



“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

May 20, 2014

Pages 10971 to 11172

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

2

3 THE CHAIRPERSON: Good morning. I
4 believe that we're ready to go. I hope everybody had a
5 good weekend, and without further ado, I turn the
6 microphone over to Mr. Peters.

7

8 COMMENTS BY BOARD COUNSEL:

9 MR. BOB PETERS: Thank you. Good
10 morning, Mr. Chairman. I -- In terms of some
11 administrative matters to attend this morning, I just
12 remind the parties that late last week, Ms. Lemoine
13 circulated an email that contained a protocol for the
14 filing of answers to undertakings and responses to
15 questions of the PUB that is still to be filed.

16 And in that protocol, there's a request
17 that first of all, the responses be circulated
18 electronically to all parties, and that would include a
19 proposed exhibit number, that there would be paper
20 copies provided to the PUB for their -- for their
21 records, and that all other parties would be given that
22 electronic version of them so they could be complete.

23 That protocol will have to continue in
24 the next few weeks as more answers to questions that
25 are still outstanding are coming in. And in that

1 regard, I think on Friday, Manitoba Hydro filed
2 additional rebuttal evidence, and we're just not sure
3 whether it was marked as an exhibit or not, but I'll
4 turn it over to Ms. Fernandes just to make sure that
5 Manitoba Hydro's most recent filings have all been
6 properly documented before the -- before the Board, and
7 all parties are aware of them.

8 So with that, I'll ask you to call on
9 Ms. Fernandes.

10 THE CHAIRPERSON: Thank you, Mr.
11 Peters. Ms. -- Ms. Fernandes, good morning.

12 MS. ODETTE FERNANDES: Thank you, Mr.
13 Chairman. Yes, as indicated by Mr. Peters, on Friday,
14 Manitoba Hydro filed a number of documents, including
15 rebuttal evidence with respect to oral testimony, so I
16 propose just to read that into the record today to
17 ensure that all the exhibit numbers are recorded.

18 The first one was a -- a response to a
19 Pre-ask of Green Action Centre, and it was Question 2B,
20 and we propose that that be marked as Exhibit 191-1,
21 and it had two (2) attachments to it.

22

23 --- EXHIBIT NO. MH-191-1: Response to GAC's Pre-ask
24 Question 2B with two (2)
25 attachments

1 MS. ODETTE FERNANDES: And then we also
2 filed a revised response to Manitoba Hydro Exhibit 194,
3 which was in response to Undertaking number 139.

4

5 --- EXHIBIT NO. MH-194: Revised response to
6 Undertaking 139

7

8 MS. ODETTE FERNANDES: And then we
9 filed a response to Manitoba Hydro Undertaking number
10 137, which we propose be mark -- marked as Manitoba
11 Hydro Exhibit number 202.

12

13 --- EXHIBIT NO. MH-202: Response to Undertaking 137

14

15 MS. ODETTE FERNANDES: We also filed
16 the 2012/2013 Power Smart Annual Review, which was
17 Undertaking number 138, and we propose that that be
18 marked as Manitoba Hydro Exhibit number 203.

19

20 --- EXHIBIT NO. MH-203: Response to Undertaking 138

21

22 MS. ODETTE FERNANDES: And then
23 finally, the rebuttal evidence of Manitoba Hydro with
24 respect to oral testimony. I suggest that that be
25 marked as Manitoba Hydro Exhibit number 204.

1 --- EXHIBIT NO. MH-204: Manitoba Hydro rebuttal
2 evidence to oral testimony

3

4 THE CHAIRPERSON: Thank you for that,
5 Ms. Fernandes. Mr. Peters, please.

6 MR. BOB PETERS: Thank you, and good
7 morning, Mr. Chairman, panel members Kapitany, Soldier,
8 Bel, and Grant. Manitoba Hydro's Needs For and
9 Alternatives to Review of Manitoba Hydro's proposed
10 Preferred Development Plan for the Keeyask and Conawapa
11 generating stations, the associated domestic AC
12 transmission facilities, and a new Canada/USA
13 transmission interconnection was filed on August 16th,
14 2013.

15 The panel has, subject to receipt of
16 outstanding responses from Manitoba Hydro and other
17 parties, completed the evidentiary portion of the
18 hearing which commenced on March the 3rd, 2014.

19 Today is scheduled for closing
20 submissions by Board counsel and by the Consumers'
21 Association of Canada (Manitoba), and by the Green
22 Action Centre. Tomorrow, starting at 9:00 a.m., has
23 been scheduled for closing submissions by the Manitoba
24 Industrial Power Users Group, Manitoba Keewatinowi
25 Okimakanak, and Manitoba Metis Federation. And

1 Manitoba Hydro's closing submission is scheduled for
2 next Monday, May 26th, 2014, at 9:00 a.m.

3 As counsel to the Board in this
4 proceeding, we take no position on the merits of any of
5 the issues before the Board. Given the length of this
6 hearing and the breadth of the issues identified, I'm
7 going to briefly summarize certain matters that the
8 panel can expect to hear submissions on by other
9 parties. And let's start by turning to the terms of
10 reference and the orders in counsel.

11 The -- on November the 15th, 2012, the
12 Minister of Innovation, Energy and Mines announced that
13 the Government of Manitoba had asked the PUB to conduct
14 the NFAT for the Keeyask and Conawapa generating
15 stations and their associated transmission facilities.

16 This NFAT has been conducted under the
17 authority of Section 107 of the Public Utilities Board
18 Act. And the panel has been charged with reviewing and
19 assessing the Needs For and the Alternatives To Hydro's
20 Preferred Development Plan.

21 The panel's assessment is to be based on
22 the evidence submitted by Manitoba Hydro, by the
23 Intervenor, and by the independent expert consultants
24 that were engaged by the panel to assist in the NFAT.
25 The panel's report to the minister is requested one (1)

1 month hence -- that's by June 20th, 2014 -- and is to
2 address the following items.

3 First, the terms of reference call for
4 an assessment as to whether the needs for Hydro's plans
5 are thoroughly justified and sound, its timing is
6 warranted, and the factors that Hydro is relying upon
7 to prove its needs are complete, reasonable, and
8 accurate. The assessment will take the following
9 factors into consideration:

10 a) the alignment of the Plan to Hydro's
11 mandate as set out in Section 2 of the Manitoba Hydro
12 Act;

13 b) the alignment of the Plan to
14 Manitoba's clean energy strategy and the principles of
15 sustainable development as outlined in the Sustainable
16 Development Act;

17 c) the extent to which the Plan is
18 needed to address reliability and security requirements
19 of Manitoba's electricity supply;

20 d) the reasonableness, thoroughness, and
21 soundness of all critical inputs and assumptions Hydro
22 relied on for its justification of its needs; this
23 should include Hydro's planning load forecast and
24 future load scenarios, its demand and supply analysis,
25 export expectations and commitments, and demand-side

1 management and conservation forecasts.

2 Second, the terms of reference call for
3 an assessment as to whether the Plan is justified as
4 superior to potential alternatives that could fulfill
5 the need. The assessment is to take the following
6 factors into consideration:

7 a) if preferred and alternative resource
8 and conservation evaluations are complete, accurate,
9 thorough, reasonable, and sound;

10 b) the alignment of the Plan and
11 alternatives to Manitoba's clean energy strategy, the
12 Climate Change and Emissions Reduction Act, and the
13 principles of sustainable development, as outlined in
14 the Sustainable Development Act;

15 c) the accuracy and reasonableness of
16 the modelling of export contract sale prices, terms,
17 conditions, scheduling provisions, export transmission
18 costs, and the reasonableness of projected revenues;

19 d) the reasonableness of forecasted
20 critical inputs, including construction costs,
21 opportunity export revenues, future fuel prices,
22 electricity market price forecasts, the determinants of
23 those values and export volumes;

24 e) the reasonableness of the scope and
25 evaluation of risks and the benefits proposed to arise

1 from the development and the reasonableness of the
2 reliability of Hydro's interpretation of the most
3 likely future outcomes as a result of climate changes,
4 interest rate fluctuations, export market prices,
5 domestic load fluctuations, droughts, competing
6 technologies, fuel prices, carbon prices, technology
7 developments, economic conditions, Hydro's transmission
8 positions, and other relevant factors;

9 f) the impact on domestic electricity
10 rates over time with and without the Plan and with
11 alternatives;

12 g) the financial and economic risk of
13 the Plan and export contracts, and export opportunity
14 revenues in relation to alternate -- alternative
15 development strategies;

16 h) the socioeconomic benefits and
17 benefits of the Plan and alternatives to Northern and
18 Aboriginal communities;

19 I) the macroenvironmental impact to the
20 Plan compared to alternatives;

21 j) if the Plan has been justified to
22 provide the highest level of overall socioeconomic
23 benefit to Manitobans and is justified to be the
24 preferable long-term electricity development option for
25 Manitoba when compared to alternatives.

1 So as I mentioned, Manitoba Hydro filed
2 its NFAT application on August the 16th of 2013,
3 together with the supporting materials. Manitoba Hydro
4 evaluated fifteen (15) development plans that Manitoba
5 Hydro determined could meet the future needs of -- for
6 power in Manitoba.

7 From those plans, Manitoba Hydro
8 provided economic uncertainty analysis on twelve (12)
9 of the plans. The original August 16th, 2013, analysis
10 indicated under one (1) evaluation metric that the
11 Preferred Development Plan provided the highest
12 incremental economic benefit to Manitoba Hydro and its
13 ratepayers, of all the plans, when compared to the
14 least-cost All Gas Plan.

15 The Preferred Development Plan also
16 provided the highest level of benefits to the province.
17 The economic analysis was undertaken over a seventy-
18 eight (78) year time frame to 2090.

19 On March the 10th of 2014, Manitoba
20 Hydro updated its capital cost estimates for both
21 Keeyask and Conawapa in Manitoba Hydro Exhibit 95. The
22 updated showed increases in the construction cost
23 estimate for Keeyask from 6.2 billion to 6.5 billion,
24 and for Conawapa from 10.2 billion to \$10.7 billion.

25 Manitub -- Manitoba Hydro also explained

1 that Wisconsin Public Service was no longer planning to
2 invest in the proposed 750 megawatt transmission
3 interconnection while still committing to purchase 308
4 megawatts of power from Manitoba Hydro.

5 Manitoba Hydro also provided information
6 on the impact of increased demand-side management
7 efforts and the potential for future pipeline industry
8 load. Manitoba Hydro's new Power Smart Plan envisions
9 its customers switching from electricity to gas, where
10 available, for space and water heating, conservation
11 rates for domestic customers, and self-generation by
12 industrial customers.

13 The increased demand-side management
14 will have the potential to delay the domestic need for
15 new generation beyond 2022, which was the year Manitoba
16 Hydro forecasted for new generation to be needed for
17 domestic customers and existing export customers in its
18 original filing.

19 Manitoba Hydro provided updates of
20 economic and financial information prepared on a
21 limited basis. The updated economic and financial
22 information reduced the incremental net benefit for
23 Manitoba Hydro's Preferred Development Plan. The
24 incremental seventy-eight (78) year net present value
25 of Manitoba Hydro's Preferred Development Plan compared

1 to the All Gas Plan changed from \$1.7 billion in the
2 original case to \$45 million based on the updates
3 previously mentioned.

4 The Board is considering this updated
5 information and has requested further analysis from
6 Manitoba Hydro and also from the independent expert
7 consultants, La Capra Associates and Morrison Park
8 Associates.

9 Manitoba Hydro also provided financial
10 analysis for the limited number of plans it studied
11 over a fifty (50) year time frame through 2062. The
12 analysis indicated additional domestic revenues and
13 annual rate increases were required for each plan. The
14 Board will consider the timing and magnitude of the
15 rate increases required by each of the plans in its
16 assessment.

17 As required by this panel's terms of
18 reference, the panel also heard information on
19 socioeconomic and macroenvironmental matters that were
20 pursuant to the various plans. Socioeconomic benefits
21 to be considered by the panel specifically include the
22 benefits flowing to Northern Manitoba and Aboriginal
23 communities.

24 The evidence the panel heard with
25 respect to macroenvironmental matters must be

1 considered in conjunction with the provincial and
2 environmental assessments for Keeyask projects that
3 have recently been completed. In its evidence,
4 Manitoba Hydro distinguished between plans and
5 pathways, and requested the Board make decisions
6 regarding which pathway to pursue by considering the
7 following questions.

8 Firstly, should Keeyask be the next
9 supply option built for Manitoba load? And secondly,
10 whether Keeyask should be advanced, together with
11 building a new interconnection to the United States,
12 coupled with new export contracts, including a 250
13 megawatt power sale to Minnesota Power and a 308
14 megawatt power sale to Wisconsin Public Service.
15 Manitoba Hydro suggested that decisions related to
16 Conawapa's development can be made in the future based
17 on load growth, demand-side management results, and new
18 export opportunities.

19 Overall, the panel heard more than forty
20 (40) days of oral evidence, including from independent
21 experts engaged by the Board, as well as from expert
22 witnesses put forward by Manitoba Hydro and Intervenor
23 on various topics which the Board must now address.
24 The Board has also the written and oral presentations
25 made by the public in both Winnipeg and Thompson.

1 Mr. Chairman, those are my closing
2 comments, and subject to your questions of me, I would
3 suggest the panel call on Mr. Gange to provide the
4 Green Action Centre's closing submissions before later
5 this morning turning it over to counsel for CAC for
6 their client's closing submissions. Thank you.

7 THE CHAIRPERSON: Thank you, Mr.
8 Peters. Mr. Gange, good morning.

9
10 FINAL SUBMISSIONS BY GAC:

11 MR. WILLIAM GANGE: Good morning, Mr.
12 Chair. I -- first of all, I'd like to thank Mr.
13 Williams, if he's still awake over in the corner there
14 after staying awake all night, for being as gracious as
15 he always is in allowing me to go first because of a
16 conflict in scheduling that I have.

17 This has been a -- to use a Beatles
18 analogy, it's been a long and winding road. It's been
19 an exhaustive review with a degree of expertise that,
20 for me, has been quite overwhelming. The -- the amount
21 of knowledge that has been in this room has been
22 absolutely, well, overwhelming.

23 The -- I -- I would like to thank,
24 because I believe that -- that this should be
25 mentioned, the Board staff: Mr. Singh, Mr. Simonsen,

1 Ms. Lemoine, the remarkable efforts of Ms. Villegas,
2 and -- and Board counsel in -- in arranging the
3 independent experts, and -- and Mr. Monnin -- M. Monnin
4 for the work in -- in bringing that expertise to us has
5 been, from -- in -- in my view, invaluable.

6 I'd also like to thank my fellow
7 counsel, the Intervenors, Mr. Williams and Ms. Menzies,
8 and Ms. Fast, M. Hacault for what I thought -- and --
9 and Ms. Saunders as well. I -- I apologize, I forgot
10 her -- for bringing very thoughtful presentations.

11 And then the -- the presentation by
12 Manitoba Hydro, and the expertise that -- that the
13 Manitoba Hydro witnesses have shown, again, has -- has
14 been exceptionally useful for this process.

15 Before I get into my presentation, I
16 would like to take care of one (1) little bit of
17 housekeeping, and that is that I have provided to Mr.
18 Singh our last undertaking, which was Undertaking 136,
19 with respect to the wind project land acquisition time
20 frame. That was circulated by email this morning, and
21 I've provided it to Mr. Singh as GAC-26.

22

23 --- EXHIBIT NO. GAC-26: Response to Undertaking 136

24

25 MR. WILLIAM GANGE: I would note that

1 with me is Professor Miller from the Green Action
2 Centre, and in the gallery today is a member of the
3 Green Action Centre Policy Committee, Carolyn Garlich.

4 The submission for this presentation
5 I've provided to Mr. Singh. I'm going to depart from
6 it from time to time. So I would like to make the
7 final submission, GAC number 27, and if Ms. Villegas
8 could bring that up on the screen? There are a number
9 of -- of slides in here that look much better in colour
10 than -- than what we've provided in the printed copy.

11 I'd like to start with a -- that
12 although this process has taken us this nine (9) weeks
13 of hearing, Mr. Peters just made a good comment that --
14 that the -- that the financial forecast for this go out
15 to 2062, almost fifty (50) years. And just like the
16 Beatles are having the 50th anniversary of their
17 arrival in Manitoba -- or in -- well, in -- not in
18 Manitoba, in North America, for me, it's a blink of an
19 eye.

20 And although this process seems like we
21 are dealing with hypotheticals, and we are, but at the
22 same time, in the blink of an eye, for others, it will
23 be 2062 and 2064, and all of us recognize the profound
24 impact that your decision will have on the future of --
25 of hydro development and power supply in the province

1 of Manitoba. So although it seems almost theoretical,
2 we all know that it's not.

3 The perspective that Manitoba -- that --
4 that the Green Action Centre commences with is set out
5 in a document -- a policy from the provincial
6 government called, 'Tomorrow Now: Manitoba's Green
7 Plan', which set the target that Manitoba's goal is to
8 be one of the most sustainable places to live on Earth.

9 That aspiration has guided the Green
10 Action Centre and its predecessors throughout its
11 twenty-nine (29) year history. GAC supports the
12 province in making Manitoba one of the most sustainable
13 places to live on Earth, and has the view that it is
14 its responsibility to point out to the province when
15 the province is diverging from this path.

16 Mr. Peters mentioned the terms of
17 reference for the NFAT, and the terms of reference
18 included this phrase:

19 "The report will include
20 recommendations to the government of
21 Manitoba on the need for Hydro's
22 Preferred Development Plan, and an
23 overall assessment as to whether or
24 not the Plan is in the best long-term
25 interest of the province of Manitoba

1 when compared to other options and
2 alternatives."

3 From the commencement of the oral phase
4 of this hearing, Manitoba Hydro has suggested what we
5 have interpreted as being a recommendation of the
6 Keeyask Generating Station, the first phase of the
7 Preferred Development Plan, with the implied
8 acknowledgment that confirmation of the quan --
9 Conawapa Project is not yet possible.

10 In Mr. Thompson's address to the Board,
11 he stated on the first day of this hearing:

12 "And I do want to underscore that the
13 Preferred Development Plan is not
14 without flexibility. While
15 construction on the Keeyask
16 Generating Station and other aspects
17 of the Preferred Plan must begin
18 shortly, Manitoba Hydro will always
19 maintain the flexibility to respond
20 to future circumstances when it comes
21 to future resources identified as
22 part of the path. Conawapa, for
23 instance, will only get built if the
24 business case remains sound."

25 In Ms. Ramage's opening remarks, she

1 stated:

2 "Over the course of the next eight
3 (8) or nine (9) weeks, as you listen
4 to the evidence, remember there are
5 key decisions that government must
6 make this June. Mr. Wojczynski is
7 going to outline them in his
8 presentation later this afternoon,
9 but in a nutshell, they are, Do we
10 continue to capitalize on our water-
11 rich resources, and commit to the
12 construction of the Keeyask
13 Generating Station, and do we commit
14 to construction of a new
15 interconnection with our export
16 customers to the south, and the
17 export contracts that facilitate that
18 interconnection, and if so, will that
19 be a 250 megawatt transmission line
20 or a 750 megawatt transmission line?"

21 In effect, the Preferred Development
22 Plan changed over the course of this review. Manitoba
23 Hydro focussed its efforts and abilities on justifying
24 the development of the Keeyask Project, and the 750
25 megawatt transmission line. In comparison,

1 significantly less information has been provided to the
2 Board to justify the Conawapa Project.

3 Over the course of this hearing, the
4 Board has heard from the experts within Manitoba Hydro,
5 as well as a myriad of experts on behalf of the
6 Intervenors and the independent experts. The Board
7 ought to use this information provided as a collective
8 discovery of whatever might be the best plan for now,
9 with recommendations for implementation and going
10 forward. The Board has been provided with an
11 opportunity to perform a belated and somewhat
12 incomplete participatory integrated resource plan
13 through this hearing to assist Manitoba Hydro and the
14 Manitoba government to move forward into the future.

15 The primary commitment to
16 sustainability, as mentioned above, is further
17 interpreted by the Climate Change and Emissions
18 Reduction Act, committing Manitoba to lower greenhouse
19 gas emissions as part of a global effort to mitigate
20 climate change, and by the Sustainable Development Act,
21 which sets forth principles and guidelines of
22 sustainable development, including the provision for
23 full cost accounting that takes account of external
24 factors not included in financial transactions.

25 We see the -- a further consideration at

1 the core of these proceedings as risk mitigation.

2 While much of the focus has been on financial risks to
3 ratepayers, Manitoba Hydro, and the province, it is
4 crucial that solutions to Manitoba's need for power
5 enhance rather than detract from global efforts to
6 mitigate climate risk.

7 Risk mitigation strategies require
8 robust solutions that perform well whatever future may
9 be -- whatever the future may bring, while also
10 contributing to a better future.

11 In Manitoba Hydro Exhibits 191 and 191-1
12 and attachments, Manitoba Hydro has compiled and
13 summarized numerous studies on climate change impacts
14 experienced and forecast in Manitoba, the US as a
15 whole, and the US Midwest.

16 We also heard the fascinating
17 presentation of David Barber, Dr. David Barber,
18 including an account of the stasis of the polar vortex
19 over North America last winter, which was at slide 11
20 of 23 of Dr. Barber's presentation.

21 While some effects may be benign, for
22 instance, a longer growing season in Manitoba, perhaps
23 not this year, the experienced and predicted increase
24 in extreme events can be quite costly. Think of some
25 of the 1 percent increase in PST to repair

1 infrastructure damaged by the 2011 floods, the recent 5
2 percent rate increase requested by Manitoba Public
3 Insurance on account of increased collisions last
4 winter, and the maintenance and disrupted
5 transportation costs of the winter road system built
6 over the thawing permafrost as foretastes of the kinds
7 of costs that might be expected.

8 Finally, we note that although rate
9 impacts are mentioned as one (1) consideration among
10 many others, the terms of reference prescribe a
11 societal perspective to determine, and again from the
12 plans of ref -- term -- terms of reference:

13 "If the plan has been justified to
14 provide the highest level of overall
15 socioeconomic benefit to Manitobans,
16 and is justified to be the preferable
17 long-term electricity development
18 option for Manitoba when compared to
19 alternatives."

20 We note that within the Manitoba Hydro
21 Act, the purposes and objects are stated to be, in
22 Section 2:

23 "The purposes and objects of this Act
24 are to provide for the continuance of
25 a supply of power adequate for the

1 needs of the province and to engage
2 in and to promote economy and
3 efficiency in the development,
4 generation, transmission,
5 distribution, supply, and end-use of
6 power, and in addition, are to
7 provide an -- a) to provide and
8 market product services and expertise
9 related to the development,
10 generation, transmission,
11 distribution supply and end-use of
12 power
13 point for us], within and outside the
14 province, and to market and supply
15 power to persons outside the province
16 on terms and conditions acceptable to
17 the Board."

18 It is the position of GAC that when
19 consider -- considering the societal perspective, the
20 Board ought to be considering the broader societal
21 issues, such as jobs and other economic benefits,
22 revenue flows to the province from water rentals,
23 taxes, and the debt guarantee fee, and the impact of
24 the Preferred Development Plan and its alternatives
25 upon greenhouse gas emissions, both within and outside

1 of Manitoba.

2 The Act specifically states that its
3 purpose includes the consideration of the end-use of
4 power within and outside the province.

5 The soc -- social benefits of greenhouse
6 gas reductions and the economics of plans with the 750
7 megawatt interconnection, including provincial
8 benefits, are illustrated in Manitoba Hydro Exhibits
9 185 and 190 revised, whose figures are excerpted below.

10 And then you'll see that we've provided
11 the next two (2) graphs at pages 7 and 8 that come out
12 much better on the -- on the PDF version that's on the
13 screen. And -- and those benefits, both on page 7, and
14 Diana, you could go to page 8 as well, set out the --
15 the various benefits that are established by the plans
16 that have been studied. And from our perspective, the
17 plans that include Keeyask without gas are on -- in
18 total, of greater benefit to the province.

19 However, having said all of that, it is
20 the position of GAC that the presentation of Manitoba
21 Hydro was deficient in several areas. And our evidence
22 attempted to point out what we thought should have been
23 a more robust examination with respect to demand-side
24 management as an alternative to new generation and with
25 respect to an inadequate analysis of wind as an

1 alternative to Northern dam construction.

2 With respect to demand-side management,
3 in previous GRAs the Green Action Centre has noted that
4 demand-side management is a robust investment in
5 sustainable energy, whether or not further development
6 is contemplated.

7 Figure 2 is a comparison of the Manitoba
8 leak -- Manitoba load winter peak capacity forecast for
9 2008 to 2012. And Figure 2, if we go to the next page,
10 page 10, from the Manitoba Hydro's 2012 load -- load
11 forecast shows winter peak load rising 2,900 megawatts
12 over thirty-five (35) years. This would amount to two-
13 thirds (2/3s) higher than the present load, and it
14 exceeds Conawapa and Keeyask, and then another Keeyask.

15 From the position -- from the
16 perspective of the Green Action Centre this is an
17 unsustainable rate of demand growth for our renewable,
18 but finite, elect -- hydroelectric system. There are
19 limited generation sites on the Nelson River. And such
20 a rate of growth erodes our ability to pay for our
21 system through export earnings and to build resilience
22 among Manitoba consumers through efficiency. DSM
23 maintains or adds to the exportable surplus and builds
24 customer resilience while extending the potential of
25 hydroelectricity to meet our needs.

1 The evidence of several witnesses
2 suggests that Manitoba Hydro can offset all of its
3 currently projected growth in domestic load with DSM
4 measures. You heard this evidence from the La Capra
5 witnesses, from the evidence of Mr. Dunsky, from the
6 evidence of Mr. Chernick, and from the evidence of Mr.
7 Harper. The evidence from these witnesses was that
8 other utilities have offset all load growth, and some
9 utilities have even reduced their load over time.

10 We all know that energy efficiency
11 reduces costs to customers. It reduces heat loss
12 during outages. It reduces Manitoba Hydro's need to
13 invest in generation, transmission, and distribution.
14 It reduces line losses. It creates local jobs in
15 existing communities, increases export revenues, and
16 reduces emissions of greenhouse gases and other
17 pollutants.

18 DSM has been a very dependable resource
19 for utilities, as seen from the exer -- excerpt below
20 from Undertaking number 133, Exhibit number 90. And
21 again that's shown better on the PDF version, which
22 shows the various utilities throughout North America,
23 some of them overperforming the sar -- savings target
24 ratio and -- and a couple underperforming.

25 As part of its DSM effort, Manitoba

1 Hydro needs to focus on a problem that it has
2 recognized but, from the perspective of the Green
3 Action Centre, failed to meaningfully address so far.
4 And that is fuel choice. Mr. Chernick gave significant
5 evra -- evidence with respect to fuel choice. And I
6 would invite you to review that.

7 But Manitoba Hydro recognizes that using
8 gas for most space and water heating applications is
9 superior in every way to using electricity. It is a
10 lower cost for the user. It is a lower cost for
11 Manitoba Hydro and other customers. It is beneficial
12 to other Centra Gas customers. It reduces, in the
13 global context, greenhouse gases and other pollutants.
14 And it improves the provincial balance of payments.

15 The first time that Dr. Miller took me
16 through this process, I must acknowledge it was
17 counterintuitive to me. It didn't make sense. And it
18 was only through the schooling that my professor
19 provided to me that I understood the logic of what the
20 fuel choice option is. Manitoba Hydro has studied this
21 problem in single-family residential, but the problem
22 probably exists in a similar fashion in multi-family
23 and commercial outlets as well.

24 We have a serious market failure. Most
25 new homes have electric space and water heat which

1 developers select for their convenience -- their
2 convenience, and for their profit. Contractors switch
3 gas customers to electric water heating, again for
4 their convenience. And we know that customers have
5 been switching from gas to electricity. We've heard
6 Manitoba Hydro discuss that -- that their response has
7 been limited to an information campaign.

8 And given the numbers that have been
9 prov -- provided, it's the position of Green Action
10 Centre that that information campaign is not enough.
11 There has been no technical assistance. There's been
12 no cash incentives. There's no changes in Manitoba
13 Hydro and Centra line extension and hook-up policies.
14 Manitoba Hydro recognizes that it needs to do more and
15 can do more. And from the Green Action Centre, again,
16 its perspective is that Manitoba Hydro must do more.

17 I'm going to refer to the Manitoba Hydro
18 rebuttal to the DSM evidence which Ms. Boyd, in -- in
19 her email on Friday, had indicated was going to be
20 marked as ex -- Manitoba Hydro Exhibit 85-2. I believe
21 that it was marked this morning as Manitoba Hydro
22 Exhibit 204. But that's what we're talking about, the
23 rebuttal to the oral evidence.

24 On page 6, the analysis starts with the
25 load forecast that includes Manitoba Hydro's

1 speculative projection of new pipeline load. And the
2 problem right off the bat with this is that Manitoba
3 Hydro has not demonstrated that new pipelines would
4 choose electricity over natural gas for compression and
5 pumping energy, especially since waste energy from gas
6 compressors can be used to generate electricity. If
7 Manitoba Hydro prices the power for pipelines at the
8 projected export price, which is greater than the cost
9 of new gas generation, it is hard to see why the
10 pipeline would, in fact, choose electricity.

11 Secondly, Manitoba Hydro subtracts its
12 Level 2 DSM from Manitoba Hydro Exhibit 104-3, page 19.
13 That level is a -- is a mere shadow of the scale of DSM
14 programs from leading utilities in jurisdictions.
15 Utilities -- we've -- we've seen that utilities can get
16 savings over 1.3 percent annually, and with some
17 ramping up to more than 2 percent.

18 The Level 2 DSM plan raises energy
19 savings from .5 percent of usage in 2013/'14 to a
20 creditable 1 percent in the next two (2) years, and to
21 a first rank 2.1 percent in 2016/2017, but then drops
22 savings back to about 1 percent for three (3) years,
23 and then .5 percent in '20/'21, and the savings slide
24 down to two (2) -- .2 percent by '28/'29.

25 Even those Level 2 savings include

1 conservation rates and customer-owned generation, which
2 are not generally counted in DSM savings. So Manitoba
3 Hydro's projected energy efficiency savings, as those
4 are defined by comparison utilities, are even smaller
5 than shown in Exhibit 104-3.

6 Thirdly, Manitoba Hydro compares the
7 expected surplus to the economic and model standard
8 deviations from Appendix D, page 44, but that standard
9 deviation was estimated from variations in the annual
10 weather-adjusted load that have occurred in the past,
11 which also comes from Appendix D. Manitoba Hydro
12 provides no other explanation for how it computed
13 future load forecast uncertainty from the annual
14 variation in load.

15 A recession, for example, does produce
16 low growth for a year or two (2), followed by recovery.
17 Even though there is lots of variation in the short
18 term, it may make no difference in the long term. In
19 this computation, Manitoba Hydro does not reflect the
20 fact that higher loads create additional opportunities
21 for DSM, nor does Manitoba Hydro reflect any
22 probability that the speculative pipeline load will
23 not, in fact, materialize.

24 As its conclusion, Manitoba Hydro
25 presents what it claims to be the probability that load

1 growth uncertainty exceeds surplus. As -- as we've
2 interpreted this, we've read it to read the probability
3 that actual load exceeds the adjusted forecast by less
4 than the adjusted surplus, but from our perspective and
5 our reading of this, this is a but confusing, since the
6 large numbers are actually low probabilities of the
7 problem that's been identified.

8 Manitoba Hydro claims that given
9 uncertainty in load growth, new supply could be
10 required in 2023, with 41 percent probability, or in
11 2022, with 31 percent probability. That's from page 5
12 of -- of the oral rebuttal. Increased DSM and fuel
13 switching would greatly reduce these probabilities, and
14 this additional load will not, in fact, appear
15 overnight. In using Manitoba Hydro's methodology, most
16 of the probability would be in small exceedances.

17 Of the 31 percent probability set out in
18 2022, Manitoba Hydro's method implies one-third (1/3)
19 of the exceedances could be met with the addition of
20 less than 100 megawatts of wind, and two-thirds (2/3s)
21 could be met with a 251 -- 250 megawatt addition of
22 wind. If growth rates turn out to be higher than
23 expected, again, Manitoba Hydro can add wind resources
24 within two (2) years at a lower cost and risk than
25 Keeyask.

1 In order to maximize the economic and
2 environmental benefits of energy efficiency and
3 appropriate fuel choices, Manitoba Hydro must do more
4 than simply express interest in those resources.

5 Manitoba Hydro has a tradition of prode
6 -- projecting substantial DSM savings for a few years,
7 followed by a rapid decline to trivial levels. In the
8 course of this proceeding, Manitoba Hydro has proposed
9 additional energy savings beyond the level proposed at
10 the time of filing, but has not been able to provide
11 consistent values for those savings. Diana, I'm on
12 page -- thank you, page 17.

13 The Level 2 DSM savings for Manitoba
14 Exhibit 104-3, at page 19, matched the Level 2 DSM
15 savings from the table on Manitoba Hydro's original
16 rebuttal, page 31, through 2017.

17

18 (BRIEF PAUSE)

19

20 MR. WILLIAM GANGE: A Level 2 DSM
21 savings from Manitoba Hydro Exhibit 104-3 matched the
22 Level 2 DSM savings from the tables on Manitoba Hydro's
23 original but -- rebuttal through 2017, but are only
24 about 75 percent of the rebuttal values in 2018, and
25 half the rebuttal savings in 2019.

1 The graph of DSM levels on page 31 of
2 the rebuttal shows still higher Level 2 savings, which
3 is inconsistent with both the table on the same page
4 and Manitoba Exhibit 104-3, page 19.

5 Ms. -- Dr. -- okay. The rebuttal
6 evidence on oral evidence suggests that there is
7 significant uncertainty regarding the potential savings
8 achievable through DSM, and I -- I have that reference
9 as Exhibit Manitoba Hydro 85-2, which may be Exhibit
10 204.

11 Mr. Dunsky, in his presentation, which
12 was introduced as CAC-62, discusses the planner's
13 dilemma of how to account for the not perfectly known.
14 Mr. Dunsky's evidence on this point, which was, rats,
15 provided at -- and -- and I'm sorry, but I -- I left
16 out late last night the -- the actual slide number from
17 Mr. Dunsky's presentation, but I believe it was slides
18 41 and following, point out that the DSM potential, in
19 fact, has been shown to replenish itself at roughly the
20 same cost, so that although it is peering into a very
21 cloudy crystal ball, eventually as -- as we get closer,
22 the -- the pathway through DSM becomes clearer.

23 Back in the 2011/2012 GRA hearings, I
24 had a discussion with Mr. Kuczek at pages 5,767 to
25 pages 5,771 about what the status of DSM planning was

1 in April of 2011, and Mr. Kuczek was talking about how
2 they're -- Manitoba Hydro was using up all of the
3 available DSM that was known at that time.

4 Since that time, in -- in the three (3)
5 years that have followed, there have been new methods
6 of DSM, and if you recall Mr. Dunsky's presentation and
7 the enthusiasm that Mr. Dunsky had for the incredible
8 opportunities that await all utilities and Manitoba
9 Hydro as we move into the future for DSM savings, yes,
10 it is clear -- or, yes, Manitoba Hydro has done an
11 excellent job, and they're going to continue to do so.

12 Green Action Centre is of the view that
13 demand-side management has not been given the credit it
14 deserves in the planning process by Manitoba Hydro.
15 GAC is of the view that conservation rates, fuel-
16 switching measures, and load displacement programs
17 provide significant opportunities to Manitoba Hydro to
18 meet and exceed the targets set as DSM savings in the
19 fuel -- in the foreseeable future.

20 The demand-side management team of
21 Manitoba Hydro that includes Mr. Kuczek, Ms. Morrison,
22 Ms. Pilek, Ms. Kuruluk, it's -- it's an exceptional
23 team, and from our perspective, they have, in the past,
24 introduced programs that have produced significant
25 savings to the Manitoba consumer, and that have

1 resulted in substantial reduction of the Manitoba load.
2 This group can achieve the targets believed to be
3 realistic by Messrs. Dunsky and Chernick, if given the
4 opportunity.

5 This isn't in the presentation, but one
6 of the aspects of this that -- that Mr. -- that
7 Professor Miller and I have experienced firsthand is
8 that some years ago, the old Board requested that a
9 report on fuel switching be prepared. It took a long
10 time for it to be released, and I know that Mr. Kuczek,
11 because Mr. Kuczek expressed his frustration at not
12 being able to get it out to us, but it had to be
13 approved by the Board. It had to be approved by senior
14 management. It took an awfully long time for that
15 report to be provided.

16 We believe that -- that the demand-side
17 management team could have had that report to us -- I'm
18 not sure exactly how long, but I'm going to say perhaps
19 a year and a half before we finally got it. I don't
20 blame the demand-side management team. I just don't
21 think, and -- and it's the position of Green -- the
22 Green Action Centre that demand-side management does
23 not get the respect within Manitoba Hydro that it
24 deserves.

25 It's a whole lot more fun to talk about

1 building something really big. It's not quite as
2 tangible to talk about the incredible amount of energy
3 that the demand-side management team has saved Manitoba
4 consumers, and we say that because Manitoba Hydro's
5 rebuttal cautions:

6 "Further work will need to be
7 undertaken prior to making a decision
8 on the initiatives included in Level
9 2 DSM."

10 We are mindful of the difficult history
11 of establishing conservation rates and fuel-switching
12 programs, and the need for resolve and support from the
13 upper echelons of Manitoba Hydro to create a
14 significant and enduring level of DSM.

15 Quite frankly, if it were up to the
16 Green Action Centre and Professor Miller, the demand-
17 side management team would -- would deserve the largest
18 offices in Manitoba Hydro, would deserve the most
19 significant titles in Manitoba Hydro, and -- and it is
20 and has been the consistent view of the Green Action
21 Centre for a long time that -- that the -- the most
22 important part of this organization, the demand-side
23 management team, is not getting the support that it
24 ought to be getting. That concludes the -- the
25 presentation with respect to demand-side management.

1 I'm going to move to wind as an
2 alternative, and without wanting to seem mean to -- to
3 Manitoba Hydro, the -- the Green Action submitted --
4 Centre submits that the evidence established that the
5 analysis of wind as a source of power in these
6 proceedings has been inadequate.

7 Manitoba Hydro's assumptions about the
8 cost of wind are, quite frankly, in -- in our view,
9 incorrect in a number of respects, and -- and because
10 of those mistakes, the cost of wind has been
11 exaggerated. Areas of concern include capital cost,
12 the construction schedule, the expected project life,
13 the assumption that costs will remain constant rather
14 than decrease over the long term, and the wind
15 integration costs.

16 You heard the evidence of Mr. Stevens on
17 this point, and in -- in his presentation, he's used
18 evidence-based assumptions, and the Power Advisory
19 estimates that the cost of wind on a levelized cost of
20 energy basis is lower than that of either Keeyask or
21 Conawapa, and that's set out in Table 9 from GAC's
22 evidence on wind. And you see that -- that on-shore
23 wind in the calculation done by Power Advisory is
24 sixty-four dollars and eighty-eight cents (\$64.88) as
25 compared to the updated cost of Keeyask at sixty-eight

1 dollars and twenty-six cents (\$68.26).

2 We also were frustrated and -- and
3 disappointed that the analysis of wind did not mesh
4 well with the plans that were studied in this process.
5 Wind was only considered in two (2) of the plans, but
6 neither of these plans were optimized with the respect
7 -- with respect to the quantity and timing of new wind
8 and gas generation, and no consideration was given to
9 the potential of wind to be integrated with hydro to
10 increase Manitoba's exports.

11 None of the plans considered include
12 both wind and the new intertie. From our perspective
13 at the Green Action Centre, Manitoba Hydro and the
14 province of Manitoba are in a -- an advantageous
15 position with respect to the use of wind, because
16 Manitoba Hydro can back up -- or can use its lake
17 generation system as a backup to wind when the wind is
18 not blowing. It's a tremendous battery, and it's --
19 and it's a -- an advantage that very few, if any, other
20 utilities have.

21 With respect to wind, an integrated
22 resource planning process would use reasonable cost
23 assumptions based on evidence from a range of sources
24 that focus specifically on wind. For capital costs,
25 the US Department of Energy's annual Wind Technologies

1 Market Report is an excellent source, and this could be
2 supplemented by an engineering report on the difference
3 between average US North American costs and costs
4 specifically in Manitoba, because we recognize that
5 there are some costs that would -- there are some
6 factors that would increase the cost of operating wind
7 in Manitoba because of our climate, but there are also
8 some factors that would make it easier to construct
9 wind turbines.

10 We sus -- we recommend that if -- if
11 this were to be done, that one would consult wind
12 developers for project life. For trends with respect
13 to costs, one would consider surveys from multiple
14 reports, taking into account trends toward larger
15 turbines and taller towers, and for wind integration
16 costs, one would look at Manitoba Hydro's actual
17 experiences to date.

18 We recommend that the integrated
19 resource planning would consider the potential for wind
20 hydro integration to increase exports so that det --
21 detailed computer modelling of Manitoba Hydro's system
22 with additional wind, with reduced hydro generation
23 when wind is available, to service domestic load,
24 resulting in more hydro generation available for export
25 when value is highest.

1 We recommend that -- that the Board
2 consider scenarios -- plans that include additional
3 wind, plus additional hydro, and/or additional
4 interties, and that all scenarios should be optimized
5 to minimize net costs before comparison to other
6 scenarios.

7 We also suggest that -- that the Board
8 ought to consider the potential for wind to mitigate
9 the risk of supply shortfalls. Wind sites could be
10 developed to a preliminary level so that, for instance,
11 land could be -- could be gathered, which would require
12 approximately 5 percent of the total capital cost, and
13 then held in reserve.

14 In case of supply shortfalls due to
15 higher than expected economic growth, a large
16 industrial load, or underperformance of DSM measures,
17 wind projects could be brought on stream in a
18 relatively short period of time, two (2) years, adding
19 energy and freeing hydro capacity to serve peak times
20 and/or export commitments. That's the conclusion with
21 respect to wind.

22 I'm going to move now to the -- to
23 Keeyask and the 750 megawatt transmission line. This
24 hearing and the evidence that has been supplied
25 convinces that -- convinces GS -- GAC that even if

1 Keeyask is not needed or economic for domestic load,
2 Keeyask may be beneficial for firm export sales and
3 facilitating construction of additional transmission to
4 the United States.

5 From the perspective of GSC (sic), the
6 intertie, the transmission line, would appear to be
7 perhaps the most valuable part of this whole process.
8 The transmission line appears to be valuable for
9 additional firm and economy exports, including revenues
10 from firming and integration of US wind resources,
11 imports in drought conditions and Northern transmission
12 outages, increased reliability, and reduced greenhouse
13 gas emissions.

14 Manitoba Hydro appears to have many
15 options for additional firm exports. The Board should
16 give Manitoba Hydro an opportunity to demonstrate the
17 cost-effectiveness of Keeyask for firm and surplus
18 exports without excessive delay.

19 Although Manitoba Hydro has indicated
20 that it seeks approval at this time only for Keeyask,
21 the 750 megawatt transmission line to the US, and its
22 signed export contracts their analyses are
23 predominantly of entire development plans, including
24 future phases with ca -- Conawapa and/or gas. However,
25 La Capra Associates has provided some insight into the

1 value of plan components with its waterfall analysis.

2 Exhibit La Capra-57, Undertaking 108,
3 shows that most of the value in Hydro's Preferred
4 Development Plan stems from the construction of Keeyask
5 and the 750 megawatt intertie. It is not clear why,
6 with Keeyask and the intertie built, the WPS contract
7 should be a loss in this depiction. But unfortunately,
8 we don't have the opportunity to investigate at this
9 point.

10

11 (BRIEF PAUSE)

12

13 MR. WILLIAM GANGE: And if one looks at
14 -- on -- on undertaking -- the seventy-eight (78) year
15 reference scenario PDP components values, if one looks
16 at the two (2) left-hand columns, they show the value
17 of Keeyask and the 750 megawatt in -- intertie.

18 On the opening day of the oral hearing,
19 Green Action Centre asked Manitoba Hydro's chief
20 executive -- or president, Mr. Thomson, whether the
21 Development Plan would be profitable under the
22 assumption that a flat domestic load could be achieved
23 through DSM and other measures. Mr. Thomson was
24 enthusiastic and candid and said:

25 "If we built the projects and never

1 needed them domestically and we were
2 selling power under those contracts
3 at the prices that we've done in the
4 early stages and that lasted over the
5 life of the project, I think they'd
6 be wildly successful and profitable."

7 Manitoba Hydro supplied Exhibit Number
8 156 to demonstrate Mr. Thomson's claim. And we
9 recognize that the public version is more conservative
10 because it uses forecast prices rather than the higher
11 contract prices. You, however, have access to those
12 prices.

13 Hydro has also indicated that the
14 demonstration did not include Conawapa in the exercise
15 because export interties could not accommodate
16 Conawapa's additional capacity under the assumption of
17 a flat domestic load. But Manitoba Hydro-156 does
18 include two (2) cases: the NPV of a flat load without
19 new generation or transmission and the NPV with the
20 addition of Keeyask and the 750 megawatt intertie.

21 These results are shown in -- in the
22 table that we'll get to in a second. The first
23 includes an equity component, which the second
24 excludes. Depending upon which assumption is used, a
25 flat load without new generation or transmission

1 returns either 3.16 or \$3.675 billion. Adding Keeyask
2 and the 750 megawatt intertie adds either .402 or \$1.19
3 billion in net present value. Additional benefits, of
4 course, accrue to the province. And that was shown in
5 the charts that are shown on page 26.

6 Unfortunately, the comparison lacks any
7 achie -- investments for achieving a flat load. We did
8 ask for an updated comparison, assuming a cost of three
9 (3) cents per kilowatt hour set alongside the other
10 plans under consideration. But, unfortunately, Ms.
11 Boyd advised us that Manitoba Hydro was not able to
12 complete this request within the time allotted for this
13 process. So we are left with the imperfect
14 demonstration that under flat load conditions, Keeyask
15 plus the intertie are still able to provide incremental
16 value.

17 We also learned from Manitoba Hydro's
18 responses that there could be a major risk from
19 overbuilding with Conawapa beyond export transmission
20 capacity. Under these circum -- under this
21 circumstance, the temptation would be strong for
22 Manitoba Hydro to cut its otherwise cost-effective DSM
23 programs when the alternative to revenue generating
24 domestic load growth is to spill water while paying
25 down the enormous debt from Conawapa.

1 So that then leads me to the
2 recommendations that -- that the Green Action Centre is
3 going to make. Number 1: We start with DSM, that
4 Manitoba Hydro should immediately and aggressively
5 pursue DSM in the short-term as proposed for Hydro's
6 Level 2 DSM augmented farther out with the goal of
7 achieving a flat load in accord with the evidence from
8 Mr. Dunsky and Mr. Chernick.

9 Secondly, ancillary to an aggressive and
10 enduring DSM commitment, Manitoba Hydro should pursue
11 enabling and supportive policies, including
12 conservation rates, programs encouraging the selection
13 of alternative fuels over electric heat, and mechanisms
14 for facilitating consumer -- customer-owned generation
15 and energy substitution, using waste heat and
16 industrial and agricultural byproducts.

17 Number 3: Because rates will rise
18 faster than inflation under all plans, vulnerable
19 persons with a high energy burden require bill
20 mitigation through targeted retrofit and efficiency
21 programs, special rate design, and, in some cases,
22 discounted bills. It would be a mistake to pick a
23 suboptimal plan that will cost everyone more in the
24 long run because of marginally different rates in early
25 years.

1 We recommend that you pick the plan with
2 the greatest environmentally sustainable socioeconomic
3 benefits and use the wealth it generates to devise
4 mitigation measures for vulnerable persons. And we've
5 made reference to Figure 1 from page 2 of Manitoba
6 Exhibit 104-12-5 to show that the cumu -- cumulative
7 rate increases of the development plans. And -- and as
8 stated, they all increase greater than the rate of
9 inflation.

10 Number 4: The Green Action Centre
11 recommends that the PUB should approve Keeyask and the
12 750 megawatt transmission intertie to the United States
13 for immediate construction. The new 750 megawatt
14 intertie to Minnesota, expandable to 1,100 mega --
15 megawatts, with complementary reserve transmission to
16 Wisconsin, is the most important asset in Hydro's
17 plans. It has net benefits to Manitoba; contributes to
18 regional sustainability, including facilitation of
19 economic firm exports, economic imports particularly in
20 drought conditions, and to meet winter peak load, but
21 also for profitable resale on on-peak; enhancing other
22 renewable resources by firming wind and solar power;
23 enhances the reliability of the domestic power supply.

24 While the evidence in support of Keeyask
25 for domestic need in our view is more equivocal and the

1 analysis under flat loads is somewhat sketchy, Green
2 Action Centre believes that Keeyask is likely to be
3 justified for exports, especially because a commitment
4 to that Plan appears to be necessary to promote the
5 prompt construction of the intertie, and it already has
6 its capacity contracted out in profitable sales for the
7 early years.

8 Number 5: It is the position of Green
9 Action Centre that no comparable case for Conawapa has
10 yet been presented, and therefore no approval for
11 Conawapa should be granted at this time. Indeed, with
12 present and planned transmission capacity, there is a
13 risk of overbuilding with Conawapa to create the
14 unwelcome situation of Hydro-Quebec as described by Mr.
15 Dunskey.

16 Conditions that might make Conawapa more
17 attractive include higher gas prices, carbon pricing,
18 additional transmission beyond the 750 megawatt
19 intertie, and a suite of long-term export contracts at
20 favourable prices.

21 Number 6: It is the position of the
22 Green Action Centre that there is a strong case against
23 adopting a development plan that includes new natural
24 gas generation, especially for base load. Manito --
25 or, pardon me, Minnesota's legislation against new

1 based power supply from fossil fuel generation is: a) a
2 complement to Manitoba's Clean Energy Strategy and, b)
3 a warning that as US states adopt various renewable
4 energy standards, Manitoba may lose export contracts or
5 pricing advantages if it surrenders its 'clean energy'
6 brand and adopts gas generation for new supply.

7 These economic considerations only
8 strength Manitoba's own policy commitments to clean
9 energy. In the coal-dominated generation fleet of the
10 MISO region, replacement of coal by natural gas
11 generation is seen as a carbon-mitigating transition,
12 but the opposite is true for a choice of natural gas
13 instead of wind or hydro power.

14 To see gas generation as an attractive
15 option, one has to ignore environmental external --
16 externalities and be willing to accept subsidization of
17 our power from unmitigated, uncompensated climate
18 change harms, and look only to the narrow utility
19 account, while ignoring the broader social perspective
20 prescribed by the terms of reference.

21 And while gas may be -- may put less
22 capital at risk than new hydro generation in the short
23 term, there are greater fuel and carbon risks.
24 Moreover, unlike gas, hydro investment produces a
25 significant cashflow to the province from water

1 rentals, capital tax, and the debt guarantee fee, which
2 could be used for a variety of social benefits,
3 including the mitigation of bill impacts on vulnerable
4 persons, tax relief, or economic stimulus measures.

5 It is important to distinguish the
6 impacts of natural gas used for heating in Manitoba and
7 natural gas used to generate electric power, whether in
8 Manitoba or elsewhere. Because of their different --
9 of the difference in their efficiencies -- 90 percent
10 for a gas furnace versus 20 to 50 percent for gas
11 turbine or coal power generation -- heating with
12 electricity causes significantly more greenhouse gases
13 to be produced by the North American energy system than
14 heating with a high-energy gas furnace. That was
15 described at GAC number 22, slides 5 to 14.

16 This could change in several decades,
17 when the generation mix changes significantly, but for
18 now, converting to electric heat to achieve fossil
19 freedom only increases the net environmental impacts of
20 your heating choice.

21 Because of potential confusion, and
22 because the practice with the least impact may change
23 over time, both public education and natural gas policy
24 development are desirable. For example, what are the
25 possibilities for implementing a renewable natural gas

1 premium option for gas customers who wish to green
2 their heating without increasing emissions elsewhere,
3 such as Mr. Thomson's former employer, FortisBC offers?

4 Number 7, options for future resource
5 planning should be developed through an integrated
6 resource planning process, or planning done right. The
7 current NFAT process has had to accommodate new
8 alternatives proposed by Manitoba Hydro, the Green
9 Action Centre, the Consumer's Association of Canada,
10 and La Capra Associates. Is it a -- it is a testament
11 to the hard work and dedication of all parties, but
12 Manitoba Hydro in particular, that a considerable
13 volume of re-analysis has been accommodated within the
14 process.

15 And although personally that re-analysis
16 drove me crazy and -- and meant that there were a lot
17 of late nights, Manitoba -- or the Green Action Centre
18 believes that there is ample evidence from the last
19 minute scramble, and in it, adequate attention to
20 alternatives within the rigid timeline of the formal
21 NFAT review, to demonstrate that earlier exploration of
22 considerations and alternatives from informed
23 stakeholders and outside experts in the course of
24 integrated resource planning would have been
25 preferable.

1 For example, Manitoba Hydro has
2 indicated to us that they are unable to provide a
3 comparable -- a -- a comparative economic evaluation of
4 the two (2) flat loads within the time frame of the
5 NFAT process, despite considerable interest shown by
6 the PUB in these options.

7 It is our view that a future IRP process
8 should consider, from the perspective of -- of hydro,
9 identifying opportunities for increasing the ability of
10 Manitoba's hydro resources to provide valuable services
11 to compliment wind, consideration of ramping and load
12 following, consideration of storage.

13 Secondly, to identify events and
14 conditions that would trigger reviving the Conawapa
15 option, such as new intertie capacity, higher gas
16 prices and carbon pricing, and new firm contracts with
17 long horizons reflecting the higher prices. And with
18 respect to remaining fossil resources, main --
19 maintaining some as backup in drought, and determining
20 whether backing out usage in normal water years is cost
21 effective, using wind, small hydro, or solar.

22 With respect to process, we believe that
23 outside facilitation, say, by Board staff, and staged
24 input by stakeholders, into the consideration of
25 resource options before a plan is completed and sewn

1 up, can benefit the planning outcomes and increase
2 understanding and ownership of the planning process by
3 Manitoba citizens.

4 Number 8, finally, Green Action Centre
5 believes that the stakeholder input can benefit other
6 planning topics like conservation rates, bill
7 mitigation, and natural gas strategy with respect to
8 both gas generation and gas heating, that optimize
9 commitments to global and local reduction of greenhouse
10 gasses.

11 We note that Mr. Kuczek has already
12 scheduled a stakeholder meeting in early June to
13 consider the design of and issues around conservation
14 rates, and that Manitoba Exhibit number 199 exhib --
15 indicates that Manitoba Hydro is open to expanding the
16 discussion arrangements concerning the Corporation's
17 resource planning, including DSM, supply technology,
18 and options and how they might fit into a resource
19 plan.

20 Green Action Centre welcomes these
21 indications, and notes that they are consistent with
22 the principles of sustainable development as found in
23 the Sustainable Development Act, the consultation on
24 sustainable development implementation, recommendations
25 to which the province has subscribed, and the practices

1 of other utilities such as Seattle City Light, and BC
2 Hydro.

3 In closing, I'd like to thank,
4 personally, from my perspective, the assistance that --
5 that I received in this process from Mr. Dunsky, Mr.
6 Chernick, Mr. Stevens, and most of all, Professor
7 Miller. Thank you.

8

9 (BRIEF PAUSE)

10

11 THE CHAIRPERSON: I have a few
12 questions. What I propose to do is perhaps we can ask
13 a few questions and break for -- break for a few
14 minutes, and -- and potentially, the panel might have
15 some questions after having thought over what you've --
16 you've told us. So I -- they will -- the possibility
17 of further questions after the break, if that's okay.

18 MR. WILLIAM GANGE: Yes, that's --
19 that's fine. Just keep in -- in mind, Mr. Chair, I --
20 I probably may not have mentioned my -- the time, I --
21 I have a commitment at eleven o'clock, so at -- at ten
22 (10) to 11:00, I have to skedaddle.

23 THE CHAIRPERSON: Okay, understood.
24 Okay. Yeah.

25 THE CHAIRPERSON: Now, just to

1 paraphrase you, I guess one (1) question I have is in
2 relation to the statement that you made, that DSM does
3 not get the kind of attention it deserves within
4 Manitoba Hydro, and I guess I would like to explore
5 that with you a little bit more in terms of what your
6 belief is regarding changing that.

7 MR. WILLIAM GANGE: It -- it strikes me
8 that it is, to a certain degree, a corporate culture
9 process, and -- and, of course, I'm not inside Manitoba
10 Hydro, but when I see, and -- and when Dr. Miller sees
11 how long it took for Mr. Kuczek to be able to get
12 permission from the Board and -- and the executive of
13 Manitoba Hydro to release the fuel-switching report
14 when his staff was able to prepare that report, and --
15 and it was an excellent report.

16 We -- we've referred to it in the last
17 GRA, as you will recall, extensively. We've referred
18 to it in this. It -- it has been, from our
19 perspective, a -- a significant blueprint for one (1)
20 of the most pressing problems that -- that exists with
21 respect to load growth.

22 We just think that -- that Mr. Kuczek's
23 department should have been able to have gone to the
24 executive and said: We're finished this. Let's get it
25 out there.

1 But for reasons that I don't understand,
2 Dr. Miller doesn't understand, it took an awfully long
3 time to get that out. So -- so it -- it is a -- it is
4 a corporate culture -- cultural shift that I -- that --
5 that our view is has to change. That -- that the
6 corporate culture has to say that one (1) of the things
7 that has to be done is to recognize that saving power
8 is just as important, and perhaps even more important,
9 than creating new power.

10 So I recognize, Mr. Chair, I didn't give
11 you a -- a blueprint, but that's all that I can say,
12 because I'm not inside those walls.

13

14 (BRIEF PAUSE)

15

16 MR. WILLIAM GANGE: Professor Miller
17 reminds me that -- that during the opening statement,
18 one (1) of the -- one (1) of the points that was raised
19 by Mr. Thomson was restraining costs. Well, from our
20 perspective, investment in DSM, in the team and in the
21 programs, every penny that goes into that pays
22 dividends, and so that restraint of costs, from -- from
23 our view, does not apply or ought not to apply to the
24 same degree to the DSM programs.

25 THE CHAIRPERSON: Now, one (1) of the

1 concerns I have in respect of successfully implementing
2 DSM to the levels that have been described as pot -- as
3 potentially available to Manitoba is the fact that it
4 does require a bit of a culture change on the part of
5 Manitobans to adopt the DSM programs and to adopt the
6 new technologies.

7 Have you got some recommendations that
8 would be --

9 MR. WILLIAM GANGE: Well, Mr. Chair,
10 that's -- that -- that is a great question, and -- and
11 Mr. Dunsky did make reference to that in -- in his
12 presentation, where he said that -- that his design and
13 -- and his analysis of DSM was -- was different than
14 Manitoba Hydro's because Manitoba Hydro was the -- it
15 was projecting an immediate ramp up.

16 And Mr. Dunsky said, I don't think they
17 can do that. You can't -- you can't do it really fast.
18 So he had a slower ramp up, which then achieved a
19 higher level and was then sustained at a higher level.
20 So from our perspective, we do think that that -- that
21 that is realistic that the -- and -- and some of the
22 plans that -- that, for instance, have been discussed,
23 the area lighting is -- is one (1) that -- that was put
24 on the table during the hearing.

25 That has a -- a very, very significant

1 potential impact upon load growth if -- if that source
2 of -- of power usage can be contained. I'm going to
3 say, as -- as a second point, something that doesn't
4 ever make friends for me with anybody that -- but
5 Professor Miller and the people at the Green Action
6 Centre. It certainly doesn't make friends at my office
7 with my secretary or anybody else.

8 But the reality is, from our
9 perspective, that rates in Manitoba are so low that DSM
10 is harder -- is harder to sell, and -- and so that it
11 has -- as you know, it has been the position of -- of
12 the Green Action Centre that what we've referred to as
13 'inverted rates' and what Ms. Morrison referred to in
14 the last GRA as 'conservation rates' are an excellent
15 way of -- of putting a damper on load growth.

16 Ms. Morrison in the last GRA talked
17 about the amount of energy that has -- that -- that BC
18 Hydro estimates that it has saved because of
19 conservation rates, and it was very, very significant.
20 And -- and so although the -- the NFAT is not a hearing
21 about rates, recommendation that -- that we've long
22 asked for and that we would ask that -- that you look
23 at very seriously, is that Manitoba Hydro, for the next
24 GRA, come in with a rate design that includes
25 conservation rates.

1 And we believe -- I know that somebody
2 that I'm not going to mention that's going to follow
3 immediately after me does not believe that -- that
4 inverted rates has the impact that we believe it does,
5 but -- but from the GAC perspective, conservation rates
6 would be a very, very significant tool for Manitoba
7 Hydro in damping load growth.

8 MR. RICHARD BEL: I have one (1)
9 question. Do you consider Manitoba Hydro's diversity
10 agreements as equivalent to constructing wind power in
11 Manitoba on a regional basis?

12

13 (BRIEF PAUSE)

14

15 MR. WILLIAM GANGE: I can't answer that
16 at all, but Professor Miller points out that it -- that
17 the diversity agreements do have an impact in -- in the
18 larger picture, but not on -- on local -- from -- from
19 the local perspective, but in the larger perspective,
20 it may have that. But that's about -- you'd have to
21 ask that, quite frankly, for -- for a really good
22 answer of -- of Mr. Chernick. Sorry, Mr. Bel.

23 MR. RICHARD BEL: Okay.

24 DR. HUGH GRANT: I was reading in a
25 blog the other day that DSM has become so fashionable

1 that the truly hip become DSM skeptics, and in my quest
2 to be a true hipster, let me ask -- pose my lingering
3 anxiety I have.

4 MR. WILLIAM GANGE: I -- I can say
5 this, Mr. Grant. The Green Action Centre has been
6 recommending DSM since the midi was in style, so
7 whatever -- whatever it is...

8 DR. HUGH GRANT: I -- I didn't mean to
9 suggest you weren't a true hipster.

10 MR. WILLIAM GANGE: Oh, I'm not.

11 DR. HUGH GRANT: What nags at me is
12 this academic literature, these econometric studies, so
13 that -- which suggest that North American utilities
14 have undertaken DSM, and some have very lusty targets,
15 and they hit these targets. So it's not a question of
16 meeting the targets or not. It's that somehow, at the
17 end of the day, it doesn't seem to have the impact on
18 the load that one would anticipate, and so when you do
19 a regression analysis and you put in a DSM variable, it
20 doesn't end up being very robust.

21 And part of that argument comes to how,
22 in fact, you monitor these programs, and how peoples'
23 behaviour is affected by them. And so whether it's a
24 free ride, or a problem, or rebound effects, or Jevon
25 (sic) effects, or selection bias, I'm just concerned

1 about the expectation that these programs can deliver
2 the long-term impact on load that -- that may be being
3 promised by some groups.

4 Did you have any...

5 MR. WILLIAM GANGE: I -- I can say,
6 Professor Grant, that -- that Mr. Chernick did address
7 that in -- in his presentation, and if you recall, he
8 made reference to the experience that he has in the
9 Northeast United States, where DSM has been hip for a
10 very long time, and -- and his evidence was that the
11 belief is that because of those DSM programs that have
12 been rigorously monitored as -- as best, something that
13 doesn't occur can be monitored, and -- and clearly,
14 that's -- that's the potential problem, but that --
15 that the evidence establishes that in the Northeast
16 utilities, load growth has actually decreased.

17 And -- and a large part of that
18 tempering of load growth, and -- and a portion of the -
19 - the decline in load growth is attributed to DSM. Now
20 I recognize, as I'm sure that Mr. Chernick would --
21 would recognize, that there would -- there's always
22 other factors, recession, changing industrial
23 component. Yes, but those -- those states have been
24 involved in this for an awfully long time, and that's
25 been their experience.

1 I can also say that -- that you also
2 heard from Mr. Dunsky, who is -- who monitors, and I
3 can't remember the word that he used, 'proctor' or
4 something like that, of something like twenty-six (26)
5 separate utilities in California with respect to
6 monitoring DSM performance.

7 And -- and I heard your question, and I
8 heard that -- that part of it was -- is part of it the
9 selection, and how you do the monitoring, and all of
10 that. I clearly can't answer that, but it does seem to
11 me that both Mr. Dunsky and Mr. Chernick, who -- with -
12 - with all due respect to everybody that testified, the
13 two (2) guys at this hearing that have had the most
14 experience in measuring DSM and -- and talking about
15 DSM are those two (2) guys, and those two (2) people,
16 their blog would say, DSM works.

17 THE CHAIRPERSON: Just one (1) other
18 question from me, and, you know, given -- given the
19 fact that you have indicated support for the Keeyask
20 Generating Station and the 750 intertie, the -- the
21 Manitoba Hydro procedure, the plan effectively means
22 that the generation of wind in this province will
23 likely be displaced for some length of time in the
24 future.

25 And you indicate in your presentation

1 that wind sites could be developed and held in reserve
2 in case of supply shortfalls. But it doesn't appear to
3 me that there will be supply shortfalls in a scenario
4 where Keeyask and the intertie are constructed. It
5 doesn't appear to me there'll be supply shortfalls for
6 quite some time in the future.

7 Could you -- could you clarify that
8 point for me?

9 MR. WILLIAM GANGE: Sure. Green Action
10 Centre is not here as a spokesperson for the wind
11 industry. Green Action Centre is here analyzing this
12 plan for what Green Action Centre sees as -- as the
13 best outcome from a sustainable development perspective
14 for the Province of Manitoba, and quite frankly, for
15 the planet.

16 So, yes, this -- our recommendation does
17 have a potential impact upon wind development. No,
18 that -- that probably is true. But in terms of what's
19 best for the province and that intertie is so important
20 in -- in our view, you know, we -- we had one (1)
21 hearing that dealt almost entirely with -- with risk.
22 And although it wasn't as long as this one, it was only
23 shorter by a couple of days. And -- and that intertie
24 is, from the perspective of the Green Action Centre,
25 such an important part of meeting the -- the risk

1 component of a hydroelectric system.

2 So -- but what we are saying is that --
3 is that Keeyask does a number of things. It -- it
4 provides a -- a secure and reliable source of energy
5 for the province for the foreseeable future. It
6 provides, as -- as we understand from the evidence of
7 Mr. Cormie, it -- it -- Keeyask provides a firming
8 capacity for wind in the Midwest states. So it -- so
9 it's beneficial that way.

10 If we are wrong -- and -- and I heard
11 Board member Kapitany ask this question several times:
12 But what if you're wrong on DSM? What if you're wrong
13 on load growth? As -- as we said in -- in the -- in --
14 in the submission, if we are wrong on that, that
15 doesn't happen overnight. It's not like in -- in May
16 of 2014, you've got enough power and in July of 2014,
17 all of a sudden you're -- you're 200 megawatts short.

18 It's -- it's a slow process. And so if
19 we are wrong, we say that -- that what ought to be done
20 is wind at that point ought to be given a very
21 significant review. So that's part of the reason why
22 we're saying yes to Conawapa, yes to the intertie --
23 pardon me, yes to Keeyask and yes to the intertie, but
24 no to Conawapa.

25 We say that -- that the -- that the

1 Preferred Development Plan including Conawapa has not
2 been proved. So -- and -- and rather than giving that
3 approval at this stage, our view is proceed with the
4 foreseeable future, which is Keeyask and the intertie.
5 And if the -- the projections with respect DSM and
6 load, the load issues, if we're wrong on that, then at
7 that point the government isn't tied into Conawapa,
8 hasn't spent billions of dollars further in developing
9 Conawapa, but rather can deal with those shortfalls by
10 what we think would make sense, which is smaller wind
11 developments.

12 Does that answer that question, Mr.
13 Chair? Yeah.

14 THE CHAIRPERSON: Okay. I think that
15 completes the questions from the panel. And -- and
16 frankly, we won't -- I'll drop my plan to ask you
17 questions after the coffee -- coffee break. So you're
18 free to go on to other business.

19 MR. WILLIAM GANGE: Thank you.

20 THE CHAIRPERSON: So --

21 MR. WILLIAM GANGE: I'll be back in the
22 afternoon, but thanks very much. And I appreciate -- I
23 -- I do appreciate and -- and Professor Miller
24 appreciates the exceptional attention that the Board
25 has given to this very difficult process.

1 THE CHAIRPERSON: On behalf of the
2 panel, I'd like to express my appreciation to the Green
3 Action Centre, in particular, Professor Miller, who is
4 a committed -- committed participant and attendee at
5 these sessions and other hearings that the panel holds.
6 So thank you very much, Professor Miller, for your
7 continuing commitment to the work of this panel and --
8 and your strong belief in the work of GAC. I think you
9 make a great contribution to these proceedings.

10 And thank you, Mr. Gange, as well, for
11 representing the Green Action Centre. So with that,
12 we'll take ten (10) minutes for coffee. Thank you.

13

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

15 --- Upon resuming at 10:59 a.m.

16

17 THE CHAIRPERSON: I believe that we're
18 ready to resume the proceedings. Good morning, Mr.
19 Williams. Ms. Menzies, good morning.

20

21 FINAL SUBMISSIONS BY CAC (MANITOBA):

22 MR. BYRON WILLIAMS: Good morning, Mr.
23 Chair and members of the panel. I'm not the thankful
24 person like Mr. -- Mr. Gange, but I'll start with a few
25 recognitions, anyways. Behind me -- or she was just

1 behind me. Over there roaming the room is Ms. Desorcy,
2 executive director of CAC (Manitoba), who's been with
3 us for much of the hearing and certainly with us for
4 most of the weekend.

5 And in the crowd there's a handsome,
6 grey haired gentleman in the -- the second row, Mr.
7 Chuck Kruden, who's a well-known and longtime advocate
8 on behalf of seniors' issues and who's been -- we've
9 been honoured to have as part of our Stakeholder
10 Advisory Committee.

11 To his left is Mr. Dave Mouland, who
12 appeared as a witness on the ratepayer panel. And the
13 -- in the back row is Mr. Ivan Moose, who was the
14 facilitator for the traditional land users and Elders.
15 And we do recognize, as well, Councillor Spence, who
16 was not part of our advisory group, but we recognize
17 her presence here today.

18 Also in the back row is one (1) of our
19 tremendous volunteers, Mr. Ari Decter-Frain. I'm not
20 suggesting that I have appeared knowledgeable on lake
21 sturgeon or multiple account benefit cost analysis, but
22 Mr. Sha -- Mr. Decter-Frain is and -- and has done some
23 fabulous volunteer work for us. And in the front row
24 behind the -- the CBC camera is Ms. Liz McCandless, who
25 is responsible for some of the writing that you'll --

1 you'll see today.

2 Before we do introduce our exhibits, I -
3 - Mr. Gange has shamed me into it, so I will, and
4 certainly this is meant sincerely, we do wish to thank
5 the PUB staff. It was a tremendous effort to organize
6 the technology around this hearing, and they should be
7 commended and applauded. We appreciate the assistance
8 of Board counsel and their advisors, and certainly our
9 friends from Manitoba Hydro, as well, and, as well, the
10 Intervenor counsel and their advisors. And it's been a
11 remarkably collegial hearing, given the mad scramble
12 that we've all been involved with and -- and the
13 stresses that we've all been under. And we certainly
14 commend all parties for that.

15 The -- just by way of exhibits, what you
16 should have when you go back to your offices this
17 evening is a written argument by CAC (Manitoba) with
18 the same title as this PowerPoint presentation. And we
19 would suggest that be marked as Exhibit 91 of CAC.

20

21 --- EXHIBIT NO. CAC-91: Written argument

22

23 MR. BYRON WILLIAMS: Behind that
24 lengthy written argument is an extensive appendix,
25 roughly 60 pages, which is an economic backgrounder, an

1 economic analysis backgrounder. And my understanding
2 is that the PUB has marked that as CAC Exhibit 91-1.

3

4 --- EXHIBIT NO. CAC-91-1: Economic analysis
5 backgrounder

6

7 MR. BYRON WILLIAMS: Personally, I've
8 had my fill of Mr. Hacaault's quilts and Hydro's S-
9 curves, but if you haven't had your fill, you can knock
10 yourself out on CAC Exhibit 91-1, which is really a
11 fantastic overview of the history of the economic
12 evaluation, bringing it to -- to the updates.

13 So I would simply note that the written
14 argument and the appendix are quite distinct from the
15 oral presentation. So hopefully you'll -- you'll take
16 the -- the arguments that I present today and then see
17 them embellished, hopefully, with much more detail in
18 the written submissions.

19 We would ask as well, that our
20 PowerPoint be marked as CAC Exhibit number 92.

21

22 --- EXHIBIT NO. CAC-92: PowerPoint presentation

23

24 MR. BYRON WILLIAMS: We had a flashy
25 title for our opening statement. I think we called it

1 'Betting the Farm on Keeyask and Conawapa'. Mr.
2 Rainkie made a little fun of me for that title, so I
3 toned down -- I toned down the language just a little
4 bit, but certainly this title is very relevant to the
5 submissions of CAC (Manitoba).

6 And we can stay on that page for a
7 second, because it -- really, what we're -- a great
8 theme in this hearing has been risk. And what we
9 learned in the -- since February of 2014, as we began
10 to understand the challenges that Manitoba Hydro had
11 had in their earlier load forecasts and DSM estimates,
12 was that really the project that's before you is not
13 really about domestic need. It's about economic
14 opportunities in the United States and the risk
15 associated with them.

16 And in the course of this hearing, one
17 of the most insightful witnesses this panel has heard
18 is Mr. Colaiacovo from Morrison Park. And he, as well
19 as Mr. Dunskey, another stellar witness, really captured
20 what our client thinks is the revelation of the last
21 few months, that -- that really these projects, they're
22 not about need, they're about opportunity; in essence,
23 a merchant plant. But merchant would not market --
24 without market power in the American marketplace. In
25 essence, a price taker. And that's a central theme

1 that we will be chatting about a fair bit in this
2 presentation.

3 My client, if we turn to page 2 of the
4 slide, would admonish me, quite properly, if I didn't
5 tell you a little but about CAC (Manitoba). CAC is
6 guided by eight (8) consumer rights. We've set out
7 here four (4) of the more critical ones for the
8 purposes of this hearing. And at times in the course
9 of this hearing, CAC has been asked: Why are you
10 taking an issue in this issue, or this issue?

11 As a starting point, consumers are
12 always concerned about getting value for money. And
13 certainly for all Manitoba consumers, the case of
14 Manitoba Hydro for its development and the risks it
15 presents is a -- a matter of pressing concern, given
16 the magnitude of the expenditures.

17 Staying on this page, a central theme of
18 CAC (Manitoba) is always affordability and
19 accessibility. And this Board will be familiar with
20 the hard work that CAC (Manitoba) has done over the
21 last half decade in terms of trying to promote access
22 to energy efficiency programming for low-income people.
23 It's been a battle for CAC since 2008 when we first
24 brought Mr. Dunsky before this panel, perhaps even
25 earlier, Dr. Higgin gave us some assistance in that

1 regard.

2 And this panel will be aware, as well,
3 that that concern with affordability and with
4 vulnerable consumers is not restricted to the energy
5 field. CAC (Manitoba) has fought consistently for
6 consumers of payday loans and consumers of government
7 cheque cashing services.

8 And it's nice to have someone, Mr.
9 Mouland, here from Winnipeg Harvest, because just
10 recently CAC (Manitoba) and Winnipeg Harvest
11 collaborated on issues relating to accessibility for
12 basic telephone service for Manitobans.

13 Staying on this page for just one (1)
14 second, an emerging theme in the consumer movement,
15 certainly over recent years, but going back longer,
16 relates to ethical consumption and sustainable
17 consumption.

18 These were important aspects of
19 consumers' right to choice, and to a safe and healthy
20 environment. And an increasing concern of Manitoba
21 consumers, and consumers internationally, is to
22 understand the impacts of their consumption choices on
23 the communities and the producers of the goods they
24 purchase.

25 In the case of Hydro, we have a retail

1 monopoly in Manitoba, so consumers can't vote with
2 their pocketbooks. This is their chance to vote in
3 terms of the -- what they consider to be important
4 considerations ethically as -- and for principles of
5 sustainability.

6 Finally, Diana -- Meghan, we can move to
7 page 2. Diana would not have moved off that page until
8 she knew it was the right page.

9 One of the things that our client is
10 proudest of is the intense deliberations that go into
11 forming the CAC (Manitoba) position. I've probably got
12 the arrows the wrong way, because the ultimate decision
13 maker is the Board of CAC (Manitoba), but it's based
14 upon at least five (5) different important inputs.

15 One is day-to-day contact, daily contact
16 with Manitoba consumers, and through the Consumer
17 Information Centre and -- and through the many
18 presentations that CAC (Manitoba) does, especially with
19 new Canadians, seeking to understand better the
20 Canadian marketplace.

21 Another important aspect is the expert
22 team. CAC (Manitoba) prides itself on independent
23 experts, and prides itself on taking positions that are
24 driven by evidence, and we rely upon our experts to
25 call them as they see them, and we hope that the Board

1 sensed that in the week-long CAC presentations, where
2 experts were truly calling them as they saw them, and
3 at times probably taking positions that they knew the
4 client may not necessarily be supporting, but they have
5 that freedom when they work for CAC (Manitoba), and
6 that's one (1) of the reasons that our client is able
7 to attract leading experts internationally for their
8 services.

9 Over the last four (4) years, CAC
10 (Manitoba) has been preparing for this hearing through
11 an extensive series of focus groups, meeting with
12 Manitoba consumers. We started way back in the
13 2010/'11 General Rate Application as our client started
14 to become concerns (sic) with the impacts of Manitoba
15 Hydro's Northern vision and its -- and -- and the
16 potential cost implications for consumers.

17 Over the last year, there's been an
18 interesting element added to that, with focus groups
19 flowing both from Southern consumers and also consumers
20 who have recently moved down from the North. And
21 that's been a unique aspect, these separate focus
22 groups our clients have conducted.

23 Our clients also have had meetings with
24 stakeholders, and I remember Board member Kapitany
25 asking at the start of the hearing who they were. It's

1 a fluid group, but certainly persons representing
2 seniors, low income groups, environmental
3 organizations, one (1) of whom you might have seen here
4 earlier today, groups concerned with Northern
5 hydroelectric development, and also from time to time,
6 input from different business constituencies.

7 And finally, there are regular meetings
8 with other organizations, and probably in this hearing
9 more than any other meetings, with independent
10 business, with the wind industry, and with a variety of
11 -- of other organizations, including a number of former
12 senior Manitoba public officials.

13 Page 4, please. So here's -- here are
14 two (2) of my very favourite quotes from this hearing,
15 and I'm a little jealous of Mr. -- My Friend Mr.
16 Hacaault for asking the question that led to the first
17 issue -- the first answer, the candid admission by Mr.
18 Thomson that, It's fair to say we're advocating a
19 position. And I wasn't sharp enough to pick on -- pick
20 up on it, but certainly, this is an important issue in
21 -- in terms of this hearing.

22 And our client certainly wonders, When
23 did this advocacy begin, and what adverse development
24 might it take for Manitoba Hydro to -- to get off that
25 advos -- advocacy kick?

1 I -- I note as well -- I'm play --
2 having a -- a little bit of fun with Mr. Wojczynski,
3 because in the course of one (1) of my conversations
4 with him, he told me -- which was really too much
5 details -- that he dreamt about Pathway 5. Now, in
6 fairness to Mr. Wojczynski, he quickly said, I dream
7 about all the pathways.

8 And -- and then he said, with -- with
9 all due respect to Mr. Rainkie, what I thought was the
10 funniest, yet saddest line of the hearing, You don't
11 want my dreams, and I concur with Mr. Wojczynski that
12 his dreams are not ones that I -- I wish to share.

13 But I think the fact that he cares
14 enough about his job to dream about the pathways says
15 something about him. It says something about others in
16 the Corporation, like Mr. Cormie. I've seen the same
17 with Ms. Pach -- Ms. Pachal on the EIS side. Within
18 Hydro, there is a lot of passionate support for their
19 Corporation, and passionate belief in their Northern
20 vision.

21 And our client certainly admires public
22 service, and we admire and honour the passion that
23 Hydro brings to their Northern vision, but there is a
24 challenge when you look at these two (2) quotes and
25 when you juxtapose them. Advocating a position,

1 dreaming about, fervently believing in a pathway, and
2 really a plan, Plan 14.

3 And so an important theme in the
4 submissions of our client is one of credibility, not
5 because we distrust the sincerity of Manitoba Hydro,
6 but because sometimes we wonder if they advocate a bit
7 too much, if they believe a bit too deeply, such that
8 even if the weight of evidence seems to overwhelm their
9 position, they continue to maintain it.

10 And our client find it -- finds it very
11 interesting in this hearing, when you see, really, a
12 fairly broad level of consensus among leading outside
13 experts in this hearing, the stellar work of La Capra,
14 the outstanding work of Mr. Dunsky, Morrison Park, the
15 -- the unforgettable Morrison Park, and -- and grizzled
16 but insightful veterans like Mr. Harper and Dr. Higgin,
17 there's a lot of common ground in this hearing, and
18 certainly, our clients would submit that if it comes
19 down to a judgment call, if it comes down to a weigh-in
20 of the evidence, while all respect should be given to
21 the advocacy and the fervour of Manitoba Hydro, the
22 insight of these experts with a wide array of national
23 and international expertise and objectivity given by
24 distance, should be given superior weight.

25 Turning to slide 5. It was funny

1 listening to My Learned and Brilliant Friend Mr. Peters
2 this morning as he went through the events of the
3 hearing, and it sounded so pedestrian, and I started to
4 get worried when I heard My Learned Friend Mr. Gange
5 talk about the Beatles and the long and winding road.
6 I wish he were here today so that I could remind him
7 that My Learned Friend Ms. Menzies was born after the
8 Beatles broke up.

9 And I'm, quite frankly, not sure if
10 she's heard of the Beatles, although I can say she's
11 heard of The Ramones, and she has a lot of respect from
12 me for that. Mr. Gange did save himself, though,
13 because he did comment about the last-minute scramble
14 and all -- the almost overwhelming deluge of evidence
15 that he -- that we received in the course of this
16 hearing, as things changed very rapidly.

17 And our client will go into greater
18 detail in our submissions a bit later today, but we
19 would characterize this hearing, in essence, as being
20 integrated resource planning on the fly. This hearing
21 was turned on its ear in late February and early March
22 with true -- two (2) dramatic revelations by Manitoba
23 Hydro. The material \$800 million adverse development
24 in capital expenses and the revelation of the potential
25 of economic DSM to dramatically alter the need date.

1 And in our client's views, Mr. -- Mr.
2 Gange called it a last-minute scramble, we've
3 characterized it in our evidence as a mad scramble as
4 we've tried to catch up. And certainly from our
5 client's perspective, while the overwhelming evidence
6 in this hearing suggests that currently the Preferred
7 Plan is defined in the NFAT terms of reference,
8 Keeyask, Conawapa, 750 -- or excuse me,
9 interconnection, clearly the Conawapa part of that has
10 taken a -- a big hit, and from our client's view, is
11 not currently economically or risk-wise viable.

12 But that leaves our client with what
13 they consider to be the three (3) core questions
14 remaining, and the first one is a threshold issue that
15 Dr. Higgin struggled with, and our client struggled
16 with, as well. Is the record sufficiently robust to do
17 what the province asked the Public Utilities Board to
18 do, to make a judgment call on the merits of leading
19 alternatives to the Preferred Plan? To our client,
20 that's a critical issue -- issue, and you'll hear in
21 burdensome detail a bit later today why this is of
22 concern to us.

23 If -- if there is, amidst all the
24 uncertainty, a clearly preferable pathway, what is it,
25 taking into account the guidance of the Public

1 Utilities Board, looking at the economics, the
2 ratepayer impacts, the socioeconomic and the
3 macroeconomic -- macroenvironmental considerations?

4 And then, finally, as I think most
5 parties in this room would admit, given the challenges
6 -- material challenges demonstrated in Hydro's planning
7 process, how do we move forward? How do we protect
8 ratepayers and the province?

9 Now, before we leave, I -- I was struck
10 by something in -- in Mr. Gange's evidence, because he
11 talked about the Preferred Plan as being -- he sees it
12 morphing into Keeyask seven (7) -- and -- and a 750
13 transmission line, but it is helpful to go back to
14 those terms of reference and see how the -- the
15 Preferred Plan was defined then.

16 And the terms of reference provide and
17 define the Preferred Development Plan as the Keeyask
18 and Conawapa generating stations, both of them, their
19 associated domestic AC transmission facilities, and a
20 new Canada/US transmission interconnection.

21 So in our client's view, all discussion
22 of pathways notwithstanding, one (1) of the jobs of
23 this tribunal is to make a call, if possible, in terms
24 of that plan, to offer its advice on the plan as
25 defined in the terms of reference. Next page, please.

1

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3

(BRIEF PAUSE)

4

5

MR. BYRON WILLIAMS: I'm very glad to see Mr. Mouland here today from Harvest, and I'm also, as always, gratified that my client is behind me, keeping me on the straight and narrow, because this quote on slide 6 of CAC Exhibit 92 captures what, for the consumers that our client has interviewed and for our client itself, is a critical question.

12

Everyone's aware that there's these looming rate increases well above the rate of inflation coming down upon Manitobans -- projected to come down upon Manitobans. Ms. Sal -- Salamisan asked: What is the basis of these rate increases? Consumers want to understand.

18

And to understand, if we turn to slide 7, to understand what is driving these rate increases. In our client's view, it's important to back away a little bit from the Preferred Development Plan and go to what we would describe is the broader Northern vision of Manitoba Hydro.

24

And I'm going to start on the Nelson River. Clearly, one (1) critical element of that

1 broader Northern vision of Manitoba Hydro is new
2 generation stations, both on the Nelson, and when we
3 look back to the middle of the last decade, on the
4 Burntwood River.

5 And the clear objective, if -- if we
6 look at the Manitoba dialogue dating back to the CEC
7 hearing about Wuskwatim and coming forward to today,
8 was to build new generation, to advance first Wuskwatim
9 and then Keeyask, to take advantage of opportunities in
10 -- in the US export market, and then coming along
11 later, the big one, Conawapa, a project that would be
12 even more reliant upon US export sales.

13 And Manitoba Hydro has been quite
14 explicit in this hearing in terms of what their
15 economic projections rely upon. Hydro's projections
16 assume they are able to sell dependable power at long-
17 term export prices. I quote a great man, Ed
18 Wojczynski, for that statement. He went on to say --
19 say:

20 "Hydro fully expects that two (2)
21 years, and five (5) years, and ten
22 (10) years from now, assuming we have
23 firm surplus available in the future,
24 we'll find export sales and we'll be
25 able to sell it."

1 So clearly, one (1) essential element of
2 this Northern vision, new generation in the case of two
3 (2) plants advanced to take on export opportunities.
4 In the case of the big one, Conawapa, really much more
5 reliant upon export opportunities.

6 But under this -- this Northern vision,
7 there are two (2) other important aspects. We call it
8 the vision -- a win/win/win vision, because part of it
9 was about reconciliation, recognition that there were
10 ongoing effects and historic effects on affected
11 communities in the North on the Nelson and the
12 Burntwood Rivers, and seeking to have them share in the
13 wealth of -- or the anticipated wealth of these new
14 projects.

15 And of course, the third win in the
16 vision at the time it was envisioned, was for the
17 province, the anticipated economic stimulative effects
18 of significant capital investment.

19 There you have it in the middle of the
20 last decade. Notionally, a win for ratepayers.
21 Notionally, a win for Hydro-affected First Nations.
22 Notionally, a win for the province.

23 And it's important to look at the
24 numbers that underlay this vision, and so starting at
25 the top on the right-hand side, let's look at what

1 Conawapa was projected to cost back in capital
2 expenditure forecast 2006, roughly \$5 billion. Moving
3 down and to the left, we see Keeyask with the projected
4 expenditure at that point in time roughly \$3.7 billion.

5 Moving to the left on the Burntwood
6 River, we see Wuskwatim, and there you start to see the
7 first crack in the Northern vision, because at the time
8 of the NFAT, for Wuskwatim in 2003, the estimated cost
9 was about 900 million, according to the Public
10 Utilities Board. By CEF 2006, we were seeing
11 substantial cost depreciation in the range of \$1.3
12 billion.

13 How is this power to get down south and
14 to the American marketplace? An integral element of
15 the Northern vision, of the Hydro vision, was
16 transmission connecting north to south, the massive new
17 quantities of power from Conawapa in particular, but
18 also Keeyask, was to be Bipole III.

19 Connecting Manitoba to the United States
20 was to be a new intertie, a new transmission line, and
21 as you work down the -- to the left and to the -- down
22 the chart, you'll see the estimated cost for Bipole III
23 at that point in time, roughly \$1.9 billion. And we've
24 taken a bit of literary licence here. When we get to
25 the Canadian/US intertie, we've put in the WPS

1 investment. Quite frankly, I'm not sure when the WPS
2 investment came into play but we put it in -- in this
3 chart for reasons that will become apparent later.

4 So here we have this snapshot of
5 Manitoba Hydro, its Northern vision circa 2007/2008,
6 and it's also important to understand some other
7 factors. We put in a bubble up in the top left near
8 Lac Brochet. The reality that wind at that point in
9 time was not particularly competitive with Manitoba
10 Hydro, at least that is our understanding. And then
11 near the bottom on the right-hand time -- right --
12 right-hand side, we see expectations of a robust
13 American economy.

14 And critically, as well, on the left-
15 hand side, near my hometown of Souris, we see carbon
16 prices in those days anti -- anticipated to become --
17 come into effect between 2012 and 2015. When you read
18 the written argument of CAC (Manitoba), you'll see a
19 statement from Manitoba Hydro noting that at the time
20 of the Wuskwatim hearings, we thought carbon prices in
21 the US would be, in quotation marks, "very likely," by
22 2015.

23 By 2007/2008 we were actually even more
24 optimistic. When you look at the evidence of Dr.
25 Murphy in this hearing, certainly in my cross-

1 examination, he was telling us that they were expecting
2 back in 2007/2008 carbon pricing the legislation to --
3 to come into effect within a couple of years. And
4 certainly if you look at his estimates in the
5 Connecticut Integrated Resource Plan, they were looking
6 at carbon pricing coming in by 2012.

7 So there's the Northern vision; wind,
8 wind, wind. And perhaps the high point of the
9 hyperbole with regard to the Northern vision took place
10 in the second-last major general rate application of
11 Manitoba Hydro, the so-called -- the notorious decade
12 of returns, where Manitoba Hydro told us that if we
13 looked out to the 2020s, rate increases would be at the
14 pace of inflation.

15 They told us just four (4) years ago
16 that by 2029, based upon their twenty (20) year
17 forecast, we would have \$11 billion in retained
18 earnings and a debt-equity ratio on the equity side of
19 49 percent; debt 51 percent, if I do the math on the
20 fly. So that is the vision, the Northern vision, circa
21 2007/2008, 2010.

22 Turning to slide 8, the next couple
23 slides are titled, 'Risk and Ratepayer - Merchant
24 Plants and Price Takers'. And these are some very
25 important quotes from the witnesses from Morrison Park.

1 And I have to say that My Learned Friend Mr. Peters has
2 been asking questions on this theme for probably four
3 (4) years, and I wasn't quite smart to pick up what he
4 was talking about till Morrison Park laid it out nice
5 and simple for me.

6 First of all on page 8, you see a
7 discussion of Morrison Park:

8 "Structuring the Preferred
9 Development Plan to be exposed to
10 export price risk and expert volume
11 risk is not a traditional or typical
12 way of constructing the economic
13 relationship of a ratepayer to a
14 monopoly utility provider."

15 And of course, in our world view, in our
16 -- in our mind-set we're used to the concept of a just
17 and reasonable rate, a corporation charging in man --
18 the Manitoba context its average price of power with
19 some after-export revenues or losses, and being assured
20 of recovering a just and reasonable rate from
21 ratepayers.

22 What Morrison Park is talking about here
23 conceptually is something very different. And the
24 point that I think they're trying to make is well-
25 captured in a couple of quotes of Mr. -- Mr.

1 Colaiacovo. He's warning, first of all, about the risk
2 in the ess -- ex -- export market. First of all he
3 talks about a mismatch potentially between the duration
4 of excess dependable energy -- this quote's not on this
5 page, but you'll see it in our written evidence -- and
6 the duration of contracts in the MISO market.

7 But he's also making the point about the
8 tremendous amount of opportunity energy to be sold with
9 these two (2) projects, exposes ratepayers to
10 substantial risks. He says there's a tremendous amount
11 of expe -- expected opportunity energy that's going to
12 be sold, and the opportunity energy is largely going to
13 export markets over which Manitoba Hydro has no
14 control.

15 He talks about when you look at the
16 total output of these projects, much of it is not
17 destined for ratepayers. Much of it is at prices which
18 are today unknown. So fundamentally, since ratepayers
19 are responsible for the residual costs of all hydro
20 facilities, ratepayers are exposed to the risk on all
21 that portion of the expected output of the facility.

22 So that's the ratepayer risk portion
23 that Mr. Colaiacovo's getting at. Certainly probably
24 aimed more at Conawapa, but an important theme
25 especially when we look at the potential for reduced

1 load in Manitoba. When we go to page 9 here's the
2 point that Mr. Peters kept trying to make and I
3 struggled to understand. I'm getting there, Mr.
4 Peters, it just takes me a while.

5 He makes the point that Hydro is a price
6 taker in the MISO market. And there's enough
7 economists on the panel that you'll understand the
8 concept better than I. But he suggests that Hydro is
9 producing a different product, that getting prices that
10 are essentially structured to compensate a gas fired
11 developer for the kinds of risks that they -- that the
12 take. Hydro is simply taking -- his words -- those
13 contracts because those are the contracts that are
14 available.

15 And as our client understands Mr.
16 Colaiacovo's point, the contrast he would be drawing is
17 with a gas producer in the United States that is
18 essentially competing on a level playing field with the
19 next marginal unit of -- of production. In essence,
20 competing fundamentally against other developers of gas
21 plants. One (1) might be a slightly better manager
22 than another. One (1) might be a slightly more
23 efficient constructor. But in essence, competing on
24 the same terms.

25 His point is -- and it's a profound

1 point in our client's submission -- Hydro is not
2 competing on the same terms. It has fundamentally
3 different cost drivers and fundamentally different
4 risks. And he suggests it's accepting the type of
5 contracts applicable to a gas fired developer.

6 And certainly, if one was curious enough
7 to go to the commentary of the US Department of
8 Commerce back in 2011, when they were working on that
9 very transaction -- looking at that very transaction
10 between Manitoba Hydro and Minnesota Power on the
11 public document, you can see that that's the analogy
12 that the Department of Commerce was looking at: What
13 was the natural gas competitor? And it was comparing
14 the contract to -- to that -- to that proxy.

15 So that is a conceptual difference in
16 the Northern vision of Manitoba Hydro in the Preferred
17 Development of Manitoba Hydro that our client thinks is
18 fundamental as we go forward in this discussion. On
19 slide 10 I've mistitled the slide. I call it 'Recent
20 Challenges to the Northern Vision', but it would be
21 better titled 'Drivers of the Rate Pressures that
22 Consumers are Experiencing Today and in the Future'.
23 This is the answer to the question that was posed a few
24 pages ago.

25 And certainly a big one, as Mr. Rainkie

1 ex -- explained in his cross-examination discussion
2 with me, is that -- is that export prices and revenues
3 are significantly lower, and another is adverse
4 developments in capital costs. And I have a beautiful
5 map that will -- will explain that in just a couple of
6 pages.

7 Another one is, and we've heard the
8 Chair talk about it in this hearing, is the day-to-day
9 expenditures of the Corporation for its ongoing capital
10 arising quite sharply. And another driver is driving
11 the -- the rate challenges of all the plans are what
12 we've already committed to in the case of a \$3 billion
13 expenditure in Bipole III or what we've already spent
14 on the financial side, their implications of the
15 roughly 1.6 billion already spent to preserve Keeyask
16 and Conawapa.

17 So moving to slide 11. Here we have
18 just a comparison between, on the right-hand side, the
19 most recent financial forecast of Manitoba IFF2013,
20 versus the expected revenues in the Wuskwatim low price
21 scenario as presented at the 2003 NFAT.

22 And I should note, in fairness to Hydro,
23 that our client bought into the Northern vision pretty
24 enthusiastically back in 2003. Certainly, our client
25 recognized the valuable social purpose, and it

1 certainly was, with the benefit of hindsight, quite
2 hubristic in terms of the easy money to bay -- to be
3 made in the US export market.

4 So here you have a comparison of the
5 expected revenues set out in the Wuskwatim low price
6 scenario versus IFF2013. Just as an example, and I'll
7 leave this to -- for you to read at your leisure, we
8 have a -- a roughly 220 million adverse development in
9 the actuals for the '12/'13 year, and if we go out to
10 the '15/'16 year, just as an example, we have a gap --
11 a forecasting gap between the -- the two (2) forecasts
12 of some \$226 million.

13 So there, you start to see a major
14 driver of rate pressures upon Manitoba consumers today
15 and in the future, the US marketplace just not
16 performing as we might have hoped.

17 And if we turn to slide 12, you'll see
18 what I, perhaps hyperbolically, but perhaps not,
19 describe as the evisceration of the decade of returns,
20 and we'll come to export prices in a moment, but let's
21 focus on capital for just a moment. Start again on the
22 top right-hand corner with capital expenditure forecast
23 CE for Conawapa.

24 Eight (8) years ago, we were looking at
25 a \$5 billion cost. Today, we have a -- from the 2014

1 update, a figure of 10.7 billion.

2 Going down the river a little bit, and
3 with apologies to Mr. Moose, we may have mislocated
4 Gillam slightly, but we see something that wasn't even
5 on the horizon back in -- on that previous map, the
6 Gillam expansion, which, to our understanding, first
7 appeared in CEF 2012, \$336.5 million.

8 To the left of Gillam Expansion, we see
9 Keeyask, three point seven (3.7) back 2008, so only six
10 (6) years ago, six point five (6.5) in the 2014 update.
11 And then we see the update for Wuskwatim, and again,
12 this doesn't capture all the change, because we had
13 that previous change on the previous map, but there we
14 see an adverse development in the range of \$400
15 million.

16 Going down the river to the west side of
17 the province, we see Bipole III, no longer \$1.9
18 billion, \$3.3 billion. So that's on the capital side,
19 and clearly that's an -- a major driver.

20 Now, let's look to the bubbles in this
21 picture, and perhaps the -- a nice place to start is on
22 the left west side of the province, down around
23 Russell, where we see shale gas described by Dr. Murphy
24 from Brattle, as the game-changer, a dramatic change in
25 the marketplace.

1 We see carbon prices, which Dr. Gotham
2 has described is a binary issue. They're either on, or
3 they're -- they're not on, but the reality today is
4 they're not on when we were expecting them to be on,
5 and the reality today is that now we're -- some are
6 expecting them not till the 2020s, and others,
7 including MMP, are saying it's 50/50 whether this major
8 driver of prices in the US marketplace is in play over
9 the course of the -- the next couple of decades.

10 And it's not just MMP. You heard the
11 comments of Potomac. You heard the comments of La
12 Capra. You heard the comments of Dr. Gotham, none of
13 whom, I suspect, are lovers of greenhouse gasses, but
14 all of who are versed in Realpolitik and the inherent
15 unpredictability of US politics at the federal level.

16 So there's that shocking -- excuse me, I
17 -- I'll mis -- I'll strike the word, 'shocking'. There
18 is that material change in expectations, include -- in
19 terms of carbon prices.

20 Moving to the right of the province,
21 staying on the same page, please, and the bottom
22 bubble, we see a dramatic change in the pro -- in the
23 US economy, but it's not just the recession, and we'll
24 come to this point in a couple of moments.

25 You heard both Mr. Colaiacovo and Dr.

1 Gotham talk about the dialogue in the United States,
2 about low growth, and Dr. -- Dr. Gotham, one (1) of the
3 most prestigious experts on load forecast in the United
4 States, twenty (20) years with the State Utility
5 Forecast Group, now hired to do forecasts for all of
6 the MISO states, to assist MISO, is asking, Has there
7 been a paradigm shift?

8 Not -- as we get over the hangover of
9 the recession, are we starting to see a change in the
10 relationship between economic growth in the US
11 marketplace and energy growth? It won't be the first
12 paradigm shift, but that's Dr. Gotham, a cautious
13 engineer, but asking those probing questions.

14 Moving up to the east side of the
15 province, the east side of Lake Winnipeg, we see the
16 looming spectre of grid parity, and clearly a -- a
17 threat. You heard Dr. -- or excuse me, Mr. Todd, talk
18 about the double whammy potentially coming from grid
19 parity, but when?

20 And towards the top of the province, we
21 see a couple of other changes in the marketplace, and
22 perhaps they should be down in the US portion, but they
23 are where they are. One (1) is solar power, something
24 that was written off years ago, something that wasn't
25 even credible just a few years ago, but showing

1 dramatic reductions in forecast costs and in existing
2 costs.

3 And that's not just Mr. Dunsky talking
4 about it, although he certainly has researched the
5 issue in Canada as much as many. We heard Mr. Klassen
6 talk about it. We heard MNP talk about the dramatic
7 growth of solar in China. And when we see, and we
8 heard more eloquently than I could ever replicate from
9 Mr. -- My Learned Friend Mr. Gange this morning, The
10 increasingly robust economics for wind.

11 So there you have the pressures of that
12 Northern vision, the pressures that weigh down Hydro's
13 Preferred Development Plan as defined in the NFAT terms
14 of reference, a significant escalation in capital
15 costs, unwelcome news on the regulatory front with
16 carbon prices, a traditional competitor natural gas in
17 a game-changing environment, potentially paradigm
18 shifting changes in the US economy, and then new
19 competitive threats from the renewables, threats that
20 weren't even credible a few years ago.

21 Stay on this page for just one (1)
22 second. So what happened to the decade of returns? If
23 you feel -- if you want to be depressed, compare the
24 twenty (20) year forecast presented in January 2010 to
25 the twenty (20) year forecast presented in February of

1 2014, IFF-2013. Take a look at the decade of so-called
2 returns and projected rate increases that double the
3 rate of inflation now as compared to the decade of
4 returns.

5 Take a look at year 2029. No longer \$11
6 billion in projected equity, about \$7 billion less.
7 Take a look at projected retained earnings, or equity.
8 No longer 49 percent, projected to be 13 percent. So
9 that's what our client calls, The evisceration of the
10 decade of returns.

11 Going to slide 13. If the most common
12 question our client hears from the consumers it has
13 interviewed is, What's driving the rate increases, the
14 most common question I hear from my client is, Where
15 are the good alternatives? Our client, I assure you,
16 does not see this hearing as a cause for celebration.

17 Our client does not regard this hearing
18 as a win/win/win for Manitobans. Our client is gravely
19 concerned about the projected rate impacts of the
20 Preferred Plan and its alternatives. Our client is
21 also equally concerned with the uncertainty and risk,
22 and the idea of investing upwards of \$17 billion on a
23 Preferred Development Plan, coupled with other
24 significant investments such as \$3 billion for Bipole
25 III.

1 Frankly, our client looked at the menu
2 in the NFAT business case, and did not see any good
3 alternatives, and what we've set out here, and this is
4 detailed more in our written argument, are the
5 projected even annual reed -- rate increases, the same
6 met -- or, excuse me, one of the metrics we've seen
7 previously, assuming DSM scenario 2. And going out
8 sixteen (16) years, probably farther than our
9 ratepayers tell us they look, we see the projected even
10 annual rate increases of Plan 1 at the low end being
11 3.36 percent, and Plan 14 at the high end, at least of
12 the ones presented here, being at 4.27 percent.

13 And so these are greatly concerning to
14 our client, and our client continually asks us, Is
15 there not a no-build alternative. And we'll come to
16 that in a little bit, and we'll come to the La Capra,
17 and what we tell our clients analytically is that Hydro
18 didn't look at a no-build alternative. The closest
19 analytically to a no-build, or as My Learned Friend Mr.
20 Hacault would say, a stick to your knitting plan, is
21 Plan 1, in that it -- it's relatively smaller in
22 capital intensity.

23 So our client doesn't have the benefit
24 of a no-build plan. Conceptually, it sees Plan 1 as
25 the closest to it, and in our client's way of thinking,

1 it doesn't necessarily have to be gas as that next
2 generation. And we'll come to that in a moment or ten
3 (10), and we'll come to the advice of La Capra in terms
4 of other alternatives, renewable alternatives, that
5 might be very competitive with All Gas.

6 Turn to the next slide. We titled this
7 the "Financial Implications of the Northern Vision,"
8 and I -- we think it's important for consumers to
9 understand what's driving a significant part of the
10 costs in all the plans. We see elements of the
11 Northern villa -- vision, such as the Gillam Expansion.
12 We see elements of the -- of the Northern vision such
13 as Bipole III. And we see elements of the Preferred
14 Development Plan, such as the 1.6 billion in sunk costs
15 associated with Keeyask and Conawapa, one point-five-
16 eight (1.58) for the purposes of this table, which are
17 being borne as we look at the rate implications from
18 all the plans.

19 And our client brings this forward first
20 of all to explain to consumers what is happening, and
21 we can turn to page -- slide 15. And I want to assure
22 the panel that our purpose in bringing this forward is
23 not to second guess the curious decision not to have a
24 Bipole III NFAT, and it's not to second guess the
25 timing of the current NFAT proceeding, and it is not to

1 question the expenditures upon Keeyask and Conawapa
2 prior to the receipt of regulatory licensing.

3 In our client's views, there are three
4 (3) potential conclusions that flow from the discussion
5 of the Northern vision. First, the rate pressures that
6 ratepayers are facing today and likely to experience in
7 the future are intimately connected to Hydro's Northern
8 vision.

9 Secondly, our questions believe -- our
10 clients believe it is legitimate to ask, Is Hydro's
11 allegiance, is its fidelity to its Preferred
12 Development Plan linked to the very significant
13 expenditures that have already been committed?

14 And finally, our clients believe that --
15 understand the implications of the Northern vision
16 expenditures for today's ratepayers offer a cautionary
17 tale, because ongoing expenditures related to Hydro's
18 Preferred Plan may inadvertently poison the well for
19 competing non-hydro alternatives. Not consciously, but
20 as a mathematical reality.

21 Mr. Chair, it's -- I'm happy to keep
22 going, or I could -- we could -- I -- if you -- the
23 panel wants a half an hour break for lunch, or
24 whatever, I'm turning to a new subject matter, so.

25 THE CHAIRPERSON: You've been speaking

1 for about an hour. So I -- you -- perhaps you need a
2 break more than the panel does, but I -- it's up to you
3 to decide. You know, I -- I think it's about -- an
4 appropriate time to -- to recess now.

5 MR. BYRON WILLIAMS: I always worry
6 about hungry panel members, Mr. Chair.

7 THE CHAIRPERSON: Okay. And so do I.
8 So I -- I do have a question I wanted to ask you, and I
9 -- a couple of questions, since it's not quite noon.

10 MR. BYRON WILLIAMS: Dang. Sir, I
11 could keep chatting for a couple moments. I'm just
12 teasing.

13 THE CHAIRPERSON: Okay. I note -- I
14 note on slide 10, where you talk about the -- the rate
15 pressures, that you haven't mentioned one (1) of the
16 issues that surfaced in the rate applications, and
17 that, namely, is infrastructure renewal. Is that just
18 a...

19 MR. BYRON WILLIAMS: I actually meant
20 that to be day-to-day costs, and when you get to our --
21 certainly in our report, we talk about projected
22 increased pressure on the day-to-day costs of
23 maintaining existing infrastructure, and I hope that
24 I've included a bit of helpful analysis, because we did
25 flag that, and I -- I had Mr. Harper go back and

1 compare IFF -- or capital expenditure forecast 2006
2 versus 2013 and take out kind of the -- the major new
3 expenditures.

4 And certainly what I meant by day-to-day
5 costs we've called in our report projected increased
6 pressure on the day-to-day costs of maintaining
7 existing infrastructure, so our client fully
8 acknowledges that, and I think I have some numbers to
9 provide some insight into that.

10 THE CHAIRPERSON: My next question is
11 on page -- related to page 8, and this is in relation
12 to the risks that were identified by Mr. Colaiacovo,
13 and then specifically, you indicated that the risks
14 that he identified were probably aimed more at
15 Conawapa.

16 Is -- is that -- is that your
17 conclusion, or is that from the testimony?

18 MR. BYRON WILLIAMS: What precipitated
19 this -- the discussion, it's one (1) of my favourite
20 excerpts from the transcript, I -- was I was referring
21 Mr. Colaiacovo to an excerpt from his written report,
22 which was written prior to the dramatic changes in the
23 -- the load forecast flowing from the DSM expenditures.

24 So my understanding when he first wrote
25 it was that it was aimed more at Conawapa. I would

1 invite the panel to look at that discussion. I -- I
2 think the discussion as a whole -- I think he -- he was
3 moving his ground to say that -- even reinforce his
4 perceptions of Conawapa, he might have been moving it
5 towards Keeyask.

6 The reason I put it here is, certainly
7 from our client's perspective, we believe this analysis
8 is -- is appropriate both for Keeyask and for Conawapa,
9 especially if you accept, as our client does, Mr.
10 Dunskey's vision of the very real future of -- of
11 flattened load growth.

12 So I -- I put the caution in my
13 language, because I believe the original reference in
14 the -- in the written report was aimed at Conawapa. I
15 -- I think the panel will have to go back to that
16 transcript reference and -- and see. I interpreted him
17 to be moving towards Keeyask, and certainly our client
18 has, but I -- I can't say that with certainty.

19 MS. MARILYN KAPITANY: Mr. Williams,
20 you referenced development of CAC's position. Could
21 you tell me if you had interaction with the small
22 business community, and in particular, if so, what
23 their observations were on this whole issue?

24 MR. BYRON WILLIAMS: I may be able to.
25 I just have to check with my clients in terms of the --

1 any confidentiality that...

2

3 (BRIEF PAUSE)

4

5 MR. BYRON WILLIAMS: I -- I can't share
6 the name of the -- the organization that we spoke with.
7 As I recall the discussion -- and -- and actually, just
8 one (1) more second, because I just want to refresh my
9 memory. It was last Friday, I believe.

10

11 (BRIEF PAUSE)

12

13 MR. BYRON WILLIAMS: It was a really
14 interesting discussion, and on a couple of the issues,
15 we understood the input to be reflective of the
16 organization's views. In a couple of the instances,
17 they were the guesses of the spokesperson for the
18 organization as to what his membership might, and so
19 I'll differentiate between them.

20 One (1) significant concern was with
21 process, and I think the concern flag specifically
22 related to the fact that an NFAT was not held for
23 Bipole III, so that was a -- a process concern. And so
24 there was some concern about the credibility of the
25 inputs available. I -- I think that was an important

1 concern.

2 A -- a big concern was articulated in
3 terms of costs and pressures upon smaller business
4 persons. In -- in -- and as well as with the business
5 case. I think there was also an -- an interesting
6 discussion on DSM, and also about turnaround time in
7 terms of rate impacts, and so -- and these -- the
8 individual was not speaking on behalf of his or her
9 organization, but speculating.

10 As compared to residential ratepayers,
11 who our clients experience -- and certainly you --
12 you've heard evidence from Mr. Mouland, are -- are
13 focussed in the -- the next -- the next month to the
14 next year, or to the -- the next few years, there was a
15 -- a longer term perspective from -- from this
16 organization. I'm not going to say out thirty (30)
17 years, which they considered whimsical, and -- but, you
18 know, out ten (10) years, looking at payback, for
19 example, on DSM programs or -- or that.

20 So -- so that was an interesting
21 discussion. Again, the individual in question was not
22 speaking based upon membership surveys, but trying to
23 anticipate what his organization might -- position they
24 might take, or her organization.

25 MS. MARILYN KAPITANY: Thanks. That's

1 helpful. Small business is a huge part of our Manitoba
2 economy, so I'm interested in what they had to say
3 about this issue.

4 MR. BYRON WILLIAMS: And our client
5 does not speak for small business. They have their own
6 interests, but one (1) of our clients' stakeholder
7 processes is to try and get different perspectives, and
8 ideally, competing perspectives to kind of -- food for
9 the -- for the mind in terms of competing perspectives.

10 So we clearly do not speak for that --
11 that part of the Manitoba stakeholders.

12

13 (BRIEF PAUSE)

14

15 THE CHAIRPERSON: So I propose that we
16 have a -- we recess now for lunch, and so I -- I would
17 -- thirty (30) -- thirty (30) minutes, would that do
18 it, I suspect? Half an hour? Okay. So back -- I'm
19 sorry? Hang on for a second, please.

20 Mr. Williams, half an hour? Would that
21 -- that be adequate?

22 MR. BYRON WILLIAMS: I apologize,
23 sorry. I -- that's fine. Thank you.

24 THE CHAIRPERSON: Okay. Let's do half
25 an hour. So let's -- let's start up again at, say,

1 twenty (20) to -- twenty (20) to 1:00. Thank you.

2

3 --- Upon recessing at 12:07 p.m.

4 --- Upon resuming at 12:53 p.m.

5

6 THE CHAIRPERSON: Good afternoon. I
7 believe that we can resume the proceedings, so Mr.
8 Williams, please

9 MR. BYRON WILLIAMS: Yeah. And, Mr.
10 Chair, you had asked me a question about what I call
11 day-to-day infrastructure and I had said we referenced
12 it at page 10 of our written report, and we do.

13 I note as well at page 13, footnote 41
14 of our written report I had referenced some analysis
15 that we had Mr. Harper do, looking at the capital
16 expenditure forecast from '06 versus 2013, and that's
17 represented in that -- in that footnote, footnote 41.
18 Just for your reading pleasure at some future time.

19 At page 16 of our PowerPoint
20 presentation we -- we present a quote from Dr. Murphy
21 of the Brattle Group written in the context of the
22 analysis of the export forecast he was presenting for
23 Manitoba Hydro, and nothing that recently the future
24 seems even more uncertain than usual. And that caught
25 our client's attention. It was consistent with what

1 our client was reading elsewhere, and really flags one
2 of the most important messages of this hearing. And I
3 talked about it just before the break.

4 Essentially that Hydro is planning to
5 build more than \$17 billion worth of infrastructure at
6 a time of what we describe as unprecedented uncertainty
7 in the electrical industry. And if we turn to the --
8 the next slide there's just a quote. Mr. Rainkie and I
9 had some fun -- fun with it in our discussion in -- so
10 long ago in week 3 of the hearing.

11 But it -- it really is good advice from
12 Morrison Park about approaching future forecasts and
13 the future with humility, realizing that decisions have
14 to be made but to be careful the certainty that we had
15 -- attract to those forecasts. And our client, as we
16 turn to slide 18, think that's particularly appropriate
17 for this hearing.

18 And Dr. Murphy from the Brattle Group,
19 when he was explaining that the future seems even more
20 uncertain than usual, really was flagging in his view
21 four (4) issues. Uncertainty in terms of long-run
22 environmental policies. We've had that discussion in
23 terms of carbon pricing and otherwise. A key
24 uncertainty related to the evolution of low carbon
25 generation technologies including wind and solar power.

1 So there is a theme being captured by
2 Brattle similar to Mr. Dunsky's advice similar to what
3 you heard in the presentation from Mr. Klassen similar
4 to what you heard from the Green Action Centre today in
5 that the low carbon generating technologies apart from
6 Hydro are showing, in the case of wind substantial
7 improvements in terms of their cost structure, and in
8 the case of solar power, really quite exciting
9 developments.

10 Dr. Murphy captures as well the
11 uncertainty associated with the long-run price effects
12 of unconventional gas, popularly known as shale gas, as
13 well as with the pace and magnitude of coal plant
14 retirements due to federal regulatory action.

15 On the next slide we put our client's
16 similar but distinct interpretation of uncertainty.
17 I've already talked about the long forecast period.
18 One (1) uncertainty that our client feels that Dr.
19 Murphy didn't do full justice to is the paradigm shift
20 in the Midwest US economy. We've heard that both from
21 Colaiacovo -- Mr. Colaiacovo and Dr. Gotham.

22 Uncertainty with the US regulatory
23 policy, we're agreed on that. And un -- uncertainty
24 associated with dramatic developments in the
25 marketplace. And in addition to solar and wind our

1 clients would -- would note some other changes in terms
2 of household usage that we'll talk about in just a
3 second when we get to some of the discussion flowing
4 from Ontario.

5 At page 20 we present graphical evidence
6 of what may be the paradigm shift. And this is from
7 NERC, N-E-R-C. I forget what the acronym stands for,
8 but it's an authoritative source from the American
9 marketplace. And the top line captures the -- the
10 projected on-peak summer demand growth.

11 And NERC tells us that the ten (10) year
12 compound annual growth for on-peak summer demand is
13 expected to fall for the eleventh consecutive year to
14 an all time low of 1.23 percent. And we see the bottom
15 line, the darker line, being winter demand showing a
16 similar trend starting in about 2003. And that's the
17 most recent information we have from NERC. It comes
18 from December of 2013

19 At slide 21 we come to Dr. Gotham's
20 paradigm shift. And our client really thinks it's
21 important to understand the handle that calm, composed,
22 conservative Dr. Gotham has on the American
23 marketplace. And living through the events of the
24 '80s, they're noticing and -- and they're trying to
25 track what appears to be another paradigm shift post

1 recession, or as we've come out of the recession, in
2 the Midwest.

3 Dr. Gotham notes, and we've underlined
4 this at the third-last line:

5 "Still significant uncertainty in
6 terms of what the new normal is for
7 load growth and the relationship
8 between economic growth and load
9 growth."

10 And this is not a modest thing and it's
11 something that certainly he brought to the panel's
12 attention because it -- it's something that he believes
13 warrants considerable attention in what appears to be a
14 somewhat uncertain future.

15 If I could ask Diana to pull up slide 27
16 from Potomac for a moment. Thank you. Isn't she
17 amazing? This is perhaps the most famous slide from
18 Potomac, and it presents two (2) very different
19 futures. It -- it certainly ascribed a 50 percent
20 probability, based upon the advice of MNP, to the
21 bottom two (2) lines, the low energy prices reference
22 no CO2, and a 50 percent probability to the top two (2)
23 lines, being the reference CO2 and the high growth.

24 But a central message our client took
25 from Potomac's evidence as we understood it is it's not

1 like you're looking at an average. You're looking at
2 two (2) equally likely potential futures. And that is,
3 from our client's perspective, a bit sobering in the
4 sense that maybe it's one (1), maybe it's the other.

5 And -- and that gap between the two (2),
6 if you take the red line in 2019 or so and compare it
7 to the light blue line, you'll get roughly an eighteen
8 dollar \$18 per megawatt hour difference. If you go up
9 to the -- those same two (2) lines, being the lower red
10 and the top light blue, by 2033 you get a roughly
11 thirty dollar (\$30) per megawatt hour difference: two
12 (2) very different futures. Even if you take the inner
13 two (2) lines, you're still looking at roughly an
14 eighteen dollar (\$18) a megawatt difference out in
15 2033.

16 Back to CAC Exhibit 92, slide 22. And
17 we've talked about this. MMP feels more comfortable
18 describing it in probabilities. Dr. Gotham sees it
19 more as a yes or a no and flagging for the Board the
20 significant amount of difference between one (1) state
21 and the other.

22 And from our client's perspective, in
23 many ways, this hearing has -- we've seen more
24 uncertainty. One (1) question -- I don't know to -- I
25 -- I hate to quote Mr. Rumsfeld, but perhaps we've got

1 greater clarity around the uncertainty associated with
2 carbon pricing. Hopefully my students won't pick up
3 that language, but I'd probably mark them down for
4 that. But anyways, so there you have it.

5 On to slide 23. And here you start to
6 hear -- get the input from the Ontario folks, Elenchus,
7 which talked a lot about grid parity and what they
8 considered to be a structural change in the
9 marketplace. And Mr. Todd says he's of the view it's
10 coming. The only question is when.

11 And if we go to slide 24. Here you have
12 hardly a radical, Mr. Campbell, CEO of the Independent
13 Electricity System Operator in -- in Ontario. And he's
14 talking as well about the -- the potential for a very
15 fundamental change across the sector driven by some
16 different factors, some the same as Dr. Murphy, cheaper
17 solar power, cheaper energy storage, more Internet-
18 connected devices, and low voltage DC power networks
19 offering alternative ways to distribute your homegrown
20 energy sources to devices in your home.

21 I have no idea what that means. Mr.
22 Campbell thinks it's important. And it's certainly
23 part of the dialogue of structural change. And you'll
24 see in the -- the written evidence of CA -- the written
25 report of CAC (Manitoba), at page 20, you'll see some

1 of this dialogue.

2 The principal and chairman emeritus of
3 the Brattle Group, Peter Fox-Penner, is talking about a
4 second revolution in electricity.

5 Morrison Park, in their cross-
6 examination, discussed the fundamental and
7 unpredictable effects of technology change. And I
8 think we all remember Mr. Todd's double whammy
9 discussion in terms of grid parity. And as we
10 understand the concept of grid parity, we understand
11 the idea to be that as electricity prices increase and
12 the cost of customer-owned generation decreases it
13 becomes competitively economically competitive with the
14 risk that it will drive customers to generate for
15 themselves.

16 And while this may be an issue in -- a
17 lot farther down the line in Manitoba, certainly in the
18 American marketplace, certainly Dr. Gotham suggests
19 that that is a risk. And what it does is essentially
20 produce a cap on what prices in that region could be
21 because if the prices goes above that level people will
22 generate for themselves.

23 And when you hear these voices coming
24 from -- from Ontario, from the Midwestern United
25 States, from people who are hardly radicals in their

1 field, it is a source of concern and uncertainty for
2 our client that the market that we are -- we may be
3 selling into, ten (10) years, fifteen (15) years,
4 twenty (20), or twenty-five (25) years down the line.
5 It may be very different than the marketplace that we
6 sell into now. And with long-lived assets, that is an
7 issue of risk.

8 At slide 25 we try to put together the
9 merchant investment reality, we would submit, with the
10 uncertainty in the marketplace reality. And obviously
11 there's an upside. But on behalf of residential
12 ratepayers, our clients have to be concerned about the
13 downside, because ultimately they may, and are likely
14 to be, the ones paying the bills along with the
15 commercial and industrial customers.

16 And so the point Mr. Dunsky makes is
17 that if you're looking at this as merchant investments,
18 as he suggests you should, the value is heavily
19 dependent on some really big risk factors. How will
20 natural gas prices evolve? How quickly will solar PVs
21 costs continue to decline? And whether to what extent
22 the US will adopt more aggressive carbon reduction.

23 The upside for Manitoba is if the Tea
24 Party or Hillary Clinton gets aggressive with carbon
25 pricing. The downside is if they don't. And for

1 ratepayers, that's a concerning downside.

2 Turning to slide 26, and really, it's an
3 important theme. How do we plan for uncertainty? And
4 a critical message that our clients wish to share with
5 you, and certainly you heard from our friends at the
6 Green Action Centre this morning, is how important it
7 is to have critical and robust integrated resource
8 planning in the face of uncertainty.

9 And in our written evidence we provide
10 good advice from a seminal paper prepared by the
11 Brattle Group in 2007 about how integrated resource
12 planning had -- had to modernize in the face of, even
13 then what they discar -- described as unprecedented and
14 enormous uncertainty. And perhaps strangely, one see a
15 -- a great deal of parallels between the advice of the
16 Brattle Group in their 2007 paper, which is part of the
17 CAC (Manitoba) exhibits, and Drs. Gaudreau and Gibson.

18 So Brattle, from an economic and
19 sustainability perspective; Gaudreau and Gibson driven
20 by sustainability principles; collectively we suggest
21 to you there's some core principles that comes from
22 their advice and a message that in the face of
23 unprecedented uncertainty, integrated resource pra --
24 planning is critical.

25 What are the four (4) key points we take

1 collectively from their advice? First, the importance
2 of a careful assessment of need to avoid the planning
3 perils associated with overstatement of demand.

4 Secondly, and you heard a lot of this,
5 this morning, considering a wide scope of potential
6 resource solutions, including aggressive demand-side
7 programs as well as ener -- emerging renewable
8 generation in addition to conventional supply options.

9 Third, the application of an optim --
10 optimized portfolio approach that allows for positive
11 synergies and ensures that viable alternatives are not
12 screened out prematurely.

13 And fourth, avoidance of undue lock-in
14 by allowing for flexibility and allowing various
15 asperct -- aspects of the portfolios to meet that need.

16 So let's go back -- let's turn to page
17 27 before we go back to the NFAT business case. This
18 page is from the World Commission on Dams. It was
19 cited by Dr. Gaudreau. It suggests that overstating
20 future demand has led to a perceived need for a large
21 incremental response to rapidly going -- growing needs.
22 And suggesting that in many circumstance this
23 overstatement of demand has worked against a more
24 gradual approach of smaller nonstructural options and
25 pushed decision makers into adopting large-scale dam

1 projects.

2 And back in the last GRA, our client
3 took the unprecedented step of uniting with the Green
4 Action Centre in bringing one of the foremost experts
5 on energy efficiency in North America to the Public
6 Utilities Board. CAC (Manitoba) and the Green Action
7 Centre have not always been on the same page on a
8 number of issues, and we still aren't. But our client
9 and the Green Action Centre, I think I can speak for
10 both of them, sha -- shared a concern with what was
11 happening in Manitoba in terms of demand, and in what
12 was -- and -- and in terms of unrealized opportunities
13 in terms of energy efficiency.

14 And our clients and the GAC came forward
15 and brought Mr. Dunsky with a very similar message to
16 what we heard in this hearing, that the load forecast
17 for Manitoba Hydro is too optimistic, too robust, and
18 doesn't -- is not consistent with emerging best
19 practice across North America. And certainly if we,
20 with the benefit of hindsight, look back to August of
21 2013 and look at that load forecast I think we can see
22 ample support for the bold decision of CAC (Manitoba)
23 and GAC to bring Mr. Dunsky.

24 Another concern, going to slide 28, is
25 lock-in, especially in the face of uncertainty. Not

1 that there can't be desirable lock-in, but at -- at
2 times of high uncertainty our client suggests that
3 there's an importance to keeping flexibility,
4 especially to allow for technological development.

5 And you see here the statement from Dr.
6 Gaudreau, but we'll come in a couple minutes to a
7 similar statement from Mr. Harper, again someone who
8 worked for decades in the energy industry, hardly
9 erratical, but warning of about the danger of locking
10 in and the consequences of that.

11 And at slide 29, again we have one of
12 the lock-in risks with large resource projects, such as
13 Keeyask, such as Conawapa, and that is by locking into
14 these new mega generation sources, we're locking out
15 other options. And certainly that was perhaps the
16 thrust of a question the -- the Chair posed to -- to
17 the Green Action Centre this morning. As Gaudreau
18 warns:

19 "Large resource projects such as
20 hydro dams can lock out other
21 options, diverting resources,
22 altering planning horizons, and
23 exclusion -- excluding options that
24 may be able to deliver benefits more
25 quickly."

1 And part of the ongoing dialogue our
2 clients and GAC have had with DSM is our client's
3 concern that DSM was being locked out by the demands of
4 day-to-day infrastructure investments and more
5 dominantly by new generation investments.

6 Part of the concern, and one of the
7 reasons our client brought Mr. Dunsky last year was a
8 concern that an inaccurate, too aggressive load
9 forecast was materially altering the planning horizons.
10 And one of the great learnings of our client in this
11 hearing, and in this process, is of rapid developments
12 with some of those other options, those other
13 renewables, including solar and wind.

14 Slide 30. I doubt many people in this
15 room have happy memories of the 1988 presidential
16 election. I -- I'm not sure if I correctly recall
17 Michael Dukakis on a tank or not. That is not a happy
18 memory. But this is a happy memory. Dan Quayle being
19 put in his face and being told that, "You're not Jack
20 Kennedy."

21 And this quote is here because -- and
22 perhaps it's an overreaction of my client, more -- more
23 particularly their lawyer, to the first week of the
24 Hydro presentation, where we saw that lovely funnel
25 suggesting that -- that Hydro was practising modern

1 integrated resource planning.

2 And with respect, that was not modern
3 integrated resource planning that we saw in the August
4 23rd NFAT business case, and in our client's respectful
5 submission, this hearing and this decision-making
6 process has been haunted by the failure of Manitoba
7 Hydro to practise modern, robust, sustainable
8 integrated resource planning in the face of significant
9 uncertainty.

10 So what might be done? Well, we have
11 the benefit of the -- the Brattle Group, Dr. Murphy.
12 And again, in one (1) of the CAC (Manitoba) exhibits,
13 we thought it fit to share a -- a document from the
14 Connecticut 2010 integrated resource plan. Dr. Murphy
15 worked on that on behalf of Brattle. We heard from La
16 Capra that they were involved. Connecticut, a -- a
17 leader in planning, good integrated resource planning.

18 We're not suggesting this is the model
19 for Manitoba Hydro, but just an example of what we
20 would have expected back in August of 2013, when
21 Manitoba Hydro was coming before this Board seeking an
22 endorsement for the Preferred Development Plan as
23 defined in the NFAT: Keeyask, Conawapa, AC
24 transmission, and the US transmission.

25 So what do we have here? Well, the --

1 the three (3) keys, just as a starting point, are on
2 the left-hand side. You'll -- you'll see a reference
3 strategy at a certain level of DSM, and if you go back
4 to the IRP documents shared on the record of this
5 proceeding, that'll make it clear. There is kind of
6 the reference level of DSM.

7 Moving one (1) grey bar to the right,
8 however we describe that, we have the economics under
9 five (5) different scenarios of targeted DSM expansion.
10 So looking at a different portfolio with a different
11 level of DSM, trying to optimize that portfolio. What
12 does it look like? What level of DSM works? What type
13 of portfolio can we optimize to get the best value for
14 ratepayers, however we define that value?

15 Looking again over on the -- the third
16 gray bar, we have a scenario looking at all achievable
17 cost-effective DSM. Again, where do we get the most
18 value from DSM? What mix does it work best with? And
19 you see it competing neck and neck in the Connecticut
20 scenario with efficient gas expansion.

21 This is not an endorsement of gas. It
22 is not an endorsement of the Connecticut all achievable
23 cost-effective DSM. It is just an illustration of what
24 my client would have expected to see when Manitoba
25 Hydro came before you seeking approval or a

1 recommendation for approval of 16 to \$17 billion in
2 expenditures.

3 And our client would have expected this,
4 because our client sat in the Clean Environment
5 Commission hearing for Wuskwatim eleven (11) years ago
6 now, and they saw that one (1) of the key
7 recommendations from the Clean Environment Commission
8 was for Manitoba Hydro to practise -- to -- to bring
9 forward an optimized portfolio the next time they came
10 forward. And again, that's in the CAC exhibits. I
11 discussed it in the first week of the hearing in my
12 discussions with Manitoba Hydro CEO Scott Thomson.

13 Our clients would have expected it,
14 given the magnitude of the investment. Our clients
15 would have expected it given the advice of the Clean
16 Environment Commission, and our clients would have
17 expected it because it's good, common, sustainable
18 sense.

19 Slide 32. So we talked about what could
20 happen, what could be done, what should not be done.
21 The 2013 NFAT business case of Manitoba Hydro did not
22 develop assumptions and parameters for additional DSM,
23 and did not incorporate additional DSM into any of the
24 alternative DSM development plans.

25 Slide 33. And what did that lead to?

1 In our client's view, a material missed opportunity for
2 analysis. It was a missed opportunity that has put us
3 behind the 8 ball in this hearing, and led us to the
4 mad scramble that we are currently involved in.

5 And here we have Bill Harper, again,
6 hardly a radical, talking about what DSM could have
7 done, postpone the need date for new generation
8 resources, at least notionally, so we could test the
9 economics of that, but also trade in opportunity for
10 other options or plans to be brought into
11 consideration, and warning, in the second bullet, a
12 critical warning, that:

13 "Increased levels of DSM and delaying
14 the need date would increase Hydro's
15 flexibility and contrasting that to a
16 scenario where early construction of
17 large-scale resources could well
18 crowd out considerations of such
19 options,
20 "wind and solar,"] as we move into
21 the future."

22 Just so you don't think I'm
23 editorializing there, if you go to Mr. Harper's quote
24 as it appears in our -- in the transcript, you'll see
25 immediately above that section a discussion of -- of

1 other options.

2 And that is a key concern of our client
3 going forward, and it's not just directed at Conawapa.
4 It's directed at Keeyask, and the concern is that that
5 massive influx of new generation may crowd out other
6 futures for Manitoba generating sources and for
7 Manitoba consumers. It may crowd out other renewable
8 sources.

9 And where our client differs from the
10 Green Action Centre, is our client, I would suggest, is
11 more concerned that the introduction of Keeyask will
12 drive out of the marketplace realistic potential for
13 other renewable options, such as wind, for many years
14 into the future.

15 Our client can't say this with
16 certainty, but that is a concern that has been raised
17 at the onset for Mr. Harper, and it continues to be a -
18 - a concern for our client, and it is unfortunate that
19 we haven't had the -- the benefit of presentations from
20 the wind industry in this hearing, but it would be
21 interesting to get their perspectives.

22 Slide 34. Potentially, I've mislabeled
23 this slide, though I do not think so, but, Did it
24 matter? I put this question to Mr. Peaco from La
25 Capra, and clearly La Capra -- that firm is one (1) of

1 the stars of this hearing, bringing tremendous
2 international insight.

3 I asked Mr. Peaco, P-E-A-C-O, Would the
4 failure to contemplate alternative DSM scen --
5 scenarios have a material impact both on the need
6 determination and alternative analysis?

7 And he said, Of course, yes.
8 Effectively, we're moving the timing the better part of
9 a decade, and we've underlined a significant timing
10 change.

11 And noting that given that some of these
12 plans are moving relative to one another by \$300
13 million on a base of between seven (7) hun -- several
14 hundred million and a little over a billion, that's a
15 fairly significant ratio of those overall benefit
16 values. So in some cases, it changes the rank,
17 depending on how you look at the DSM.

18 So our clients say it was flawed
19 analysis, potentially leading to crowding out,
20 potentially leading to inaccurate results, and we --
21 I'll turn to slide 35. Because here's the -- perhaps
22 the largest concern of our client, because for all the
23 mad scramble, for all of the IRP, or Integrated
24 Resource Planning on the fly, given the timing
25 deadlines of this hearing, there are just some things

1 that we can't get done.

2 And Mr. Wojczynski, to his credit, was
3 frank when he introduced this information. What this
4 doesn't do, and I want to be careful, we didn't have
5 something where we -- we could look at a higher DSM
6 level and push things back five (5) years and start
7 analyzing those things. That was not analyzed in the
8 original submission context.

9 This whole hearing has been focussed on
10 advancement and testing the merits of the advancement
11 case. Our client, dating back to the last General Rate
12 Application, has been asking, Do we have to continue
13 down this path? Can we not take Mr. Hacault's, at
14 least some of his client's suggestions and stick to our
15 knitting? Can we not at least defer construction? Can
16 we not put it off to the future?

17 And as our client understands the record
18 of this hearing, we are not in a position to
19 competently address the deferral question, not with any
20 certainty, and we thank Mr. Wojczynski for his candour.

21 Slide 20 -- or it's 36. Thank God it's
22 not 26. You heard the Green Action Centre speak today
23 about what they consider to be the analytically
24 incorrect treatment of wind costs, and this is a second
25 substantive concern our clients have with the IRP --

1 the so-called IRP as presented by Manitoba Hydro.

2 And others have made this case more eleo
3 -- eloquently than our client, Power Associates, La
4 Capra, in particular, but our clients -- Manitoba
5 Industrial Power Users Group as well, our clients wish
6 to flag the fact that analytically, this has not been a
7 level playing field.

8 They point to three (3) particular
9 failures. First, being the failure to optimize the All
10 Gas portfolio, and that has been flagged as a concern
11 if you go to Mr. Bowman's evidence on behalf of MIPUG,
12 or if you go to the La Capra efforts as well.

13 Third -- second, excuse me, the failure
14 to take into account current and prospective costs for
15 wind, and let me name them, Knight Piesold, we would
16 suggest, has raised that concern, certainly Power
17 Associates, and La Capra, and probably the MMF,
18 although, I -- I will be a little careful on that.

19 What does La Capra say? The only cases
20 presented with regard to wind, and I'm quoting now,
21 "Were conservative." It goes on to note that Hydro did
22 -- did not look at, in quotations:

23 "Any current or prospective
24 expectations of cost for wind, with
25 the result that these types of

1 scenarios were not tested in the NFAT
2 submission."

3 And La Capra, in their evidence, we are
4 familiar with Plan 16 and 17, but they also tested, on
5 a preliminary basis, a wind scenario, and what did they
6 learn? And I'm quoting from La Capra, Mr. Peaco, at
7 page 5,892 of the transcript, and I think this was at
8 one (1) and a half times DSM:

9 "Re-illustrated with an alternative
10 set of assumptions that we produced,
11 that those assumptions were
12 sufficient to take the wind case from
13 being dead last in their list to
14 something that was better than the
15 Gas Plan, and particularly with the
16 change in the cost in the hydro
17 plant's economically competitive with
18 the others."

19 And so what we felt is that by testing
20 the alternative set of assumptions that we postulated,
21 showed enough improvement in the plan to make it some
22 sort of parody with the other plans that were being
23 considered, and our client sometimes feels that that
24 piece of insight from La Capra was -- was lost.

25 And certainly, when our client hears La

1 Capra on a very preliminary analysis say, Our wind
2 assumptions are preferable to All Gas economically, it
3 raises some -- some big questions. How would they
4 perform financially? What are the timing of those --
5 of the potential rate implications? We don't know.
6 And for our client, that is a -- a major unexamined
7 aspect of this proceeding.

8 Our client, as this Board will be aware,
9 has never been a wind zealot, but when our client looks
10 at the current and prospective changes in the wind cost
11 structure, when our client looks on advice from Dr.
12 Gunn, it's some pretty good information suggesting
13 amongst generation sources, wind is a pretty relatively
14 competitive -- competitive environmentally renewable,
15 our client has to take a second look at wind. But the
16 dynamic of this hearing, in our client's perspective,
17 has not allowed them to fully explore that issue.

18 We have no sense of what the financial
19 implications of a economic wind plan might be, and La
20 Capra, Dunskey, others have also cited the premature
21 screening out of solar. Harper, as well, and we'll
22 come to that a little bit later on.

23 Slide 37. This is our version of the
24 funnel. I should note that I am missing a -- a box.
25 On the left-hand side, we should -- we -- we -- I'm

1 inserting a box that's -- that's not there, "Wind
2 conservative cost estimates." But here, you have a --
3 a diagram that we presented to Hydro in cross-
4 examination.

5 The fifteen (15) plans were analyzed
6 based upon one (1) set of DSM assumptions, not like
7 Connecticut, Power Smart 2012. And here you have the
8 analysis of the fifteen (15) plans, domestic need
9 plans, advanced Keeyask/250 plans, advanced
10 Keeyask/750. So what are the problems with this
11 analysis?

12 Solar is screened out. Gas is not
13 optimized. The cost estimates for wind, although it's
14 not on this table, were very conservative, and because
15 the need date, based upon our arguably flawed Power
16 Smart Plan was in the 2023 or so range, not even
17 consideration of Conawapa as a first generating source.

18 Imagine -- and who knows what the
19 results would be, but one suspects that the folks from
20 Fox Lake who have a lot of interest in Conawapa would
21 have liked a load forecast to give a generating source
22 that they may have interest in a fair shot.

23 What else isn't in the 2012 assumptions
24 that laid the core of the NFAT business case? Well,
25 the DSM scenarios. DSM 1, 2, or 3, or the real DSM

1 scenario, which is Mr. Dunsky's, which is DSM 2
2 extended. Not there. Not available for analysis. Not
3 available for portfolio optimization.

4 Slide 38, please. Maybe things improved
5 in 2013. Maybe the new Jerusalem of IRP had arrived.
6 Power Smart 2013, notoriously lower energy efficiency
7 savings than projected in 2012. What were the plans
8 examined? 1, 2, 4, 12, 14. No Conawapa first. No
9 wind plan. Gas not optimized. Solar screened out.
10 None of the more robust DSM scenarios. And, by the
11 way, where are the -- arguably the two (2) leading
12 economic contenders of today, leaving aside Plan 4,
13 Plans 5 and 6? Not in the 2013 update.

14 Slide 39. I'm going to no doubt torture
15 you with the next couple of slides, but our client --
16 not that I haven't been for the last thirty-eight (38).
17 But our client thinks it's important to really back up
18 and get a sense of the mad scramble that this hearing
19 has been. Resource planning on the fly for a \$17
20 billion decision.

21 What are the notable events? Well, one
22 (1) is the collapse in the relative economic value of
23 the Preferred Plan under the weight of new planning
24 assumptions. And we'll come to that in a moment.
25 We've almost forgotten about bullet 2, the designation

1 of the then most economically attractive alternative
2 Plan 4 as hypothetical and not viable. Late February,
3 early March 2014.

4 The next bullet should read, "The
5 demotion or exclusion," as opposed to, "and," of other
6 leading plans such as Plans 2, 12, which were in the
7 2013 assumptions, but not in the updated Hydro economic
8 analysis of March 10th, 2014, as well as the exclusion
9 of Plan 6, which wasn't in the 2013 assumptions. But
10 in my client's view was probably among the leaders of
11 the economically, accepting for a moment Hydro's
12 forecasts.

13 Event number 4, the sudden adoption of a
14 Plan 5 as a leading alternative despite the fact it was
15 not analyzed in the 2013 business case. Yet
16 surprisingly, when the updated multiple account benefit
17 cost analysis was presented, Plan 5 was not included.
18 And when we look at the results for Plan 5 under the
19 multiple account benefit cost analysis we certainly
20 will get some insight.

21 Revelation 6, the restriction of the
22 initial updated financial analysis of Manitoba Hydro to
23 Plans 1, 5, and 14.

24 Slide 40. When I put this to Ms.
25 Carrier, and this is reflected in the written argument,

1 she suggested by Manitoba -- that Manitoba Hydro did
2 not intend to produce updated financial evaluations for
3 Plans 2, 4, and 6. And as our client interprets the
4 record, the PUB certainly had to direct updated
5 analysis for a number of plans.

6 Another concern, the exclusion of plans
7 with wind components from updated DSM Scenario 2. And
8 again perhaps the most important, a significant shift
9 in the need date as we interpret it ident -- along with
10 the suggestion that Hydro was not equipped to analyze
11 the deferral option. Again, that's how we interpret
12 Mr. Wojczynski's evidence.

13 So where does that leave us to today --
14 at today? Slide 41, please. Back on slide 5 -- and we
15 don't need to go there -- but we asked: Is the record
16 sufficiently robust to make a judgment call on the
17 merits of leading alternatives to the Preferred Plan?

18 Again perhaps torturing my Rumsfeld
19 analogy, what we don't know. Are we -- are we
20 satisfied that the 250 megawatt intertie is truly not
21 viable? That's certainly been a major question flagged
22 by Mr. Harper. And I guess, as I understand it, he
23 would suggest the economics looks so good, isn't there
24 a deal to be had? I guess Mr. Cormie's advice would be
25 the economics look too good now that it's public. But

1 that's a question our client is not satisfied with.

2 Our client is, I guess, to a degree,
3 satisfied with the second bullet. We know that the
4 carbon pricing future is highly uncertain, but that is
5 a significant concern for our client. What our client
6 is concerned about, at least based upon its
7 understanding of the record, is the third bullet, is
8 we're not satisfied that we have a robust analysis of a
9 no carbon scenario upon plans, such as 5 and 6. And by
10 'robust' we mean the type of analysis that La Capra
11 undertook with regard to Plan 14.

12 And La Capra concluded that the results
13 were significant under the no carbon scenario, dropping
14 the relative Preferred Development Plan benefits by
15 about 340 million as compared to All Gas.

16 Now, my client wouldn't expect that type
17 of magnitude of a drop for 5 and 6, but it would
18 suspect that it would be significant. Our client isn't
19 satisfied that it's got a La Capra type analysis as was
20 done for Plan 14. A big concern for our client is the
21 absence of expected values based upon 2013 planning
22 assumptions, taking into account the updated capital
23 cost and economic DSM. This is a big deal.

24 Certainly the advice that non-hydro
25 experts seem to be almost unanimous on in their written

1 reports that were expected values as they were to more
2 fully reflect risk were highly preferable to the
3 ref/ref/ref approach. This absence of expected values,
4 based upon 2013 planning assumptions, is, in our
5 client's submission, a major gap in the record and a
6 major absence.

7 The fifth bullet on this page just goes
8 to the point -- now, our client was not able, based
9 upon the undertaking, to go behind the -- into the CSI
10 information, but it notes the concerns expressed by
11 Potomac in terms of the transparency underlying
12 Manitoba Hydro export revenue forecasts. And this is
13 extensively discussed in our written report.

14 So clients -- our client is left with
15 nothing. But the generally lower assumptions of
16 Potomac is the only transparent and publicly reliable
17 source of expert price information. And for a public
18 process, our client thinks that is a concern.

19 Slide 42. This was a concern flagged by
20 Morrison Park. And Morrison Park noted that we didn't
21 have an analysis of the macroeconomic impacts of rate
22 increases upon the Manitoba economy. And our client
23 thinks this is significant for a couple reasons. First
24 of all, certainly over the first twenty (20) years we
25 do see a growing gap between the Preferred Plan and

1 other plans, and so there may be some insight looking
2 at the chilling effect of rate increases of the
3 magnitude associated with the Preferred Plan upon the
4 economy.

5 There also is some interesting work on
6 the record by TyPlan, not on the energy scenario, not
7 on the Manitoba scenario. And after some of my
8 comments about TyPlan, it's perhaps -- I should commend
9 them that they did bring forward some important
10 information from the CIBC and from Scotiabank who
11 talked about how higher energy costs were significantly
12 biting into the Canadian household pockets and
13 affecting the health of the retail sector.

14 Now, those comments, as TyPlan pointed
15 out, and we would be remiss if we did not point out,
16 were primarily based upon gas. But our client believes
17 there's an important lesson from that in terms of the
18 dampening effect of rate increases upon the economy,
19 really an issue that has not been examined.

20 And the final piece of evidence in
21 support of that goes from the work of Mr. Dunsky. In
22 response to one (1) of the panel's questions, he talked
23 about the stimulative effects of energy efficiency
24 expenditures. And he wasn't able to provide the
25 Manitoba data, as the Board will be aware. He's done a

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1 Canadian-wide study. The Manitoba data has not been
2 released, but he's cited Quebec as an interesting
3 replacement.

4 And one (1) of the interesting things
5 from Mr. Dunsky's undertaking, and I urge you to take a
6 look at it, is they talked about the benefits of lower
7 energy bills in terms of stimulating the economy. And
8 so that's an insight that we see Dunsky bringing
9 forward; we see Morrison Park commenting upon as an
10 absence from the hearing.

11 And from our client's perspective, two
12 (2) of the greatest absences are the economic and
13 financial analysis of a new generation deferral
14 scenario, or perhaps a no-build scenario, including one
15 that looks at a renewable portfolio, DSM and other
16 renewables. So those are major concerns for our
17 client.

18 Turning to slide 43, if my list wasn't
19 long enough, the regional CEA. The Clean Environment
20 Commission reiterated the need for a regional CEA in
21 its Keeyask report. Our client echoes that concern.
22 And our client, to my understanding, certainly would
23 not be prepared to sign off on Keeyask generation in
24 the absence of such information. Again, will the
25 construction of Keeyask crowd out other renewables?

1 And finally, and this is really more a
2 matter for the Board advisors who've asked some
3 interesting questions about this, is the construction
4 of Keeyask a true condition precedent to the Minnesota
5 Power sale? And, frankly, you're going to have to rely
6 upon your Board advisors' legal advice for that. My
7 head and brain gets turned into knots trying to
8 understand that dialogue, but I'm sure you'll get good
9 advice from your advisors and no doubt from Manitoba
10 Hydro as well.

11 At slide 44 -- and just for the panel,
12 over the next couple of slides, I'm going to walk
13 through many of the key conclusions of our client. A
14 few I'll elaborate on, and then some I will -- will
15 come back to.

16 In terms of risk in the economic and
17 financial perspective, our client would suggest that
18 ratepayers are the primary risk bearers with regards to
19 what it considers Hydro's merchant plant adventures.

20 Secondly, the DSM is an essential
21 economic and reliable element of modern resource
22 planning.

23 Third, the economic and risk analysis,
24 in our client's view, strongly suggests the Preferred
25 Plan as defined in the NFAT terms of reference should

1 be expressly rejected.

2 Our client would note some economic
3 support for plans with Keeyask and interconnections,
4 but sees little support on the public record for the
5 WPS sale. And our client would note that, over the
6 foreseeable future, from a residential ratepayer
7 perspective, there is evidence to suggest that Manitoba
8 ratepayers' impacts will be somewhat minimized under
9 Plan 1.

10 Next slide. In terms of key conclusions
11 related to macroenvironmental and socioeconomic
12 considerations, from our client's perspective and from
13 a sustainability perspective, DSM is likely to be the
14 preferred choice.

15 In terms of generation sources, we note
16 a general preference for renewables followed by
17 transition fuels such as gas. Our client would note,
18 as well, mixed evidence on the relative ranking of the
19 renewables. And certainly you're aware of some of the
20 information presented by Dr. Gunn, including some of
21 the interesting work by Evans in 2009 which appeared to
22 rank wind above hydro.

23 But the more important message from Dr.
24 Gunn really is that given their environmental
25 attributes, and given significant changes in their cost

1 structure, it was time to take a new look at renewables
2 such as wind and solar. And that's a relatively recent
3 and rapid development, and strangely may suggest that
4 our current provincial energy strategy is somewhat
5 dated, not by time but by events.

6 A fourth key concern and consideration
7 for our client is that there is ongoing uncertainty
8 about the regional cumulative effects of hydroelectric
9 development on the Nelson River. And the Clean
10 Environment Commission, as we'll see in another slide,
11 has seen fit to raise significant concerns and suggests
12 that this is a matter deserving additional study.

13 Our client recognizes that like any
14 other generation opt -- option, hydro presents
15 significant environmental consequences. And one only
16 has to think back to the panel of traditional land
17 users and Elders to understand that while some may
18 consider hydro renewable hydroelectric development has
19 had enormous and, in many ways, tragic consequences for
20 the land, the people, and waters of the Churchill
21 River, the Burntwood River, and of the Nelson River.

22 That does not detract from the enormous
23 benefit that we as Southerners have reaped from hydro
24 development. But our client joins the voices of others
25 who suggest that we perhaps do a disservice to the

1 facts to describe hydroelectricity generated on the
2 Nelson River as clean.

3 We note as well, and there'll be a slide
4 on this point, that the Clean Environment Commission
5 has identified in terms of potential significant
6 adverse effects potential adverse effects upon sturgeon
7 and boreal woodland caribou. And our client -- those
8 two (2) species have been a particular concern to our
9 client, along with what Mr. Moose would point out as
10 the human species. And clearly our client has ongoing
11 concerns in terms of impacts of hydroelectric
12 development upon an already vulnerable ecosystem and
13 upon an already vulnerable people.

14 Slide 46. Our client notes with regret
15 that we often talk about optimizing portfolios, but
16 when you look at social-economic optimization the only
17 portfolios that Hydro chose to optimize were hydro
18 plans. And our client is sure that Mr. Anderson and --
19 and Mr. Orle, and the folks from the MKO will come in
20 tomorrow and talk about ways to enhance communities in
21 Manitoba's North, First Nation communities in
22 particular, from their perspective.

23 And our client merely notes that if one
24 were to pursue a different option, whether it's wind in
25 the South, whether it's solar, whether it's enhanced

1 DSM, that doesn't close the door on socioeconomic
2 opportunities for Manitoba's North, for Manitoba's
3 Metis people, or Manitoba's First people -- First
4 Nations, excuse me.

5 Whether it's sharing of water rental
6 benefits for communities that have continued to be
7 affected by hydroelectricity, whether it is DSM. These
8 are all ways to optimize other portfolios.

9 And our client believes it's unfortunate
10 that in presenting these portfolios for Dr. Shaffer to
11 analyze in the multiple account benefit cost analysis,
12 more effort was not put into optimizing these
13 portfolios, these non-hydro portfolios, from a
14 socioeconomic perspective. There were opportunities
15 missed.

16

17 (BRIEF PAUSE)

18

19 MR. BYRON WILLIAMS: The second bullet
20 on this page is a painful bullet for many in this room.
21 And our clients make the observation, like any major
22 resource project, hydroelectric development on the
23 Nelson River system offers both socioeconomic
24 opportunities and significant socioeconomic risks.

25 And the -- the panel has heard evi --

1 eloquent evidence from two (2) very different
2 perspectives in this hearing. On behalf of the Cree
3 Nation partners, individuals like Mr. Bland and Ms.
4 Anderson talked both about the opportunities and their
5 vision for their communities, as well about -- as the
6 moral dilemma that they experienced in terms of
7 adhering to the -- to the agreement.

8 From a -- a very different perspective,
9 or perhaps not so different, we heard some of the most
10 powerful evidence our client has ever seen from
11 traditional land users and Elders about the
12 implications of Northern hydroelectric development from
13 their perspective. And given that Councillor Spence is
14 here, I thought I -- I might quote a few words from Mr.
15 Spence:

16 "Whatever Manitoba Hydro touches,
17 they kill. Your clean, renewable
18 energy posters don't fly with our
19 people. That's advertising, window
20 dressing. We see what is really
21 going on. We're part of it. We're
22 the water, we're the land, we're the
23 air. We're everything the environ --
24 that the environment is."

25 Again, from the other perspective

1 Councillor Neepin. In the past we've seen evidence
2 from him talking about the change in the relationship
3 with Hydro.

4 Our client's point here is that while
5 Manitoba Hydro and really the multiple account benefit
6 cost analysis has really characterized the
7 socioeconomic upside; and there is potential and -- and
8 certainly we wish for all members of our society the
9 opportunity to have good jobs and good schools and --
10 and good opportunities.

11 But that other side of the equation will
12 be there. And Ms. Orenstein, who spends a lot of time
13 working for big companies doing these major projects,
14 has pretty common-sense advice. No matter how good the
15 plan, there are going to be consequences. There are
16 going to be significant adverse consequences for the
17 communities. So our client wishes to point out that
18 while there may be significant opportunities, there are
19 significant risks. And they're risks that you can't
20 compensate under a joint development agreement.

21 Bullet 3. We've already talked about
22 unexplored opportunities to utilize energy resource
23 planning in ways that could benefit both Northern and
24 Aboriginal communities. We're going to come back to
25 multiple account benefit cost analysis in a -- in a

1 couple of pages. We merely point out that our client
2 has learned a lot from using the two (2) perspectives,
3 sustainability analysis and MABCA, together.

4 And MIPUG has made the last bullet far
5 more eloquently than I can do. But we simply note that
6 under the Preferred Development Plan the real, and
7 perhaps only, beneficiary would appear to be the
8 provincial government. Certainly, it receives by far
9 the largest share of benefits.

10 Slide 47. Just a couple points from the
11 'C' -- the Clean Environment Commission. Bullet 1,
12 reinforcing the conclusion of a regional CEA, and our
13 client agrees with that, and also pointing out in the
14 second bullet on slide 47 the significant uncertainty
15 and the risks related to two (2) pretty special species
16 under severe stress in northern Manitoba, and in the
17 case of sturgeon, in much of the Nelson River system.

18 Slide 48. There's actually a good quote
19 from Mr. Moose later in this PowerPoint, but this is
20 something -- a real learning for our client, and I
21 hasten to say that this is not about rates. We all
22 know that, with the exception of the diesel
23 communities, we have uniform rates in this -- in this
24 province, but this is about bills, and it's about the
25 reality that when you have people in a Northern climate

1 and a colder client (sic) living in substandard
2 housing, and with low incomes, the particular effect of
3 rate increases is acute, it's particularly acute.

4 And Dr. O'Gorman worded it better than I
5 ever could. She talked about a perfect storm with
6 regard to the lack of affordability, and certainly, the
7 ratepayer panel gave -- gave you a bit of that
8 perspective, as did the traditional land users and
9 resource users.

10 Our client, at slide 49, concludes that
11 rate increases that double the rate of inflation are
12 likely to adversely affect consumers, and they point
13 out that low income cons -- consumers and persons
14 living in remote communities face many barriers in
15 accessing low income energy efficiency programming.
16 And this has been a priority of our client since 2008
17 or before, probably before. Ms. Desorcy, I'm sure,
18 would tell me, but it's been a major issue for our
19 client.

20 What we did not understand until the MKO
21 presentation in Thompson last week, or at least as we
22 understand it, the suggestion that persons in arrears
23 are not eligible for energy efficiency programming, and
24 the shocking suggestion to us, certainly the evidence
25 from Mantosipi, M-A-N-T-O-S-I-P-I, was in excess of 80

1 percent they were suggesting were in arrears.

2 And our client has been long concerned
3 with barriers to energy efficiency for vulnerable
4 people, including low income people and new Canadians.
5 That suggests to our client that there are acute issues
6 that certainly we did not understand in -- in a number
7 of northern First Nation communities.

8 Slide 50. I -- I guess CAC (Manitoba)
9 may be accused of not being hip, because they are
10 confident and committed to the integral role of DSM in
11 economic -- as an economic relial -- reliable and
12 integral element of modern resource planning, and
13 unlike -- and Ms. Desorcy may correct me if I misstate
14 this, but it is important to understand that CAC did
15 not come as soon or enthusiastically, initially, to the
16 DSM table as the Green Action Centre.

17 CAC was very involved in low income
18 energy efficiency issues, but less enthusiastic about
19 DSM, but over the last number of years, has become
20 increasingly persuaded that this is a -- indeed, the
21 most under-utilized resource in Manitoba, and CAC has
22 come to that through an examination of the experience
23 in other jurisdictions.

24 The Northwest United States is a -- a
25 well-known leader. States like Vermont and Connecticut

1 and in New England have provided insight, and recently
2 California has made tremendous strides, as have
3 jurisdictions such as Nova Scotia.

4 And CAC (Manitoba) want to spend a few
5 moments on this. It's not on the PowerPoint, but it's
6 important. We've had in this hearing for the -- in
7 these proceedings for the last two (2) hearings, a
8 tremendous resource in Mr. Dunsky.

9 And Mr. Dunsky doesn't work for a lot of
10 non-profits. Most of Dunsky's work is for government,
11 utility commissions, or industry, and he's brought --
12 brings to the table experience, as Mr. Gange said this
13 morning, from California, from Vermont, from Nova
14 Scotia, from British Columbia.

15 While he's enthusiastic about DSM, he's
16 hardly a radical. He's a mainstream, common-sent --
17 sense advocate of getting out and hustling, of giving
18 clear mandates, targets that you have to meet, and of
19 innovating, and his track record in jurisdiction after
20 jurisdiction gives him a great deal of credibility in
21 highlighting the advantages of DSM as compared to
22 generation in terms of dependability, cost, risk, and
23 lower CO2 emissions.

24 Based on -- upon his work in a national
25 study, he also has tremendous insight into the economic

1 benefits that DSM brings to the table in terms of jobs
2 and lower bills, and we certainly appreciate the skepticism --
3 -- at -- at least some skepticism from panel members.

4 And I regret I didn't bring it, but
5 certainly, we're aware of at least a couple of the
6 studies that Dr. Grant has referred to, and Dr.
7 Simpson prepared a nice commentary for me. I don't
8 think I put it in the -- in the evidence.

9 Certainly, we recall that one (1) of
10 those studies was -- was quite old, but, more
11 importantly, we think -- and this is the insight that
12 Mr. Dunskey brings to the table, system planners, the
13 people responsible for keeping the lights on, rely on
14 DSM. They rely upon it in New England, they rely upon
15 it in California, they rely upon it in Nova Scotia.

16 And on the record of this hearing is an
17 excerpt from the -- the California recent report from
18 the California Public Utilities Commission staff. I
19 presented part of that as an exhibit to Mr. Todd. He
20 put the whole study on the record, which shows the
21 confidence that that jurisdiction places in DSM.

22 And in jurisdictions such as Vermont and
23 the Pacific Northwest, they don't only consider DSM
24 reliable, they assign to it a 10 percent premium or
25 advantage, and that's in Mr. Dunskey's PowerPoint

1 presentation.

2 I won't spend a lot of time on this.
3 I'm going to still stay on this slide, although clearly
4 I'm not referring to it.

5 But Mr. Dunsky -- a central message to -
6 - to you is that DSM savings are realistic and
7 sustainable, and he gave you five (5) examples of new
8 trends that were in the marketplace, including new
9 efficiency standards, LED lighting, heat pumps, data-
10 driven analytics, and solar PV. And he's given an --
11 really, an outstanding analysis of grid parity with
12 regard to solar PV. But it's important to look at the
13 corroboration of Mr. Dunsky's evidence on the record.

14 Both Mr. Klassen as a presenter and Mr.
15 Gio Robson as a witness during the ratepayer's panel
16 confirmed the intense interest of the industry with
17 regard to cold climate air source heat pumps. And I
18 urge you on behalf of our client to go back to the May
19 1st cross-examination of CAC of the Manitoba Hydro
20 panel.

21 And we put to them some of these
22 prospects for DSM, and you'll recall Mr. Kuczek's
23 response to me, Oh, that one's about some of these
24 opportunities. And we noted that in one of the cases,
25 the opportunity was actually in their contingency

1 budget. They just hadn't built any energy expectations
2 into it.

3 I don't have time to go through that May
4 5th -- excuse me, May 1st transcript with you, but
5 there's a lot of good insight there in terms of the
6 opportunities available to Manitoba Hydro.

7 Slide 51. We've put here the -- the
8 juxtaposition of the analysis of Dunsky and Dr. Higgin,
9 and I assure you, I mean, you've perhaps gathered that
10 Dr. Higgin is not a hipster either. Dr. Higgin is a
11 hard-nosed engineer, a PhD, with a -- with an MBA. Dr.
12 Higgin is a long time public servant, and he is a
13 person who sat in your shoes on two (2) separate
14 occasions on the Ontario Energy Board. And he is a
15 person that led a major examination of Ontario -- its
16 energy future in the 1990s.

17 And we think it is telling and striking
18 that you have, really, two (2) mainstream figures, Mr.
19 Dunsky, primarily an analyst for industry and
20 government, and Dr. Higgin, many years as a regulator,
21 sending you pretty similar messages. Aggressive DSM
22 should be stri -- striven for and relied upon. There
23 is a need to pay particular attention to reach low
24 income and vulnerable consumers. You want DSM targets,
25 you've got to hustle. And there needs to be an

1 oversight mechanism to ensure DSM targets are met.

2 And if we can go just back to slide 50?

3 The Board has read this study. This is the ACEE (sic)

4 study in greater detail than I have. You can -- you

5 can draw a relationship between mandated targets and

6 over-achievement. You can draw a relationship between

7 DSM stars and over-achievement, as well. Let's leave

8 aside taxes. I don't know what's going on there.

9 But if you look at who is doing well,

10 the fourth bullet over, California, they are just at

11 110 percent, is Connecticut at 100 and -- I can't quite

12 tell -- 105 percent is Washington at 104, or Vermont.

13 Those are states with a well-known expertise and

14 commitment. Oregon is at 99 percent. We'll give them

15 that 1 percent, I think, on this occasion.

16 Slide 52. This is Mr. Dunsky's analysis

17 of the impact on the load forecast of Level 2 DSM

18 extended. Relatively flat growth out to 2034, and like

19 Mr. Gange this morning, My Learned Friend, I note that

20 Dunsky isn't about the huge ramp up and the collapse.

21 Dunsky is about building a foundation for sustainable

22 DSM, a foundation that other jurisdictions in North

23 America have achieved, and which our client accepts is

24 -- is achievable for Manitoba.

25 I will take issue with My Learned Friend

1 Mr. Gange on one (1) point. If you look at Mr.
2 Dunsky's evidence from last year's GRA, his advice was
3 regardless of the rate level in Manitoba, there are
4 significant material, best practice opportunities in
5 this jurisdiction. And if you take the time to go back
6 to Mr. Dunsky's evidence from 2008, which has been
7 filed as an exhibit in this proceeding as well, you'll
8 see he lists a lot of barriers to good energy
9 efficiency, and we'll come to a few of them for low
10 income people in a couple of moments.

11 I think it would mischaracterize
12 Dunsky's evidence to suggest that relatively low prices
13 are a major barrier to DSM. I think that would be a
14 misstatement, and I'm -- I'm sure Mr. Gange didn't --
15 wasn't making that statement.

16 So let's leave DSM and let's look at
17 slide 53, and as I stated before, in CAC Exhibit 91-1,
18 there is a very extensive economic analysis, 'S's and -
19 - and quilts and everything. In the written argument
20 and in this submission, we've just got a few key
21 messages. Mr. Chair, I'm thinking I'm half an hour. I
22 can either -- I -- if I could even stand down for five
23 (5) minutes, or I could keep going.

24 THE CHAIRPERSON: Yeah, well, let's --
25 let's do that.

1 MR. BYRON WILLIAMS: Okay.

2 THE CHAIRPERSON: Okay.

3

4 --- Upon recessing at 2:18 p.m.

5 --- Upon resuming at 2:32 p.m.

6

7 THE CHAIRPERSON: If people can sit
8 down -- people can get into position, we'll recommence
9 the -- the proceedings.

10 MR. BYRON WILLIAMS: Mr. Chair, now
11 that Ms. Menzies has returned, I should note, and --
12 and I -- I should have noted it right at the start, in
13 my thank yous, I -- I neglected to mention both Ms.
14 Fast and Ms. Menzies. I'm not sure if either of them
15 slept last night, but that's been pretty typical of
16 their work ethic through the -- the last few months,
17 and it's much appreciated.

18 At slide 53, and as I said, there --
19 there's an extensive analysis in 91-1, but what our --
20 we were trying to do our for our client and for the
21 record is -- is get a sense of what's going on with the
22 Preferred Development Plan from a couple of angles.
23 This is based upon, as we get to the right-hand side of
24 the -- the table, twen -- 2013 assumptions and
25 ref/ref/ref.

1 So the limitation of this table is that
2 it's not based upon expected values, and -- and from
3 Mr. Harper's perspective, that's a big concern, but we
4 think there's some insight on it. And perhaps if we
5 started moving back to the left-hand side, we can
6 follow the trajectory of Plan 14, the Preferred Plan,
7 as defined in the terms of reference and documented
8 struggles.

9 We have it on -- in the second column as
10 presented in the business case at 1.2 billion, based
11 upon 2013 planning assumptions. Throw in the new
12 capital and there is a -- a deterioration. If you move
13 to the fourth column, that's using Mr. Harper's
14 recommended discount rate as -- as compared to the
15 Hydro discount rate.

16 Then you get to the fifth column in, the
17 45 million figure NPV based upon DSM 2 and the new
18 capital ref/ref/ref. You're down to 45 million, and if
19 you do what our client would submit and Mr. Harper
20 would recommend is a more appropriate discount rate,
21 you're in the negatives as compared to All Gas.

22 So that's one (1) learning, based upon,
23 again, ref/ref/ref, which is limited, but it is also
24 insightful to -- to look up at Plans 5 and 6. Those
25 are the Keeyask/750 plans, with the distinguishing

1 factor being that Plan 6 does not include the WPS sale.
2 And there, notably, you're missing some information for
3 Plan 6, but you see at Mr. Harper's discount rate, or
4 at the Hydro discount rate at the right-hand side, some
5 pretty -- as compared to the Preferred Plan, superior
6 results for both those plans, although ver --
7 relatively tight.

8 Slide 54 presents expected values and
9 updated capital costs, and Mr. Harper's recommended
10 discount rate. What it does not have, of course, is
11 the 2013 planning assumptions, and the 2013 planning
12 assumptions do provide some more robust export price
13 forecasts.

14 But a similar narrative that you see
15 here -- and again, Mr. Harper would urge you to focus
16 less on the ref/ref/ref and go to the expected value,
17 and what do we see for the expected value? We've
18 stroked out 14 and 5 because those included the WPS
19 investment, which is not on the table. Under expected
20 value for Plan 4, the now hypothetical Plan 4,
21 apparently, we have 527 million.

22 Plan 14B, i.e., the Preferred Plan
23 without the WPS investment, minus one two seven (127),
24 and the -- the performers on this plan are Plans --
25 along with Plan 4, are Plan 6, 5B, and 2. What this

1 doesn't have, and if I didn't say this before, I
2 should, it doesn't have DSM scenario 2 either.

3 But we chose these two (2) tables
4 because they -- one (1) provides an expected value and
5 updated capital costs. The other provides the DSM
6 scenario 2, albeit at ref/ref/ref. The message is
7 relatively consistent. Plan 14 without the WPS
8 investment is -- and other details is struggling, where
9 the -- the relatively stronger performers are 6 and 5B.

10 Slide 55 presents a third take on this,
11 and this is Dr. Simpson's comparison of risk versus
12 expected value, and if you recall his earlier graphs,
13 you had kind of that frontier on an angle, but here the
14 -- the results are -- are more straightforward, with
15 Plan 4 leading, followed by Plan 6, 5B, and 2, with 14B
16 in the -- trailing. Now again, this is based upon
17 expected values from 2012. It does not have DSM
18 scenario 2.

19 So these are the three (3) narratives
20 that our clients took, and certainly from it, drew two
21 (2) conclusions. One (1) is that significant concerns
22 with both the economics and the risk associated with
23 the Preferred Plan, and with some inference that there
24 were more positive economics with the Keeyask and as
25 well as the 750 interconnect.

1 On slide 56, our client starts to talk
2 about ratepayer impacts, and what we chose in terms of
3 trying to evaluate ratepayer impacts was DSM Scenario
4 2. Our client thinks that that -- that a more
5 realistic perspective is DSM scenario 2 extended.
6 Hydro thinks pipelines should be in the mix.

7 From our client's perspective, we picked
8 DSM Scenario 2 as an unhappy compromise, but there you
9 have the projected even annual rate increases out the
10 next sixteen (16) years, and our client, as I've
11 indicated, chose this time frame because the consistent
12 message they've had for ratepayers is the looking ahead
13 a month, some months, a year, that they don't have a
14 lot of confidence in forecasts of rate impacts out ten
15 (10) years, much less fifteen (15) or twenty (20). So
16 they picked this metric to at least give some sense
17 over the next fifteen (15) to sixteen (16) years.

18 A similar analysis is pro -- provided on
19 slide 57. There, we picked a bit longer period: twenty
20 (20) years NPV, consumer revenues collected.
21 Obviously, we want to be at the low end in terms of
22 NPV. And what we see, similar to the previous page, is
23 that Plan 1 is outperforming based upon DSM 2, or the
24 other scenarios actually, the other -- other plans.

25 It's not in our PowerPoint, but we did

1 look as well out fifty (50) years. And -- and you'll
2 see that at pages 44 to 45 of the written report of CAC
3 -- submissions of CAC (Manitoba). What we concluded --
4 and again, this was limited because it was based on
5 ref/ref/ref, but Plan 14 collects the most from
6 ratepayers on an NPV basis in all years until sometime
7 between year 45 and year fifty 50.

8 Leaving aside Plan 4, Plan 1 collects
9 the lowest from domestic ratepayers going out fifty
10 (50) years until the last decade, when Plan 5 passes
11 it. And so that's in our written report.

12 An interesting analysis is through
13 multiple accounts benefit analysis. And what's kind of
14 surprising in this hearing is how it's fallen off the
15 map. You think of Chapter 13 of Hydro's Business Case,
16 and while our clients and our analysis took some issue
17 with it, there was some important and insightful work
18 that was done with this -- this approach.

19 But apart from hearing from Dr. Shaffer,
20 what was it, back in week 2, we haven't had a lot on
21 multiple account benefit analysis. And our client
22 hastens to add that when you look at this slide, you
23 should note that the market value account -- so that's
24 the -- the third row -- has been updated for revised
25 Keeyask and Conawapa capital costs -- but it's based on

1 the 2012 business case -- does not reflect the more
2 current 2013 assumptions and does not incorporate the
3 higher levels of DSM.

4 So -- and you'll recall that this was
5 the analysis-- When Dr. Shaffer originally provided in
6 March, he pro -- he did not provide the results for
7 Plan 5. But sub -- following an undertaking, they did
8 provide those results.

9 And there's a few interesting results
10 here. When you get to the monetized net benefit, you
11 certainly see Plans 6, 12, and 14 being in the same
12 relative range. I think Dr. Shaffer described it as
13 similar, although that was my sense of his -- I -- I'm
14 not quoting him exactly. Plan 5 does not perform as
15 well under multiple account benefit cost analysis
16 updated for the new capital costs. Presumably that's
17 probably a -- a timing issue with the -- the gas
18 generation.

19 Now again, our client notes that -- that
20 this analysis does not include DSM Scenario 2. And
21 it's always hard to predict, but one would expect Plan
22 6 has done quite well com -- compared to Plan 14 when
23 one incorporates DSM Scenario 2. So one would expect
24 Plan 6 to continue to perform quite well under the
25 multiple account benefit analysis. But to our

1 knowledge, that important update has not been
2 performed. And it would be interesting to see where
3 the Preferred Plan, Plan 6, and others end up.

4 Our client does wish to note a couple of
5 limitations, in their view, with this analysis apart
6 from the -- the fact that it's not updated to reflect
7 updated DSM scenarios. And it's a useful analysis, but
8 in our client's view there are some limits.

9 And one is that as we understand Dr.
10 Shaffer's approach, he determined that there would be
11 no major residual biophysical or socioeconomic effects
12 related to the Keeyask partnership. And we -- we
13 understand that that was based in part upon the -- the
14 agreement and the willingness of the Keeyask partners
15 to participate.

16 Certainly from our client's perspective,
17 one couldn't sit through and -- and listen and hear the
18 Elders and traditional land users testify and not
19 conclude that there will be significant effects on --
20 on some individuals. And certainly the Clean
21 Environment Commission noted the potential for
22 significant adverse cumulative effects, the potential
23 for sturgeon and caribou.

24 But we also see a flaw in -- in this
25 assumption by Dr. Shaffer even if you look at the

1 evidence under oath of, for example, Ms. Anderson on
2 behalf of Fox Lake. And she testified at -- at pages
3 354, 344, and elsewhere on the transcript -- twice on
4 the transcript we'll -- the references are in the
5 written argument, that not all of the impacts at the
6 hydro projects had been mitigated, compensated, or
7 defended. So -- and she pointed to transmission
8 effects as -- as one of those effects.

9 So there is a reputation of Dr.
10 Shaffer's assumptions by one of the -- the
11 representatives of the Fox Lake Cree Nation. It
12 doesn't mean it's not a useful and indeed quite useful
13 analysis, but there are limits to it.

14 Out client also suspects that Dr.
15 Shaffer had overconfidence in mitigation adequacy
16 associated with Keeyask, and again they point to the
17 comments of the Clean Environment Commission. Not to
18 say that this is not a important tool. It's regretful
19 that it's kind of fallen off the table in this
20 proceeding. It would have been nice to have an update
21 and see what it looked like under DSM 2.

22 Mr. Mouland had to leave, and as we turn
23 to slide 59 we've asked what -- what these potential
24 rate impacts from any of the plans means to consumers.
25 And Mr. Mouland tells us it's essential, Hydro is

1 essential, and he -- his evidence as I recall it was
2 that it's the first bill he play -- pays. And he
3 flagged a concern not uncommon to people on fixed
4 incomes, that every cent of income that's coming in is
5 going out just as fast. And -- and certainly Mr.
6 Mouland's evidence was eloquent because certainly in
7 his current personal circumstances with the conditions
8 of his house, he's got some challenges in accessing DSM
9 programs.

10 Slide 60. We have some -- the
11 conclusions of Mr. Stevens and Drs. -- Dr. Simpson,
12 noting based upon their analysis that as rates increase
13 electricity share of low income households total
14 consumption increased, and that they detected a shift
15 in consumption in a certain direction. And that
16 overall household balances became more negative.

17 At page 61, and I -- I think Mr. Moose
18 is still here, and I'm sure MKO will have more to say
19 about this tomorrow, but on this page you see two (2)
20 distinct concerns being expressed. One (1) is the
21 overall magnitude of bills experienced by persons
22 living in remote communities for shelter, and certainly
23 the perfect storm that Dr. O'Gorman talked about, and
24 also a sense of differential treatment. In Mr. Moose's
25 information, the differential treatment between Hydro

1 employees in his view and -- and the rel -- the
2 residents of Gillam, First Nations relat -- residents
3 of Gillam. And I think if one dug into his Clean
4 Environment Commission evidence -- I don't have it
5 before you -- he might have more to say on that
6 subject.

7 You also see something that Dr. O'Gorman
8 flags in response to a question by the Chair. A sense
9 of unfairness that the dams were in the area, and that
10 they were paying a lot, but also a sense of inequity
11 that they believed they pay more than Southerners. And
12 certainly our client has picked up this message that
13 it's almost -- the monthly bill is almost a monthly
14 reminder of -- of a myriad of -- of issues with
15 Manitoba Hydro.

16 And the issue of equity for Northern
17 Aboriginal persons is -- is critical. And the hearing
18 by its nature is focussed on the risks and
19 opportunities for the Cree Nation partners, but they're
20 not the only Northern and Aboriginal persons affected.
21 And I think a strong message we've heard from the MMF
22 and certainly that's how we interpret the MKO message,
23 is that there are real and meaningful adverse rate
24 impacts on vulnerable consumers that demand a policy
25 response.

1 Slide 62, we have words of optimism from
2 Mr. Stevens about using energy efficiency as a
3 mechanism to relieve the burden on low income
4 consumers, and -- and good for him. That's an
5 important message.

6 Page 63 we have the more sobering words
7 of Mr. Dunskey, who's been in this business a long time
8 and flags some major barriers that low income people
9 face in accessing energy efficiency programs.
10 Information in search costs, performance uncertainty,
11 transaction costs, lack of access to financing,
12 organizational practices, split incentives. Those are
13 the barriers -- some of the barriers that he flagged in
14 2008, just some.

15 And we've hear two (2) more in this
16 hearing. One (1) as I mentioned before is the arrears
17 situation. It's alleged that Manitoba Hydro will not
18 provide DSM programming, arguably to persons who may
19 need it the most in terms of their arrears. And we've
20 heard from witnesses like Mr. Mouland in terms of --
21 and Mr. Robson in terms of conditions in housing being
22 a barrier as well.

23 A couple key points from this page, and
24 our client -- she reminds me CAC has been supportive of
25 -- of energy efficiency in removing barriers to energy

1 efficiency for vulnerable consumers. But when we
2 consider the policy tools available to us for
3 ameliorating the burden there's been a few that have
4 come up in this hearing.

5 We've heard interesting discussions
6 between Dr. Grant and Dr. Simpson about transfers from
7 government. We've heard interesting suggestions from
8 the Green Action Centre about transfers from a utility
9 supp -- you know, bill support. And certainly we've
10 heard interesting commentary and -- and to back up, the
11 bill support idea has also come from Winnipeg Harvest
12 in their presentation. And we've also talked about low
13 income energy efficiency.

14 And just a -- a couple of points about
15 all of them. In an ideal world transfers from
16 government sound certainly attractive. Perhaps I've
17 worked as an advocate for low income people for too
18 long. That's certainly not something that our -- I
19 personally or our client would hold a lot of confidence
20 in. You only need to look to use a government program
21 is the EIA Program, the Welfare Program, in Manitoba.
22 Look at the 2012 ombudsman's report and see the
23 challenges that that program has had in keeping pace.
24 So important idea; concerns about its practicality.

25 Bill support is a interesting concept.

1 And our client would urge this Board to go back to the
2 record of the hearing leading to Board Order 5/'12.
3 There's a lot of evidence about bill support in that --
4 that proceeding. And it's a laudable objective and
5 certainly has assisted some consumers.

6 But if you look at the record from that
7 proceeding, in example after example you're getting
8 less than 50 percent of the target market. Many
9 examples, you're getting way less than that. And on
10 the record of this hearing is a report in CAC-45-15 at
11 page 23 on the energy cost impacts on American
12 families. And that is a relatively recent report,
13 noting that while many lower income families in the US
14 qualify for federal and state energy assistance, the
15 programs are struggling to keep up with the increase in
16 household energy costs. So not to say that it's a bad
17 idea, just that there's real challenges in getting high
18 participation rates.

19 And finally, low income energy
20 efficiency. Our clients are longtime supporters of
21 that and -- and believe very strongly that that needs
22 to be aggressively pursued. But there are real
23 practical barriers that are not going to be eliminated
24 overnight. And our ratepayers panel hosted by CAC and
25 the MMF flag just some of those barriers that those

1 consumers face.

2 Slide 64. Just one (1) second.

3

4 (BRIEF PAUSE)

5

6 MR. BYRON WILLIAMS: These are the
7 proposed findings of CAC (Manitoba) that they recommend
8 to the Board. Unless the Board directs otherwise, I am
9 going to walk you through them. I think -- not that I
10 want to provoke any questions, but I -- and I will.

11 We recommend that the panel find that
12 the resource planning approach adopted by Manitoba
13 Hydro in its imi -- initial business case was flawed.
14 We recommend that -- that Hydro should adopt a modern
15 portfolio analysis, giving equal value to demand-side
16 measures and which allows for equitable treatment of
17 other renewables, including wind and solar.

18 Similar, at least in theory, to the
19 Green Action Centre, CAC recommends that Hydro should
20 be directed to engage in ongoing and early consultation
21 with stakeholders aimed at developing a modern IRP.
22 Key, from our client's perspective, no new major
23 generation or transmission projects, they would
24 recommend that this recommendation be made to
25 government, should be undertaken without the review of

1 a modern IRP in a public process making reasonable
2 provision for public participation.

3 Our client accept the recommendation of
4 Dr. -- excuse me, Mr. Dunskey, that, for planning
5 purposes, we should be looking at extended DSM,
6 Scenario 2, beyond 2018. Do you need me to repeat
7 that?

8 THE COURT REPORTER: No.

9 MR. BYRON WILLIAMS: Okay. And our
10 client suggests that a mandated multi-year target of
11 energy efficiency savings should be given to Hydro
12 consistent with North American best practice. That
13 target to be reviewed on an annual basis by the PUB.

14 You've just heard me speak of the need
15 to remove barriers for access to DSM for low income and
16 vulnerable consumers, including those living in remote
17 First Nation and Metis communities.

18 You'll probably get some substantive
19 recommendations on that tomorrow, but certainly from
20 the CAC angle they suggest that Hydro should engage in
21 a stakeholder engagement process to address these
22 barriers and report back to the Board in a relatively
23 short period. Again the ratepayer panel should give us
24 all incentive to address that concern.

25 Our client recommends that the PUB find

1 that based upon the existing economic and risk
2 analysis, the Preferred Development Plan as defined in
3 the terms of reference is not justified, and that the
4 expenditure of addition funds to preserve a 2026 in-
5 service date for Conawapa is not justified.

6 Our client suggested no further
7 expenditure of significant funds to reserve a later in-
8 service date for Conawapa should be undertaking without
9 the expressed authority of the PUB. Obviously this
10 would require amendments following an updated
11 consideration of the Conawapa business case consistent
12 with modern integrated resource practice.

13 These are not easy recommendations for
14 our client to make. Like I'm sure everyone in this
15 room, they've been torn by the dialogue between very
16 distinct perspectives in these communities. They are -
17 - they're aware that there are persons who see these
18 projects as inflicting harm to their communities, and
19 others who see them as creating opportunities. Our
20 client doesn't make them easily, but believes they're
21 reflective of the record.

22 A clear shortcoming that has been
23 identified is with regard to training opportunities.
24 We saw that in the Deloitte report. We heard that
25 from Mr. Spence. And our client recommends that in the

1 event a decision is made to proceed with Keeyask or
2 Conawapa, and enhanced effort should be made to
3 maximize training opportunities for First Nation Metis
4 people, including partner communities. That designated
5 trades are one target. Others such -- are -- can be
6 identified.

7 Our client has no doubt that expanded
8 tie-line and transmission line access to the United
9 States and other marketplaces has the potential for
10 significant economic and reliability benefits. Based
11 on the record of this con -- proceeding, however, our
12 client is not persuaded that there will be no further
13 opportunity to enhance tie-line transmission -- tie-
14 line and transmission capacity to the US or other
15 marketplaces. They recognize that currently there is a
16 window of opportunity. If Hydro's product is in such
17 demand, our client has some reason to believe that
18 opportunity could reoccur.

19 Our client recommends a finding that a
20 commitment to Keeyask as a new generation source has
21 the potential to crowd out other sources of renewable
22 generation. Our client recommends that the -- the PUB
23 find that the results of a regional cumulative effects
24 assessment are relevant to the determination of macro -
25 - I say, "economic"; it should be environmental

1 implications -- of both the Keeyask and Conawapa
2 generating station.

3 Like Dr. Higgin, our client gave serious
4 consideration to three (3) options. Like Dr. Higgin,
5 they went into overtime on the deliberations. I think
6 I received my instructions late yesterday.

7 One is to proceed with economic DSM with
8 a no build till domestic need date. A second is to
9 proceed with economic DSM and direct Manitoba Hydro to
10 return with updated information on outstaying --
11 outstanding questions related to the IRP export
12 opportunities and the regional CEA. And the third
13 option considered was proceed with economic DSM Keeyask
14 and the 750 megawatt intertie with conditions.

15 Our client determined that given the
16 many uncertainties and the flaws in the current
17 resource planning exercise, the best option would be to
18 direct Hydro to proceed with economic DSM and return
19 with updated information on those outstanding questions
20 flagged. Some sort of public review process, in our
21 client's perspective, should be renewed to renew (sic)
22 this new information in a timely manner with a view to
23 making a final call in the window of opportunity
24 related to the MP sale.

25 Following such a renewed -- renew --

1 review process, our client would recommend that it be
2 understood that there are pathways open to recommend
3 either the no-build until domestic need pathway or a
4 pathway that allows for the sale to Minnesota Power if
5 it is determined to be justified.

6 Regardless of whether Keeyask proceeds
7 or not, our client believes that consideration should
8 be given to extend its support to hydro-affected
9 Aboriginal communities in recognition both of the
10 ongoing benefits that Manitobans derive from hydro-
11 related projects, and the ongoing impacts on affected
12 people, lands, and waters.

13 These benefits should include
14 consideration of water rental, benefit sharing, and
15 extended and expediated support for energy efficiency
16 initiatives in Metis and First Nation communities. Our
17 client understands that MKO will be -- will be coming
18 forward with a more robust package. Our client is not
19 in a position to comment on those -- the -- the MKO
20 package at this point in time.

21 Slide 67. Our client would not
22 currently recommend this, but in the event that the
23 panel recommends a staged approach of DSM, Keeyask, and
24 a 750 intertie we recommend that the following steps be
25 taken on behalf of our client.

1 DSM for domestic need -- excuse me. The
2 path is set out here with certain conditions, including
3 DSM programming, capital cost reporting, and rate
4 impact mitigation strategy. The process as discussed
5 by Dr. Higgin is set out here as well.

6 Slide 68. Dr. Higgin was thoughtful
7 enough to discuss a proposed green energy benefit,
8 although they do not recommend it at this time. If
9 Keeyask proceeds, the clients believe a green energy
10 benefit should be considered and provided. And similar
11 to the argument made by Dr. Higgin in discussion with
12 Dr. Grant, in recognition of the merchant plant nature
13 of the advancement and the disproportionate share of
14 risk borne by ratepayers.

15 Our client does not have a position at
16 this point in time in terms of whether any such benefit
17 should be targeted to persons of modest means as
18 defined by the Winnipeg Harvest, or whether the be --
19 benefits should be available to a broader spectrum of
20 ratepayers.

21 Finally, like MIPUG, our client suggests
22 that in the event any hydro generation project for
23 export purposes proceeds, consideration should be given
24 to a more equitable sharing of benefits between
25 ratepayers and the province.

1 Mr. Chair, members of the panel, I thank
2 you for your attention and it's been a great pleasure
3 to appear on behalf of CAC at this hearing. And
4 subject to any questions, those are our final
5 submissions.

6 MS. MARILYN KAPITANY: Mr. Williams,
7 just on page 65 your last bullet where you've got the
8 three (3) options for Phase 1.

9 Are we to take it that those three (3)
10 options are in order of your preference or is it just
11 an outline of three (3) options that you've heard?

12 MR. BYRON WILLIAMS: If we were -- if
13 CA -- just one (1) second. I -- I know the answer to
14 this. I'm -- I'm -- just one (1) second, though.

15

16 (BRIEF PAUSE)

17

18 MR. BYRON WILLIAMS: CAC is saying the
19 IRP was flawed, fundamentally. You should -- you
20 should clean up the stuff that needs to be cleaned up
21 and give us the information to make the right decision,
22 they would say. So that would make the first priority
23 proceed with economic DSM and return with updated
24 information on a timely basis.

25 If pressed, CAC (Manitoba) would not

11150

1 recommend Keeyask at this point in time until the many
2 questions that CAC has -- so if you were looking for
3 their second priority, if the comeback fairly soon
4 isn't there, they would not recommend Keeyask at this
5 point in time.

6

7 (BRIEF PAUSE)

8

9 MR. RICHARD BEL: Mr. Williams, the --
10 your position, or your client's position, with respect
11 to the intertie alone, there seems to be some
12 confusion.

13 At least, if -- if Keeyask doesn't
14 proceed and there's Level 2 DSM, are you recommending
15 the intertie still go forward?

16 MR. BYRON WILLIAMS: Probably the
17 confusion stems from my inelegant presentation, and I
18 apologize for that. The clients see a lot of
19 advantages, reliability and opportunity-wise, from
20 intertie. The question is: How do you get it?

21 So Hydro's information to us as we
22 understand it is that this specific opportunity is tied
23 to a -- a power sale to Minnesota Power. So I'm not
24 sure that it -- it would be a practical recommendation
25 to say, Go ahead if you don't have a -- a partner.

1 Our client, looking at the record and
2 hearing Hydro say that it's got all these
3 opportunities, believes that there may indeed be future
4 opportunities for additional intertie capacity. The
5 most attractive part of the Preferred Development Plan,
6 I think from our client's perspective, is that intertie
7 opportunity.

8 What we're suggesting -- and if I'm not
9 being clear, I apologize; I'm getting tired -- but that
10 we're just not confident that it will come without a
11 new deal, you know, or some sort of other arrangements.

12 MR. RICHARD BEL: What is the time
13 frame that you're asking for to come back with --

14 MR. BYRON WILLIAMS: As we understand
15 the window -- sorry. As we understand the window of
16 opportunity, it's a two (2) year window of opportunity
17 in terms of the agreement between Hydro and its --
18 Minnesota Power. That's certainly as we understand the
19 correspondence from a Ms. Boyd in December.

20 Our client believes there's certainly
21 important economic and financial information, and a
22 major sticking point for our client is the regional
23 cumulative effects assessment to get more information
24 in terms of that. So certainly within that two (2)
25 year window is what our client is looking at.

1 MR. RICHARD BEL: And you're
2 recommending that this panel be recalled?

3 MR. BYRON WILLIAMS: We think it's a
4 pretty bright, engaged panel. I don't have my finger
5 behind my back. No, Mr. Bel. It's a panel that's
6 fully seized with the issue. It would be inefficient
7 to -- to have any other process.

8 I -- I haven't sought much guidance from
9 our clients or Dr. Higgin or others in terms of what
10 that process would be. Would it be -- presumably there
11 would be some -- it might be a more expedited process.
12 There are different ways you could do it if expediency
13 and timing was the issue. But it's something that our
14 client believes very strongly.

15 They're certainly not prepared to
16 support Keeyask at this point in time, and they think
17 there are real questions in terms of the information
18 that this panel has. And there's a -- a general
19 credibility perspective, not within this room, but I
20 think in the broader public.

21 There's almost a perception that this is
22 inevitable, and that's certainly not our client's
23 perception. But we think that it's -- it would be
24 important and advisable for the Board to take some time
25 and make sure that it's satisfied that it's got the

1 information it needs to make a good decision.

2 MR. RICHARD BEL: Thank you.

3 DR. HUGH GRANT: I just want to say a
4 couple of things just so you'll know how carefully I
5 was paying attention. I was going to interrupt on a
6 couple of occasions, but one was on slide 22. And I
7 take your point from Dr. Gotham's binary choice
8 regarding carbon prices, but I suspect if Dr. Gotham
9 went out onto the future's market and wanted to buy
10 some electricity, he'll get a single price, right,
11 depending on the time framework.

12 So markets have a remarkable way of
13 taking what seem to be intangibles and -- and merging
14 them, and so I think as long as that we're going to be
15 prevailing in an era where there's a chance of carbon
16 pricing are not happening, then I think you'll always
17 get future prices that'll somehow take care of both
18 possibilities, in a way?

19 MR. BYRON WILLIAMS: Certainly our --
20 our client, I think, would accept that. They would say
21 this though. If you were looking at the future price
22 of a few years ago compared to today, our expectation
23 is that you would not be getting the return.

24 And Dr. Murphy was -- of Brattle was
25 really good on this. He was very candid, saying it's

1 not coming as soon as we expected and not at the
2 magnitude, so that would suggest a significant
3 uncertainty and risk from our client's perspective.

4 DR. HUGH GRANT: The -- the other point
5 was -- and this is your own fault. You're trying to
6 make us all feel old. When you -- but mentioning both
7 the Beatles and then JFK in the same presentation, it
8 just made me think the idea that your poor colleague
9 probably never lived through an era of -- and double
10 digit inflation rates.

11 And -- and it was when you were talking
12 about, you know, thinking about rate increases two (2)
13 times the rate of inflation, I was tempted to interrupt
14 you to say the anticipated rate of inflation out, you
15 know, several years from now.

16 And so depending on your lifespan, how
17 you -- how you view future inflation can be quite
18 different.

19 MR. BYRON WILLIAMS: And -- and fair
20 enough, although I think we've had some significant
21 debate in this hearing, and I hesitate to get into it
22 with this panel, but we've heard from Dr. Simpson and
23 others in terms of the Bank of Canada policy
24 implemented and -- and kind of the target, and we've
25 seen some real fidelity to that target.

1 So certainly not suggesting it's not
2 possible, but we really -- Dr. Simpson has successfully
3 argued before this Board that we have a -- almost a --
4 a structural break in terms of -- of that.

5 Now, you may disagree, and I may have to
6 recall him as a witness, but that -- that would be just
7 the point going back to the Bank of Canada policy and -
8 - and a different world.

9 DR. HUGH GRANT: So -- so my last point
10 really is both, you know, a confession, obviously. In
11 high school, I was in the chess club. You were clearly
12 one (1) of the cool kids listening to Beatles music and
13 burning your incense and wearing a Nehru jacket, all
14 those kids I resented, so I'm not going to talk about
15 DSM, except in the context of your last slide, I think.

16 And I -- I think I heard you saying that
17 DSM potentially has some income distribution
18 implications to it, both in terms of, you know, the
19 capacity of lower income individuals to participate in
20 it, and then you'll remember that two (2) hours a
21 couple months ago we'll never get back, when your
22 colleague took us through the
23 participant/nonparticipant implications on -- on bills
24 and such.

25 So I thought that was an interesting

1 point. And -- and perhaps your green energy benefit
2 is, you know, could potentially reflect that -- that
3 argument you're making.

4 The one thing, and I didn't quite
5 understand your hesitation in terms of your green
6 energy benefit and ratepayers and such. I think most
7 of us view ourselves as both ratepayers and taxpayers
8 within the residential component. I -- I was more
9 curious, though, when you -- you extend that to the
10 commercial sector and you talk about, you know,
11 governments perhaps giving ratepayers a break in that
12 area, and -- and now you're treading on an area of
13 arguing that governments should more heavily subsidize
14 the business sector.

15 So could you maybe elaborate on your
16 relationship between ratepayers and government revenue?
17 And I -- I guess I'm -- let me -- my big umbrella
18 question is tell me about the income distribution
19 impacts that you'd sort of want to address.

20

21 (BRIEF PAUSE)

22

23 MR. BYRON WILLIAMS: 3:20, that's a
24 tough one. Let me take it in small pieces, and let's
25 just talk about DSM for a moment, and then we'll come

1 to -- to ratepayers versus taxpayers.

2 Our client, recognizing historic
3 barriers to DSM for vulnerable populations, just wants
4 to clearly make the point DSM -- economic DSM is a good
5 thing, but if we don't spread the umbrella wide enough,
6 if we don't make the programs deep enough, there are
7 going to be inequalities, and -- and some of the very
8 persons who may be most vulnerable to rate impacts may
9 not be protected from them through DSM.

10 So that's the point I was trying to
11 make, and Mr. Dunskey makes it more eloquently, and
12 there's actually a couple of very neat paragraphs in
13 Dr. Gunn's written report that refer to it.

14 In terms of ratepayers versus taxpayers,
15 we've got it in our case file -- I don't know if we
16 ever put it in the record. We have done some
17 interesting work, even among residential ratepayers,
18 and as -- versus taxpayers, and -- and they're not
19 certainly perfectly match -- matched up, and you'll be
20 aware of that better -- better than I am.

21 I can just -- I'll ask you to take
22 judicial notice that if you look through the different
23 income levels, you would see a diff -- some who were
24 paying taxes, and -- and some who -- who were not. I
25 don't have the material before me.

1 In terms of -- I was trying -- I guess
2 on the green energy benefit, I -- I wasn't really
3 trying to dance that much. Our client just -- they're
4 not endorsing any new generation at this time, so they
5 haven't walked all the way down that path. They're
6 struggling with some of these issues, even on the
7 residential side. So when I use those words 'very
8 cautiously', I was actually speaking to the -- the
9 residential perspective initially, that even within CAC
10 (Manitoba), there is some dialogue in terms of whether
11 it should be targeted or -- or more broadly
12 experienced.

13 The last point on ratepayers versus
14 taxpayers, I thought Morrison Park had some really good
15 insight on the business side to that, and -- and about
16 the competitive implications of rate increases on
17 business. So that's about as far -- the last couple
18 bullets there, in terms of -- we did leave room for
19 business. We're not walking down that path. We just
20 haven't really developed a final position, and we
21 thought it was premature, given that we weren't
22 endorsing new generation at this time.

23 I don't know if I helped or dodged, but
24 that's the best I got.

25

1 (BRIEF PAUSE)

2

3 THE CHAIRPERSON: Page 66, there is a
4 reference on the third bullet regarding:

5 "A public review to recommend either
6 there's no build until domestic need
7 pathway, or a pathway allows for the
8 sale to Minnesota Power."

9 You -- you don't mention it, but there's
10 obviously -- the pipelines that are looming ahead of
11 the Manitoba economy, and the -- the fact that they
12 will be under construction of a pipeline and the
13 addition of -- of -- redirection of one (1) of the
14 pipelines.

15 So there's a load there, domestic load
16 that is staring us in the face from that user, and now
17 you don't make any recommendations of how to -- how to
18 deal with the pipeline applicants.

19 MR. BYRON WILLIAMS: Well, certainly
20 from our client's perspective, it was a -- a little
21 uneven in terms of the -- Manitoba Hydro's treatment of
22 -- of load. First of all, our client -- and -- and we
23 brought in someone like Dr. Gotham because he knows of
24 what he speaks.

25 And the load forecasting approach our

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1 client has had -- has some enduring concerns with it,
2 but if I turn my mind back to Hydro Exhibit 87, slide
3 12, there are -- if memory serves me right, the
4 pipeline implications go in one way, which Hydro was
5 quite anxious to -- to share in terms of its updated
6 load -- load analysis, and then some countervailing
7 effects related to price elasticity -- oh, there we go
8 -- codes and standards, and fuel choice.

9 And so I guess the reason we did not
10 address the pipeline is because our sense of the issue
11 was that there are other factors going the other way,
12 and that Hydro was being a bit uneven in its
13 presentation on this information, anxious to get to the
14 pipeline issue, not anxious to get to these other
15 issues, and in our respectful view, understating the
16 implications of -- of some of the -- the factors that
17 might tend to bias its forecast higher.

18 So that's -- from our client's
19 perspective, that's how they -- they add -- they
20 address this. When Hydro come -- and if -- if the
21 pipeline issue is that pressing, certainly we would
22 expect Hydro to be coming back in and providing insight
23 into what's going to -- going to develop.

24 THE CHAIRPERSON: In some ways, asking
25 for another review is deferral of a decision. In a

1 dynamic environment, which can -- we can go either way.
2 I mean, you could have a -- you know, a more positive
3 environment from the standpoint of usage for Manitoba
4 Hydro relative to the environment that we seem to have
5 focussed on, which is a negative view of -- of future
6 usage of Hydro by domestic and export markets.

7 So it's a deferral of a decision and
8 kicking the can down the road. And, you know, frankly,
9 this kind of a process, you're always dealing with
10 imperfect information. I mean, you -- you can -- you
11 can collect more information and more information to
12 try to reduce the level of uncertainty. But even in a
13 future review, we'll be dealing with another set of
14 data with some degree of uncertainty associated with
15 that data.

16 So why wait? Why wait to make a
17 decision given the -- the uncertainty that we'll
18 certainly be dealing with in the future?

19 MR. BYRON WILLIAMS: Our -- our client
20 would take issue with your premise that it's imperfect
21 information because it's more profound than that. And
22 remember, our client has walked down this path before.

23 We walked down it in 2003 with Manitoba
24 Hydro, and Hydro, in our respectful view, was told by
25 the Clean Environment Commission back then, Get your

1 act together when it comes to resource planning. Start
2 treating DSM like a resource. Start optimizing your
3 portfolio.

4 So it's not in our client's submission
5 just the fact that we always have new information.
6 This was a flawed analytic process, profoundly flawed,
7 in our client's perspective, and it's one that can be
8 remedied.

9 The -- in terms of getting good
10 information on the 20 -- 2013 assumptions on expected
11 values, it's not a -- a two (2) year deferral of
12 information. That's something Hydro could do. And it
13 would be very valuable information because we've seen a
14 real play and a real difference between ref/ref/ref and
15 expected on the 2012 information. We would expect the
16 same in the 2013.

17 The other issue, and -- and certainly
18 from our client's perspective, it's a profound one, is
19 the Clean Environment Commission is not suggesting the
20 regional CEA is -- is an active academic curiosity.

21 This is a profoundly troubled river
22 system, and our client, having participated in two (2)
23 environmental reviews, calling upon some of the best
24 experts in -- in Canada to look at it, thinks that
25 that's something that there's -- that there should be

1 more information before decision makers.

2 We're troubled that some preliminary
3 analysis will be available in the summer of 2014. And
4 from our client's perspective, it's much more than
5 imperfect information or just ducking the issue. It's
6 about getting a good process that gives us insight into
7 what's at least a \$7 billion decision.

8 I've given the answer of our client. If
9 they had to push the button, they -- they're not going
10 to push it in favour of Keeyask at this point in time.
11 And certainly from our client's perspective, another
12 factor is they want to give the Proponents their shot.
13 So that's from our client's position.

14

15 (BRIEF PAUSE)

16

17 THE CHAIRPERSON: Now, I'd like to
18 explore page 67 with you. A couple of recommendations
19 that are linked to a -- the alternative that you've
20 suggested to the panel which is, you know, a staged
21 approach to Keeyask and so on. Now, the DSM program
22 are regularly reporting to -- to PUB as I understand it
23 and a capital cost reporting to PUB is part of the
24 process.

25 Now, going beyond those recommendations

1 what happens if DSM targets are not met? Now, you may
2 want to consult with your client. I -- I don't want to
3 ask you a question you're not in a position to respond.

4 But, you know, looking at it from a
5 practical standpoint if -- if capital cost -- you know,
6 once you -- once you hit the tipping point with respect
7 to Keeyask, for example, you're on a slippery slope to
8 very -- very much increased costs relative to where we
9 are now. So Manitoba Hydro reports that they are not
10 going to be able to build the dam with the budget that
11 is available to them. They need more money.

12 So what do we do then?

13 MR. BYRON WILLIAMS: I thought the
14 question at 3:20 was tough.

15

16 (BRIEF PAUSE)

17

18 MR. BYRON WILLIAMS: First of all, our
19 client just wants to make sure you understand this is
20 not the recommended option of CAC (Manitoba). Starting
21 with what if they don't meet the DSM target, and
22 certainly there was a -- a rate tool that we saw in the
23 last Board order. We'll -- we'll see how it works.
24 Our client first of all believes over time we need to
25 mandate a target for Hydro and that it -- it needs to

1 have some implications if it doesn't receive them.

2 I -- in terms of not meeting a DSM
3 target in one (1) year, at least as I understand from
4 Mr. Dunskey, one evaluates DSM programs over a -- a
5 multi-year period. You should be able to adjust. Our
6 client over time would -- would be looking for some
7 punitive way to do that. I don't think I have an
8 answer for you today, Mr. Chair. I could provide some
9 thoughts in writings. I could consult with the client
10 and Mr. Higgin, but I -- I don't have anything magic.

11 In terms of capital cost reporting I
12 think you had Dr. Higgins answer -- you asked the same
13 question of -- of him. He thinks it's an important
14 accountability measure. Once they start pouring
15 cement, you know, you're -- you're in. And it's --
16 it's -- I'm not sure that there are many practical
17 tools that are available to the regulator.

18 In terms of the DSM program I think
19 there are more devices that -- that could be available.
20 We've got the typical problem with the Crown in that
21 you can't punish the shareholders because they're the
22 ratepayers. I could get back to you on point 1, but
23 that's what I have for right now, sir.

24 THE CHAIRPERSON: And in terms of -- of
25 bullet 3 with respect to the rate impact mitigation

1 (sic) strategy, in terms of the design, how would you
2 think that would evolve? The -- the design of a rate
3 mitigation strategy?

4 MR. BYRON WILLIAMS: We talk a little
5 bit about it on the next page. Dr. Higgin gave a
6 couple of -- of examples in his evidence and he looked
7 at, as I understand, both at a targeted approach and a
8 -- a more universal approach. And that's the best we
9 have on -- on the record.

10 I think the first question is a question
11 of principle would be some consultation around the
12 issue are -- are what are -- are the objectives. And
13 if I might have a moment I just want to confer with our
14 client. Because we have discussed this so I just want
15 to make sure I'm not overstepping my bounds.

16

17 (BRIEF PAUSE)

18

19 MR. BYRON WILLIAMS: And just on the
20 philosophical issue, if -- if I might, based upon it --
21 its evidence historically, and it continues to be the
22 approach of CAC that -- that it favours more universal
23 approaches, because there's just so many examples of
24 targeted programs that are missing well over half of
25 the targeted population.

1 But our client is -- given the magnitude
2 of the rate increases, is -- is at -- at least prepared
3 to discuss whether target approaches would be
4 appropriate. Their current position at -- may well
5 maintain -- be their current position, is that it
6 should be universal, but they're a little more open,
7 given the magnitude.

8 The key step, I think, is -- is captured
9 on page -- slide 68, is some sort of stakeholder
10 consultation. These are hard issues, and -- and we
11 can't assume that there's a magic bullet out there, and
12 there's certainly not a magic bullet in terms what has
13 been tried, that, you know, the -- the rate
14 affordability measures in many American jurisdictions.

15 The -- just the report after report, you
16 look at the best programs, whether it's New Jersey or
17 whatever. If you're hitting 40 percent of the target
18 market, you're doing pretty well, and so that's a
19 concern for our client.

20

21 (BRIEF PAUSE)

22

23 MR. RICHARD BEL: Mr. Williams, sorry,
24 I -- I'm --

25 MR. BYRON WILLIAMS: I'm sorry, too,

1 sir.

2 MR. RICHARD BEL: Okay.

3 MR. BYRON WILLIAMS: I thought I was
4 off the hook.

5 MR. RICHARD BEL: Okay.

6 MR. BYRON WILLIAMS: Could I -- could I
7 just finish the -- our client just wanted to say that
8 if their early consultants are -- are important, that -
9 - and -- but anyways, I apologize, Board member Bel.

10 MR. RICHARD BEL: So if, in fact, there
11 is no option to receive more information, then it's
12 your client's position that there's no new generation?

13 MR. BYRON WILLIAMS: Our client, if
14 pushed, would not support Keeyask. They would support
15 -- they would say that we should be looking to build
16 for domestic. Stick to your knitting.

17 MR. RICHARD BEL: With DSM?

18 MR. BYRON WILLIAMS: With extended
19 scenario 2 DSM.

20 MR. RICHARD BEL: Thank you.

21

22 (BRIEF PAUSE)

23

24 MR. BYRON WILLIAMS: I don't like it
25 when you guys get to ask me questions.

1 DR. HUGH GRANT: I'm just curious.
2 When you say that it -- looking at EIA data, the cost
3 of DSM, so this is the expenditure in a specific year
4 versus the savings in that year, so it can be
5 cumulative, okay? But in any event, it's -- utility
6 costs rose from three (3) cents to five (5) cents
7 between 2000 and 2010, a pretty sig -- significant
8 increase.

9 And so I guess my question is, when you
10 want to argue the case of DSM, and you want to argue
11 that there's always going to be innovations that allow
12 us to -- to find more saving, the expectation is that
13 the costs won't go up to doing this?

14 MR. BYRON WILLIAMS: We really need Mr.
15 Dunsky here for this, but two (2) things I would just
16 say. I -- I think we got into this a fair bit last
17 year, and if I misstate the evidence, no doubt Mr.
18 Peters will correct me. Mr. Dunsky's evidence at that
19 time was that there were plenty of good opportuni -- so
20 I'm not denying your -- your premise, but that there
21 were plenty of ripe fruit to be picked at a -- at a
22 cost that was economic.

23 And there's -- I'm just thinking of the
24 chart in my mind. I don't have it here, but I think he
25 had some pretty good evidence of that in the last

1 hearing. And I think the results of some aspects of
2 Hydro's Scenario 2, hear Mr. -- Mr. Dunsy out as Mr.
3 Kuczek said, When they got more experience with the
4 programs, they got towards the end of the programs,
5 they saw more -- more opportunities.

6 So I'm not in a position to contest your
7 essential thesis, but as I understand Mr. Dunksy's
8 evidence, he's -- he believes that there's good
9 economic DSM out there in today's context and -- and
10 moving forward.

11

12 (BRIEF PAUSE)

13

14 THE CHAIRPERSON: I think that's all
15 the questions. You get to -- you get to relax finally
16 after many months of work, Mr. Williams. So on behalf
17 of the panel, I'd like to express my appreciation to
18 you, Mr. Williams, and Ms. Menzies, Ms. Fast, and back
19 in -- back in the office I guess, Ms. Craft for the
20 work you did in support of the -- of the panel's
21 deliberations. And obviously I want to thank Ms.
22 Desorcy, I know who's been a silent partner all the way
23 through, and silent client, but very active, so thank
24 you very much to Mrs. -- to Ms. Desorcy.

25 And I want to thank the individuals back

1 at the office who participated in the -- in this work,
2 and to the focus groups that you consulted, and also to
3 the ratepayer panels you -- you had appear before us.
4 So thank you to all of those individuals.

5 And I also want to thank the experts
6 that appeared on behalf of CAC, fair and high quality
7 experts, so thank you very much for -- for having
8 selected them and suggest them to us, and -- and so on
9 my behalf and on behalf of members of the panel, I hope
10 you can extend our appreciation to them.

11 With that, I think we are done for the
12 day. Oh, Ms. Ramage...?

13 MS. PATTI RAMAGE: There was just one
14 small correction to the record we wanted to make before
15 we closed for the day, and that was with respect to
16 Manitoba Hydro's rebuttal. It went in as Exhibit 204.
17 It had already been entered on the PUB website as
18 Exhibit 85-2, and that's how it should be recorded, I
19 believe.

20 THE CHAIRPERSON: So I believe that's
21 all for today. With that, thank you very much,
22 everyone. And tomorrow the panel reconvenes at nine
23 o'clock to hear from the other Intervenorors. Thank you
24 very much.

25

1 --- Upon adjourning at 3:43 p.m.

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6 Certified correct,

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11 Cheryl Lavigne, Ms.

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