. GREG BARNLUND: And we spoke at
9 some length to the adjustment that was reflected in the
10 analysis as presented in the other slides that we've
11 seen in --

12 MR. ANTOINE HACAULT: Yep.

13 MR. GREG BARNLUND: -- our
14 presentation.

15 MR. ANTOINE HACAULT: So let's just
16 keep that figure in mind, twenty-three (23) -- and I'm
17 not too sure what it is at ref/ref/ref/ We could look
18 that up. But twenty-three point five (23.5) in this
19 scenario. And the reason I'm going to use this, you'll
20 understand later, is that as I understood the
21 presentation, the new capital costs require us to use
22 the high capital cost to get a better idea of what
23 might happen.

24 Now, if we can go to Manitoba Hydro
25 Exhibit 121.

1 (BRIEF PAUSE)

2

3 MR. ANTOINE HACAULT: Now -- and I'll
4 take you back to the actual number for the record. And
5 we're going to go back to page 22. Not right now,
6 Diana, but ref/ref/ref was a 23.04 percent reduction in
7 2023 -- '33 rather.

8 So this graph that was produced by
9 Manitoba Hydro, in 2023 we have a column with respect
10 to the annual basic charge. But if we'd go back to
11 2032, we'd actually have a number that is -- that you
12 can't automatically just say 20 percent higher, because
13 it would be -- we'd have to do that mathematical
14 calculation.

15 But it would be higher in 2032 than
16 2033, agreed?

17 MR. GREG BARNLUND: I would agree, yes.

18 MR. ANTOINE HACAULT: So that this
19 twenty (20) -- these lines at 2033 don't give us a
20 depiction of where the Corporation thinks the bills
21 will be when we reach 2032, correct?

22 And we haven't reached a 75:25 equity at
23 that point in time, correct?

24 MR. GREG BARNLUND: It's a very
25 simplified analysis. And it was really designed to

1 show the relative difference between the plans as to --
2 as to instead of trying to predict what a given level
3 of -- of rate would be, or a basic charge, or an energy
4 charge would be at any one (1) of these time periods.
5 But it was to show the differences between -- in -- in
6 cost to a -- represented residential bill of the
7 various alternatives that are being addressed here in
8 this proceeding.

9 MR. ANTOINE HACAULT: And I would
10 suggest from an optics perspective, it'd be a lot
11 easier for the consumer to see a final bill that's over
12 23 percent lower than what it's expected to be in 2032.

13 Do you agree?

14 MR. GREG BARNLUND: I'm sorry, what
15 were you asking again?

16 MR. ANTOINE HACAULT: From an optics
17 perspective, if -- if we had put 2032 on this graph,
18 the numbers would be -- I haven't done the reverse
19 calculation, at least 25 percent more than what's shown
20 on here?

21 MR. GREG BARNLUND: Agreed, because of
22 the adjustment, yes.

23 MR. ANTOINE HACAULT: And my suggestion
24 was from an optics perspective, for the consumer, he'd
25 rather see, Well, what's it going to be in 2033 when I

1 get the 23 percent reduction rather than what he was
2 paying the year before.

3 MR. GREG BARNLUND: Well, there's a
4 number of considerations a consumer would obviously
5 have to take into account. Probably the main one, and
6 I think the purpose of why we're here, is to look at
7 the difference in bills at 2063 to see what the total
8 value and the total respective costs are of -- of each
9 of the plans.

10 And -- and I think that that would be an
11 important consideration that the consumer would --
12 would want to -- would want to take into account, as
13 well.

14 MR. ANTOINE HACAULT: Thank you, sir.
15 Now, just for the record, if we can go back to page 22,
16 we'll just confirm that I was correct in recalling that
17 the rate in twenty (20) -- page 22, two two (22) -- for
18 the year 2032? If you go down one (1) more, I
19 believe we'll -- one (1) more, 2033, we see the
20 reduction by 23.04 percent under the column of rates,
21 correct?

22 MR. GREG BARNLUND: Yes, we have that.
23 Yeah.

24 MR. ANTOINE HACAULT: So if we look at
25 the percentage immediately in that surrounding area in

1 2032, we go down from 107.76 percent down to a little
2 bit under 60 percent, correct?

3 MR. GREG BARNLUND: That's -- that's
4 the numbers that are represented on -- on this
5 schedule, certainly, and -- and, you know, Mr. Rainkie
6 has spoken at some length in terms of the anomaly that
7 appears with regards to having done the analysis based
8 on a debt-equity ratio and then converting at that
9 point to do the remaining analysis on an interest
10 coverage basis.

11 And -- and we agree that -- that, you
12 know, it creates a -- a reset, if you would, in terms
13 of the financial planning information that we have in
14 front of us, and Mr. Rainkie described that -- in some
15 length that the Corporation would obviously be taking
16 steps, you know, each year as we went along to set the
17 appropriate targets and to seek the appropriate rate
18 increases based on the circumstance at the time.

19 So -- so personally, I don't dwell a lot
20 on the fact that we have, you know, a number that
21 resets in this particular analysis because, it's the
22 outcome of having to had -- change the basis by which
23 we have done that -- that analysis at that particular
24 point in time.

25 MR. DARREN RAINKIE: Mr. Hacault, I

1 would add that -- that I think the preparation of this
2 material was designed to show the directional impacts
3 on the different plans over time. The difficult part
4 we have is we have hydroelectric plans which will last
5 for a hundred years versus other shorter lived assets.
6 Conawapa, as we've talked about many times in this
7 scenario, doesn't go -- finish going into service until
8 2029.

9 So, you know, focussing on 2032 doesn't
10 -- doesn't do anything in terms of an appropriate
11 comparison of these various plans. You have a large
12 asset that's going in in -- between 2026 and '29. Are
13 you going to focus on 2032 as what your -- your
14 comparator is?

15 I mean, any basic corporate finance text
16 would tell you, If you had an asset that was a hundred
17 years long, or if you had a business opportunity that
18 had a hundred years to it, and you had another
19 opportunity that had thirty-three (33) year increments,
20 you would analyze something over a hundred years to get
21 a -- you know, a good comparison.

22 In this case, we've cropped off at fifty
23 (50) years a hundred year asset, but -- but I guess our
24 material, if we get out of the details for just one (1)
25 minute, was designed to show the differences in these

1 plans over time. We already have rate hearings that go
2 through the twenty (20) year IFF and -- and talk about
3 what they're -- what the very current rate changes will
4 be based on, you know, a ten (10) or a fifteen (15)
5 year time frame.

6 This was a -- the spirit of this filing,
7 if you like, was the long term. I mean, Mr. Bowman
8 goes through in his evidence talking about how hydro
9 electric is -- is, over the long term, the lowest and
10 most stable cost option. So our analysis was
11 consistent with what Mr. Bowman was indicating. That's
12 the perspective we want to take. And I hope that's
13 clear.

14 MR. ANTOINE HACAULT: You've made some
15 very good points, sir. And I'll be drilling down in
16 some of this in further detail. We received this
17 morning, I think... I'm looking for is -- just keep in
18 mind that this document shows that we go down from a
19 cumulative increase of rates of 107.76 percent to a
20 cumulative intre -- increase of 59.89 percent, correct?

21 That's what the slide shows at
22 ref/ref/ref?

23 MR. DARREN RAINKIE: That's what the
24 slide shows. But I guess what we're saying is we want
25 to look at the trends over time. We don't want to get

1 overly fixated on one (1) -- one (1) particular time
2 period. And I think I've already had a number of
3 discussions with the Chair that we would smooth that
4 out over time.

5 So our focus was certainly looking at a
6 longer time frame, given the mandate of our business,
7 and not a short time frame, Mr. Hacault. And that's --
8 I think that's the confusion here, is that -- is that
9 we weren't -- we weren't focussed on 2032 in our
10 analysis. We were focussed on -- on 2063 and the
11 intervening periods because of the long-lived nature of
12 -- of hydroelectric generating stations.

13 If you don't want to look at the -- at
14 the -- a longer-term analysis, then, in my mind, what
15 you're doing is screening out hydro. You're -- you're
16 just saying, I won't even entertain analyzing it. Like
17 if you're going to crop the period at 2032, a couple
18 years after Conawapa goes into service, I'm not sure
19 what the point is of even looking at a hydroelectric
20 generating station is then at that point. You've just
21 made a large investment. Any -- anybody wouldn't
22 expect that there would be a -- be a huge return two
23 (2) years after that.

24 So, I don't know, we talked about
25 perspectives yesterday with Mr. Williams. And I -- I

1 think we have a longer-term perspective here, and I'm
2 not sure the other parties are there yet.

3 MR. ANTOINE HACAULT: We'll get into
4 the details of some of that perspective and how it's
5 changed, sir. But if we could keep in mind that in
6 2033, as of last fall, which is August of 2013, we were
7 putting on the record as Manitoba Hydro that the
8 cumulative increases would be 59.89 percent, correct?
9 That's what we put on the record.

10 I just want to confirm the numbers. We
11 can get into a discussion about optics later.

12 MR. DARREN RAINKIE: It's not a
13 discussion about optics, Mr. Hacaault. I think you're
14 still missing the point. It's -- it's -- what we were
15 trying to do is find a subjective way of doing the
16 analysis over time that didn't require us to go each
17 year and kind of guess what the rate increase would be,
18 because then we'd be having a long discussion about,
19 well, why did I assume 3 percent and your -- you're
20 thirty (30) versus two point eight (2.8).

21 We were trying to find an objective way
22 of doing it over time, as I was trying to say on day 1
23 of the testimony. And I -- I think we're overly
24 focussed on what I've called the correction factor in
25 2033. What we're trying to do is compare these options

1 over a long period of time. So don't get focussed on
2 any one (1).

3 You're -- you're correct in terms of
4 pointing out the data. But as I said yesterday, when
5 you're looking at financial analysis, you got to pull
6 your head up once in a while and say, What are you
7 trying to do. We can get through every data point on
8 these, you know, slide. I can hardly read it anymore
9 with my eyes.

10 But what's the point of the analysis,
11 Mr. Hacault, is to say we have -- we have a current
12 fuel in Manitoba hydroelectric generations and we have
13 a huge capacity, which provided some of the lowest
14 rates in the continent.

15 Obviously, one (1) of the options we're
16 going to do, given -- given our resources in Manitoba,
17 is continue to analyze what has made us a very
18 excellent jurisdiction. And to do that we have to look
19 over the long term. If we don't, we're really just
20 screening out hydro. We're saying, Don't even consider
21 it.

22 And if you -- if you don't get to that
23 point, Mr. Chairman and the Board, like I -- I'm not
24 sure how we can have this hearing. I think the scope
25 of this hearing was about looking at the long-term

1 benefits for Manitoba, not focussing on what the rate
2 increases will be to '32 or '33.

3 MR. ANTOINE HACAULT: If -- I hope not
4 to keep people here too late tonight, and we'll get
5 into those discussions, sir. But I -- if -- if -- I
6 just have some numbers that I'd like the Board to have,
7 and if you could be patient with me and just confirm
8 that I've pointed out that the change in position from
9 August of 2013, when this filing was made, we -- the --
10 the best estimate of the Corporation, some six (6) or
11 eight (8), seven (7) months ago was that the total
12 cumulative would be -- we'd have -- start to see the
13 returns in 2023. So I've pointed out those numbers.

14 Now, you've filed this morning Exhibit
15 124. If we could bring it up.

16

17 (BRIEF PAUSE)

18

19 MS. MARLA BOYD: Mr. Hacault, did you
20 misspeak in your last question? The -- the year you
21 referred to was 2023. I think you meant '32?

22

23 CONTINUED BY MR. ANTOINE HACAULT:

24 MR. ANTOINE HACAULT: Thirty -- '32,
25 correct. Yeah. Sorry. And at page 3 of 3, on 2020 --

1 '33, three-three (3-3), in the columns of increases
2 this is IFF13, and I'll go through that IFF.

3 We're continuing to project an increase
4 in 2033, correct, of 3.95 percent, instead of a
5 reduction of 23 percent?

6 MR. DARREN RAINKIE: Yes, based on
7 searching for the 25 percent equity ratio at the end of
8 the forecast period, the twenty (20) year forecast
9 period.

10 MR. ANTOINE HACAULT: Yes. And -- and
11 I'll have more discussion about that, sir.

12 If we go down -- let's just confirm,
13 your target is 25 percent equity, correct?

14 MR. DARREN RAINKIE: Yes.

15 MR. ANTOINE HACAULT: And this IFF only
16 gets us to 21 percent equity.

17 It doesn't get us to your target, does
18 it, sir?

19 MR. DARREN RAINKIE: No, as I mentioned
20 in my presentation we -- we are working hard at the
21 Corporation to maintain 3.95 percent rate increases in
22 the long-term forecast. And what we noticed in this
23 one is that we would meet the 25 percent equity ratio
24 target in 2033 -- sorry, 2034, demonstrating the
25 principle that I talked about with the -- with the

1 Chairman over the last couple of days, that we
2 certainly wouldn't be just mechanically trying to
3 increase rates when we knew that the equity ratio
4 target was one (1) year away from the twenty (20) year
5 forecast period.

6 So that -- once again, we're into
7 mechanics here versus kind of policy and how we looked
8 at this forecast.

9 MR. ANTOINE HACAULT: So if we read at
10 slide -- or the Exhibit 121, which had all those
11 consumer rates, in the seven (7) month period, the way
12 the corporate documents are portraying it, is we're no
13 longer looking at a 59.89 percent cumulative increase
14 as of 2033.

15 We are now looking at a cumulative
16 increase of 108.77 percent, correct?

17 MR. DARREN RAINKIE: That's what the
18 forecast is telling us. But, I mean, this -- this is a
19 twenty (20) year forecast. As -- as I said to the
20 Chair yesterday, what we try to portray -- portray in
21 our forecast is a return to our financial targets.
22 We're going to have probably fift -- or ten (10)
23 general rate applications between now and 2033, which
24 will continue to look at our financial health and --
25 and present more detailed rate proposals as we go

1 obtain the equity ratio on a forecast basis. So I
2 don't know that you can just ratchet it up
3 proportionately, sir, because we have variables to --
4 to play with, and we can -- in the real world we'll --
5 would certainly take a look at that and not -- not
6 necessarily increase the projected rate increases
7 because of it.

8 MR. ANTOINE HACAULT: And that's
9 basically because when you were talking it -- you just
10 have to push out the dates a little bit further because
11 Manitoba Hydro's best projection is that in the second
12 decade, closer to the end of that decade -- I'm going
13 to call it, we're hitting a home run. We're getting
14 revenues of about a billion dollars in the last year,
15 so it really helps us catch up, correct?

16 MR. DARREN RAINKIE: Yes, there --
17 there's certainly potential there to ease off the 3.95s
18 at that point in time. And, as I said, the -- the 3.95
19 is a -- is a calculation. Rather than trying to go
20 through the forecast, and you know -- you know, 4.2
21 percent this year and 3.9 percent this year, and then
22 everybody's saying how did you judge between these two
23 (2) years, it's such a small differential, we've
24 decided to portray the forecast as a -- as an even
25 annual rate increase, which mathematically is a search

1 which is very dependent on two (2) endpoints.

2 If you move the -- the 25 percent
3 endpoint out just slightly, it -- it moves those down.
4 My only caution, I think, as I've said a number -- a
5 number of times on the record is, is that when you look
6 at the early part of the forecast, pressures on base
7 capital are such that I don't think we're going to be
8 able to pull back from the 3.95s unless something
9 changes in the outlook.

10 So I -- I see the 3.95s common for all
11 of the plans, you know, up until the time that we put a
12 new resource in. But just recognizing that the 3.95 is
13 a mathematical equation, there is some judgment in our
14 rate-setting methodology in terms of helping to subsidize
15 that if we do indeed get the cash flow at the back-end
16 like we're forecasting.

17 MR. ANTOINE HACAULT: Thank you, sir.
18 And that's one (1) of the things I was trying to
19 explore and I had to explore from the very outset. Do
20 we have the sensitivities, if things don't go as we
21 project, either one (1) way or the other? And what
22 you're telling us is Manitoba Hydro can't tell us today
23 what the high sensitivity is and what we're exposing
24 Manitoba ratepayers to, should those high construction
25 costs materialize?

1 MR. DARREN RAINKIE: Well, sir, I think
2 the -- the four (4) point -- going back to the earlier
3 discussion, the four-point-two-seven (4.27) gives you a
4 sensitivity if we maintain the -- the parameters at
5 2032. I'm just suggesting to you from a business
6 perspective there is a way to manage that down.

7 So I think you have a sensitivity
8 analysis that you can rely on. And you're looking at a
9 range. And when you're looking twenty (20), thirty
10 (30), forty (40), fifty (50) years out, you're always
11 looking at a range. You're not focussed on just one
12 (1) discreet point in time -- or one (1) discreet
13 number, sorry.

14 MR. ANTOINE HACAULT: Understood. But
15 I'm going to go through each of the increases, sir.
16 And we've gone through the construction costs.

17 What in August was our high capital
18 costs, has now become our ref capital costs, correct?
19 Just in three (3) or four (4) months.

20 MR. DARREN RAINKIE: Directionally,
21 sir, yes.

22 MR. ANTOINE HACAULT: So --

23 MR. DARREN RAINKIE: I just might add,
24 though, I mean, to -- to make sure, 'cause this is very
25 -- this discussion is very -- you -- you seem to be

1 this weekend.

2 But for those of you who are back on --
3 on Tuesday morning, we'll see you on Tuesday. Thank
4 you very much.

5

6 (PANEL RETIRES)

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8 --- Upon adjourning at 4:36 p.m.

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12 Certified correct,

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18 Cheryl Lavigne, Ms.

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TAB 8

Rating agencies outline key drivers indicating Manitoba

4c Hydro's self-sustaining status

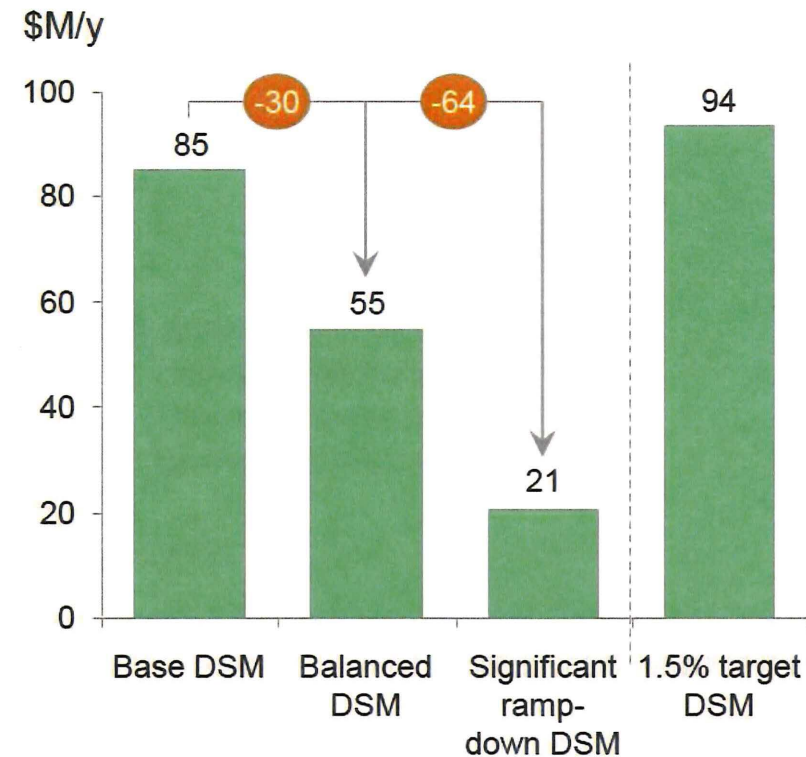
Drivers of self-sustaining status	Current environment	Future risks
<p>Ability to raise customer rates above current levels</p>	<p>✓ Lowest electricity rates in Canada enable sustainability of rate increases</p>	<p>⊙ Sustained rate increases jeopardize MB law requiring lowest cost bundle of regulated rates</p>
<p>Political will to support required rate increases</p>	<p>✓ PUB a reasonable regulator that has raised rates when required in past</p> <ul style="list-style-type: none"> 45 of 47 rate cases resulted in requested increases 	<p>⊙ Tolerance for sustained rate increases above 4% untested</p> <ul style="list-style-type: none"> Latest rate case only approved 3.36% increase vs. 3.99% request
<p>Opportunities to reduce capital spending if required</p>	<p>✓ MH has ability to defer non-critical sustainment CapEx short-term</p>	<p>✗ Sustainment CapEx deferrals likely to lead to future backlog requiring higher CapEx to clear</p>

Rating agencies assessing both Manitoba's provincial and Manitoba Hydro debt status

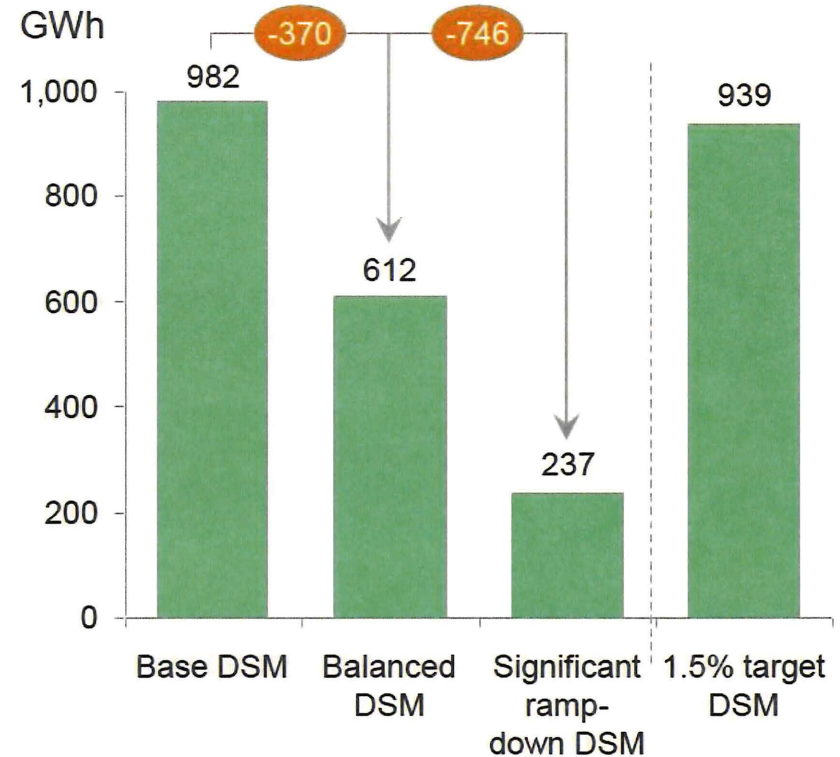
DSM adjustment could result in \$30-65M annual CAPEX reduction and \$11-22M annual revenue increase in next 5 years

Initial findings

Annual utility costs could be reduced by \$30-65M in the next 5 years



Annual volumes for domestic revenues could be increased by 400-700 GWh



\$11-22M incremental annual revenue potential assuming 3 c/kWh premium above opportunity export on a 5-year horizon

Source: Manitoba Hydro, BCG analysis
 Heartbeat Interim Management checkin_20160809.pptx

Canadian and US utilities implement economic development rates to attract and retain electricity-intensive industries

Utility or Province	Program components
BC Hydro	<ul style="list-style-type: none"> • Mining companies defer up to 75% of electricity bills for up to 2 years • Program extends for 5 years beginning in 2016 • Companies charged varying levels of interest on deferred payments
Hydro-Quebec	<ul style="list-style-type: none"> • 20% discount on rates for customers creating new demand of 1MW or adding 1MW to existing demand • Targets industries where electricity comprises minimum of 10% of OpEx • Program in place till 2024; discounts taper beginning in 2021
Duke Energy (Carolinas)	<ul style="list-style-type: none"> • Discounted rate for customers w >1MW load for four years • 50% discount for one year for large customers taking over existing building
Duke Energy (Indiana)	<ul style="list-style-type: none"> • Declining discount on electric bill offered for first 4 years of an economic development project undertaken by commercial customers • Declining reduction in demand charges for first 5 years of brownfield development project (from 50% to 10% over 5 years)
Pacific Gas and Electric	<ul style="list-style-type: none"> • Qualifying large customers receive declining discounts for 5 years (from 25% to 5%) • Targets large, electricity intensive industries and includes existing customers who add minimum of 200kW of demand • Special provision exists for existing customers deemed likely to relocate

While MH has not historically used these rates, incentive rates are one lever for attracting new load to Province