



“When You Talk - We Listen!”



MANITOBA PUBLIC UTILITIES BOARD

re:

MANITOBA EFFICIENCY
3-YEAR ENERGY EFFICIENCY PLAN
(2020/21 - 2022/23)

Before Board Panel:

- Robert Gabor - Board Chairperson
- Marilyn Kapitany - Board Vice Chair
- Hugh Grant - Board Member
- Irene Hamilton - Board Member

HELD AT:

Public Utilities Board
400, 330 Portage Avenue
Winnipeg, Manitoba
January 14, 2020
Pages 1540 to 1833

1 APPEARANCES

2

3 Bob Peters (np)) Board Counsel

4 Dayna Steinfeld)

5 Kate Hart)

6

7 Jessica Schofield) Efficiency Manitoba

8 Nicole Merrick (np))

9

10 Byron Williams (np)) Consumer

11 Katrine Dilay) Association of

12 Danielle Morrison (np)) Canada (Manitoba)

13 (articling student)) and Winnipeg

14) Harvest

15

16 Antoine Hacault) MIPUG

17

18 Jared Wheeler) MKO

19 Markus Buchart)

20

21 Carly Fox) Assembly of

22 Emily Gugliemin) Manitoba Chiefs

23

24 William Haight) For Independent

25 William Gardner) Expert Consultants

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11		one (1) correction to Dr. Fitzpatrick,
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13	Daymark to advise if there are best practices for improving access for hard-to-reach customers that are not included on Exhibit 7, slide 66.	1578
14	In the context of the PACT ratio provided on page 516 of the plan submission for the Indigenous small business bundle, Daymark to explain why on slide 33 of Daymark 7, the PACT NPV for that bundle is negative.	1581
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1 --- Upon commencing at 9:01 a.m.

2

3 CONTINUED INDEPENDENT EXPERT CONSULTANT - DAYMARK:

4 John Athas, Previously Sworn

5 Kathleen Kelly, Previously Affirmed

6 Suman Gautam, Previously Affirmed

7

8 THE CHAIRPERSON: Good morning,
9 everyone. Ms. Hart, can you take us through today?

10 MS. KATE HART: Thank you, Mr. Chair.

11 On the schedule today, Efficiency Manitoba will cross-
12 examine Daymark, followed by Board counsel. Fifteen
13 (15) minutes has been reserved for an in camera
14 hearing, if required. And in the afternoon, the
15 Consumers' Coalition witness panel will give direct
16 evidence.

17 THE CHAIRPERSON: Thank you. Do we
18 have any documents or anything?

19 MS. KATHLEEN KELLY: Mr. Chair, I
20 would like to offer something. Yesterday, you asked a
21 question, and I indicated we would probably likely
22 need overnight.

23 I just wanted to update you. I think
24 it would be easier if -- if we took it as an
25 undertaking.

1 THE CHAIRPERSON: Certainly.

2 MS. KATHLEEN KELLY: I was doing some
3 research last night and this morning, and I don't want
4 to try and respond to it too quickly.

5 THE CHAIRPERSON: That -- that's fine.
6 That --

7 MS. KATHLEEN KELLY: Thank you.

8 THE CHAIRPERSON: -- will be fine.
9 Thank you.

10 Now I'm trying to remember, Ms.
11 Steinfeld and Ms. Hart, did we put the matter on the
12 record? What -- we're going to need to put that
13 undertaking on the record.

14 MS. DAYNA STEINFELD: I -- I don't
15 believe it was framed as an undertaking yesterday, so
16 might be helpful to frame it as an undertaking today.
17 I'm not sure I it exactly. I believe the undertaking
18 is to --

19 THE CHAIRPERSON: It's on best
20 practices.

21 MS. DAYNA STEINFELD: -- if there are
22 other best practices --

23 MS. KATHLEEN KELLY: I -- I believe
24 the question was are there best practices that we are
25 missing --

1 THE CHAIRPERSON: Right.

2 MS. KATHLEEN KELLY: -- is what I
3 wrote down.

4 MS. DAYNA STEINFELD: What I might
5 suggest is we have the transcript from yesterday, and
6 so I can pull that exchange, and then we'll frame the
7 undertaking perhaps at -- at the time that Board
8 counsel conducts its cross-examination.

9 THE CHAIRPERSON: Thank you very much.
10 Ms. Schofield...?

11 MS. JESSICA SCHOFIELD: Thank you, Mr.
12 Chair, I do have some undertakings to mark as exhibits
13 before I start my cross-examination, and I have give
14 them -- given them to Ms. Schubert.

15 MS. JESSICA SCHOFIELD: So first,
16 Undertaking number 5, which was made to Coalition,
17 will be Exhibit number 27.

18

19 --- EXHIBIT NO. EM-27: Response to Undertaking 5

20

21 MS. JESSICA SCHOFIELD: Undertaking
22 number 6, which was made to AMC, will be Exhibit
23 number 28.

24

25 --- EXHIBIT NO. EM-28: Response Undertaking 6

1 MS. JESSICA SCHOFIELD: Undertaking
2 number 8 will be Exhibit number 29.

3

4 --- EXHIBIT NO. EM-29: Response to Undertaking 8

5

6 MS. JESSICA SCHOFIELD: And
7 Undertaking number 9 will be Exhibit number 30. Thank
8 you.

9

10 --- EXHIBIT NO. EM-30: Response to Undertaking 9

11

12 CROSS-EXAMINATION BY MS. JESSICA SCHOFIELD:

13 MS. JESSICA SCHOFIELD: Good morning.

14 MR. JOHN ATHAS: Good morning.

15 MS. JESSICA SCHOFIELD: My name is
16 Jessica Schofield, and I'm counsel for Efficiency
17 Manitoba, and I just have a few questions for you this
18 morning.

19 You testified yesterday that you
20 received very detailed information in full cooperation
21 from Efficiency Manitoba throughout this process,
22 correct?

23 MR. JOHN ATHAS: Correct.

24 MS. JESSICA SCHOFIELD: And you would
25 agree that some of the information that you received

1 from Efficiency Manitoba included assumed quantity of
2 each measure?

3 MR. JOHN ATHAS: Correct.

4 MS. JESSICA SCHOFIELD: Assumed gross
5 and net savings for each measure?

6 MR. JOHN ATHAS: Just -- just let me
7 check. I'm not sure. I know there -- I know that
8 there's net. I don't know that I can remember whether
9 there's gross.

10

11 (BRIEF PAUSE)

12

13 MR. JOHN ATHAS: Yes.

14 MS. JESSICA SCHOFIELD: Thank you.
15 And assumed estimated useful life of each measure?

16 MR. JOHN ATHAS: Yes.

17 MS. JESSICA SCHOFIELD: Assumed
18 program incentive cost of each measure?

19 MR. JOHN ATHAS: Yes.

20 MS. JESSICA SCHOFIELD: And assumed
21 customer cost of each measure?

22 MR. JOHN ATHAS: Yes.

23 MS. JESSICA SCHOFIELD: Thank you.

24 Ms. Schubert, if we could pull up the response to
25 Daymark/EM-I/2 -- or I dash 2, sorry.

1 You're familiar with the Dunsky report
2 that we provided as an attachment, attachment number 1
3 to this IR response, correct?

4 MR. JOHN ATHAS: Yes.

5 MS. JESSICA SCHOFIELD: Sorry, I'll
6 wait --

7 MR. JOHN ATHAS: "Familiar" is a -- a
8 general term.

9 MS. JESSICA SCHOFIELD: Yes.

10

11 (BRIEF PAUSE)

12

13 MS. JESSICA SCHOFIELD: And Ms.
14 Schubert, if we could just pull up the attachment
15 number 1 that was filed with that response.

16

17 (BRIEF PAUSE)

18

19 MS. JESSICA SCHOFIELD: And Mr.
20 Dunsky's introduction, I believe, is page 2.

21

22 (BRIEF PAUSE)

23

24 MS. JESSICA SCHOFIELD: That's
25 perfect. Thank you.

1 And so Mr. Dunsky I indicated in his
2 report that:

3 "As the baton is passed to
4 Efficiency Manitoba, understanding
5 past efforts will equipped (sic) it
6 with information needed to define
7 objectives, prioritize action, to
8 perf -- per" --

9 Sorry.

10 -- "to improve performance, and
11 measure and assess progress.

12 Ultimately, this scorecard is
13 designed to, and should be read as a
14 tool to strengthen Efficiency
15 Manitoba's ability to lid -- deliver
16 on its promise."

17 Would you agree with Mr. Dunsky's
18 conclusion?

19 MR. JOHN ATHAS: Yeah, yeah.

20 Generally, that's what we -- there -- that's one (1)
21 of the functions for the scorecard.

22 MS. JESSICA SCHOFIELD: Thank you.

23 And now, Ms. Schubert, if we could turn to page 18 of
24 Mr. Dunsky's report.

25 And it's actually just at the top of

1 the page, here, yes. Now this is showing the
2 scorecard for Efficiency Manitoba is a year zero
3 baseline.

4 And you would agree that that is
5 actually looking at Manitoba Hydro's Power Smart
6 programming from 2008, correct? Or, sorry, 2018?

7 MR. JOHN ATHAS: Yes.

8 MS. JESSICA SCHOFIELD: And as it
9 relates to program equity, Mr. Dunsky provided a score
10 of four point three (4.3), correct?

11 MR. JOHN ATHAS: The -- the total is
12 four point three (4.3), yes.

13 MS. JESSICA SCHOFIELD: Yes, and
14 that's out of five point five (5.5), correct?

15 MR. JOHN ATHAS: Yeah. That's what it
16 says on the table.

17 MS. JESSICA SCHOFIELD: And I believe
18 you testified yesterday that Efficiency Manitoba has
19 improved on the programs available to hard-to-reach
20 customers in its year 1 of the Plan, correct?

21 MS. KATHLEEN KELLY: I -- I believe we
22 actually testified that it -- the -- approved it's
23 planning for how to reach those prog -- those
24 customers, yes.

25 MS. JESSICA SCHOFIELD: Yes. Thank

1 you.

2 Okay. I'm going to turn now to codes
3 and standards. You would agree that savings from
4 codes and standards can assist with the overall
5 portfolio cost effectiveness, correct?

6 MR. JOHN ATHAS: Yes, that -- to -- to
7 the extent that codes and -- to the extent that you're
8 not talking just about a portfolio of programs, right.

9 MS. JESSICA SCHOFIELD: Yes. And as a
10 result of the savings from codes and standards,
11 Efficiency Manitoba is well positioned in its plan to
12 offer bundles that may be less cost-effective,
13 correct?

14

15 (BRIEF PAUSE)

16

17 MR. JOHN ATHAS: I -- I mean -- just
18 to back up even on the question before, the -- the
19 cost-effectiveness into the portfolio improves it --
20 if you're talking about a -- a PACT type of
21 effectiveness and cost-effectiveness measure.

22 MS. JESSICA SCHOFIELD: Yes.

23 MR. JOHN ATHAS: It might not be in
24 all cost-effectiveness measures when you factor in the
25 codes and standards.

1 MS. JESSICA SCHOFIELD: Thank you for
2 that clarification.

3 MR. JOHN ATHAS: And -- and the -- the
4 -- you -- you may need to put a qualifier on the end
5 of that sentence before I can answer yes or no. I
6 mean, I think your question was, does the fact that
7 the -- the improvement on like a PACT -- now that we
8 know it's PACT -- co -- metric by -- at the portfolio
9 level by codes -- with codes and standards be included
10 means that you can have non-cost-effective bundles
11 from a PACT standpoint and still have the portfolio
12 PACT look cost-effective.

13 MS. JESSICA SCHOFIELD: Yes.

14 MR. JOHN ATHAS: If that's the
15 mechanics that you're wanting us to attest to, yes,
16 that mechanics works.

17 MS. JESSICA SCHOFIELD: Thank you.
18 And so Efficiency Manitoba's approach in this regard
19 assists in its objective of achieving an overall
20 balanced portfolio, correct?

21 MR. JOHN ATHAS: I don't recall -- I
22 don't recall discussion in the -- in the report,
23 because I can't recall everything, and -- and even in
24 the conversations we had where there was a -- a direct
25 cause and effect between -- in -- in the inclusion of

1 the bundles that have PACT information that's --
2 that's below 1.0 in ratio and negative NPV, that --
3 that that was included because they had the room in
4 the -- in the cost-effectiveness metric to absorb it.

5 I don't -- I don't know that that was -
6 - that was a definitive act -- action and a conclusion
7 by -- by Efficiency Manitoba.

8 MS. JESSICA SCHOFIELD: Okay, thank
9 you. You testified I believe, Ms. Kelly, yesterday
10 that there is an inherent difficulty in creating
11 programming for hard-to-reach customers, correct?

12 MS. KATHLEEN KELLY: Yes.

13 MS. JESSICA SCHOFIELD: And Efficiency
14 Manitoba has been able to offer a wide range of --
15 range of programs to these customers, correct?

16 MS. KATHLEEN KELLY: The -- the plan
17 includes a wide range of programs. The implementation
18 has to be monitored.

19 MS. JESSICA SCHOFIELD: Yes, thank
20 you. And you would agree that renters, or people
21 living in multi-unit residential building, would gain
22 the benefit of commercial codes when a major
23 renovation occurs as well as when a building is
24 constructed, correct?

25 MS. KATHLEEN KELLY: Yes.

1 MS. JESSICA SCHOFIELD: Last week Ms.
2 Kuruluk testified -- and, Ms. Schubert, if I could
3 have you pull up the transcript from January 8th, and
4 it's page 271.

5

6 (BRIEF PAUSE)

7

8 MS. JESSICA SCHOFIELD: Ms. Kuruluk
9 was asked during cross-examination whether a standard
10 would impact a customer if they were buying or
11 replacing an item material component system or
12 service.

13

14 (BRIEF PAUSE)

15

16 MS. JESSICA SCHOFIELD: Oh, Ms.
17 Schubert -- Schubert, it's page 271, but it is of
18 January 8th transcript. I apologize. I don't have
19 the combined pages.

20

21 (BRIEF PAUSE)

22

23 MS. JESSICA SCHOFIELD: I apologize.
24 I can come back to this. I'm not sure --

25

THE CHAIRPERSON: Our numbers are

1 consecutive, so if it's 271, it's not on the 8th, or
2 if it's on the 8th it's not 271.

3

4 CONTINUED BY MS. JESSICA SCHOFIELD:

5 MS. JESSICA SCHOFIELD: I have the --
6 the quote, so I'm going to ask it subject to check, if
7 that's okay.

8 MR. JOHN ATHAS: Sure. M-hm, yes.

9 MS. JESSICA SCHOFIELD: So Ms. Kuruluk
10 responded:

11 "A residential customer that is
12 buying a new refrigerator, for
13 example, will attain the benefits of
14 new energy minimum energy
15 performance standards of that
16 refrigerator, and once the standards
17 are in place, it actually has the
18 added benefit of reducing the cost
19 of what typically would have been a
20 more expensive, higher performing
21 product. So once they're regulated,
22 the costs typically come down, so
23 there's a benefit from the energy
24 savings as well as the price of the
25 purchase of a higher performing

1 product."

2 You would agree that once standards are
3 put in place, the cost of higher performing products
4 often decrease, correct?

5 MR. JOHN ATHAS: Higher performing,
6 you mean less -- higher consumption, right?

7 MS. JESSICA SCHOFIELD: Less
8 consumption.

9 MR. JOHN ATHAS: Okay, sorry --

10 MS. JESSICA SCHOFIELD: More energy
11 efficient.

12 MR. JOHN ATHAS: The -- the -- the
13 question then was, do I agree that when the codes and
14 standards go in place, the cost benefits of the net
15 benefits of energy savings and costs increase, or is
16 it -- I think you might have said, do I -- do I agree
17 that the cost of the -- of things like a refrigerator
18 will go down.

19 MS. JESSICA SCHOFIELD: Yes, it's the
20 purchase price that -- that often goes down, is what
21 Ms. Kuruluk had testified to.

22 MR. JOHN ATHAS: It sounds intuitive
23 and I'm -- but I'm not -- I haven't -- I'm not privy -
24 - I don't know if anybody else is on the Panel to --
25 to research that says that that's -- happens.

1 MS. KATHLEEN KELLY: I would agree
2 with John. It's intuitive but not -- not something
3 that we could say happens all the time.

4 MS. JESSICA SCHOFIELD: Yes, thank
5 you. What -- what Ms. Kuruluk had said was that it
6 often happens, not that it happens all the time, just
7 so that I make sure I'm reading the transcript
8 accurately. Thank you.

9 Yesterday evening I provided your
10 counsel with two (2) amendments to the energy
11 efficiency regulations from the Government of Canada
12 website. Did you have the chance to review those
13 documents?

14 MR. JOHN ATHAS: Quickly, yes.

15 MS. JESSICA SCHOFIELD: And are you
16 familiar with Amendment 13?

17 MR. JOHN ATHAS: Just through the
18 quick review last night.

19 MS. JESSICA SCHOFIELD: So, Ms.
20 Schubert, if I could ask that you pull that up?
21 That's fine, thank you.

22 And so you would agree in the -- the
23 bolded letters in the first paragraph that this
24 document indicates that Amendment 13 came into force
25 on June 28th, 2017, correct?

1 MR. JOHN ATHAS: Correct.

2 MS. JESSICA SCHOFIELD: And if we
3 could turn to the second page of that document. This
4 highlighted portion -- and I can refer you to PUB-EM-
5 39, if necessary, but we're going to suggest that
6 these highlighted items, these commercial standards,
7 have not been included in the savings calculated in
8 our plan.

9

10 (BRIEF PAUSE)

11

12 MR. JOHN ATHAS: We have -- we have
13 some detailed spreadsheets. I don't -- I can't recall
14 them as -- and they're from your spreadsheets. So if
15 -- subject to check, I would -- I would assume that
16 you've looked at those spreadsheets and you know that
17 these aren't in there.

18 MS. JESSICA SCHOFIELD: Thank you.
19 And so just quickly with Amendment 14, on the first
20 page here again in the bold letters it indicates that
21 this came into effect in part on October 31st, 2018,
22 with the balance coming into force on April 30th,
23 2019, correct?

24 MR. JOHN ATHAS: Correct.

25 MS. JESSICA SCHOFIELD: And if we

1 could just turn to page 2, please. I apologize, Ms.
2 Schubert, it's -- yes, there we go.

3 And again subject to check, you would
4 agree that these commercial standards were also not
5 taken into account in our savings calculation,
6 correct?

7 MR. JOHN ATHAS: Just to even clarify
8 where -- yes, I would agree, from the same statement
9 made before, but I also have not seen anything that
10 says that they -- that there's a -- to estimate
11 whether there is savings from these -- from these
12 particular codes.

13 MS. JESSICA SCHOFIELD: Yes, thank
14 you. Ms. Kuruluk testified on January 9th there --
15 that there were very few commercial standards that
16 have been taken into account in Efficiency Manitoba's
17 current three-year plan.

18 Would you agree with that
19 characterization?

20 MR. JOHN ATHAS: I -- I believe that -
21 - that in the information that we had and we were
22 going through, that we were -- we didn't -- did not
23 have information that talked about what wasn't
24 included in the codes and standards calculations.

25 So if -- if there -- if those are -- if

1 there are additional standards that as was stated in
2 the -- in the hearing last -- last week, I -- you
3 know, subject to check, I could probably agree that
4 they're there, but I haven't -- hadn't seen that.

5 MS. JESSICA SCHOFIELD: And so in PUB-
6 EM-39, we outlined everything that we did include in
7 terms of commercial standards.

8 And so I can certainly have that
9 brought up, if that would be of assistance.

10

11 (BRIEF PAUSE)

12

13 MS. JESSICA SCHOFIELD: Thank you.
14 Mr. Hacault has just brought to my attention that I
15 didn't specifically state on the record that the
16 documents we circulated last night were marked as
17 Exhibit 26, so I'll just make sure that that's clear.

18 And then if we go to PUB-39, and I
19 believe it's page 7.

20

21 --- EXHIBIT NO. EM-26: Efficiency Manitoba's
22 Book of Documents for
23 Daymark's cross-
24 examination.

25

1 MS. JESSICA SCHOFIELD: It's actually
2 page 11, I apologize, Ms. Schubert. Starting at page
3 11 there. So I'll just give you a moment to look at
4 that.

5 (BRIEF PAUSE)

6

7 MR. WILLIAM HAIGHT: Could you please
8 repeat the question?

9

10 CONTINUED BY MS. JESSICA SCHOFIELD:

11 MS. JESSICA SCHOFIELD: Ms. Kuruluk
12 testified on January 9th that there were very few
13 commercial standards that had been taken into account
14 in Efficiency Manitoba's current three-year plan.

15 Would you agree with that
16 characterization?

17 MR. JOHN ATHAS: As I said, subject to
18 check I could -- could agree that there's additional -
19 - several additional codes and standards that were
20 not.

21 MS. JESSICA SCHOFIELD: Thank you.

22 MR. JOHN ATHAS: But at the time,
23 prior to this discussion, I'm not sure I was aware of
24 that.

25 MS. JESSICA SCHOFIELD: Thank you.

1 And Ms. Schubert, if you could now turn to page 7.

2 And it's under the heading Residential Lighting.

3 And so the regulations that came into
4 force in December of 2013 applied to 175 watt bulbs
5 manufactured on or after January 1st, 2014, and to 60
6 and 40 watt bulbs manufactured on or after December
7 31st, 2014.

8 These regulations prohibit the
9 importation and interprovincial shipment of non-
10 compliant products. And similarly with residential
11 appliances, the legislation has resulted in the
12 improvement of energy utilization of numerous
13 appliances, including dishwashers, clothes, washers,
14 dryers, refrigerators, and freezers, ranges, stoves,
15 and cook tops.

16 And you would agree that these benefits
17 from the implementation of these standards can impact
18 all residential customers, correct?

19 MR. JOHN ATHAS: All is pretty --
20 pretty inclusive. I mean, the -- the people that I --
21 they will certainly influence people that have a need
22 to have a new one of whatever is on that list. You
23 know, and --

24 MS. JESSICA SCHOFIELD: Yes. And all
25 I'm saying is it could impact all, not will impact

1 all.

2 MR. JOHN ATHAS: That -- that's
3 correct.

4 Just to me kind of clarifying. At one
5 (1) point yesterday I think I mentioned that we -- the
6 calculations of the savings for the -- in the codes
7 and standards, except for the potential issue of
8 whether the NOMAD or the changing baseline standards
9 were -- were in effect when we were -- our
10 understanding of what degree that was in effect, we
11 didn't have any problem with their calculating of
12 savings.

13 That's different than some of the
14 questions we brought up in discussions about whether
15 it should -- that savings should be savings that can
16 count toward meeting goal, being the goal.

17 So there's -- you know, so I just
18 wanted to clarify that in case there was an ambiguity
19 that when I questioned whether it could be -- whether
20 -- to the -- pose the question to the panel for them
21 to make a poly -- a policy decision as to what extent
22 they want them to -- to be included in accounting for
23 achieving the -- the savings in a given year toward
24 the goal, that's different than saying whether there
25 are savings that occur from the measures.

1 MS. JESSICA SCHOFIELD: Thank you.

2 And you would agree that --

3 MR. JOHN ATHAS: Sorry.

4 MS. JESSICA SCHOFIELD: That's okay.

5 You would agree then, in other
6 jurisdictions in Canada, such as Nova Scotia, the
7 savings from codes and standards are claimed without
8 any discount, correct?

9 MR. JOHN ATHAS: Correct.

10 MS. JESSICA SCHOFIELD: So if I could
11 turn to page 2 of PUB-39.

12 DR. SUMAN GAUTAM: Can I make a quick
13 comment here?

14 So there is a table in our report,
15 Daymark's report, table 47, which lists all the codes
16 and standards considered by Efficiency Manitoba in --
17 in -- in estimating the savings.

18 I think our source for that document
19 was EM-I-39 that we are looking at the -- at the
20 screen.

21 MS. JESSICA SCHOFIELD: Thank you.
22 And so I just have one (1) more question with respect
23 to codes and standards.

24 So if we turn to this table, which is
25 at the bottom -- yes, there we go. Thank you, Ms.

1 Schubert.

2 So we can see here that the savings for
3 residential lighting standards is 17.1 in year 1,
4 correct?

5 MR. JOHN ATHAS: Correct.

6 MS. JESSICA SCHOFIELD: And 17.2 for
7 residential appliance standards?

8 MR. JOHN ATHAS: Correct.

9 MS. JESSICA SCHOFIELD: And 16.1 for
10 residential building code, correct?

11 MR. JOHN ATHAS: Correct.

12 MS. JESSICA SCHOFIELD: And then in
13 year 2, it's 9.1 for residential lighting standards?

14 MR. JOHN ATHAS: Yes.

15 MS. JESSICA SCHOFIELD: 15.4 for
16 residential appliance standards?

17 MR. JOHN ATHAS: Yes.

18 MS. JESSICA SCHOFIELD: And 14.8 for
19 code? For residential codes, sorry?

20 MR. JOHN ATHAS: Correct.

21 MS. JESSICA SCHOFIELD: And finally in
22 year 3 it's 5 for residential lighting standards?

23 MR. JOHN ATHAS: Correct.

24 MS. JESSICA SCHOFIELD: 13.7 for
25 residential appliance standards?

1 MR. JOHN ATHAS: Correct.

2 MS. JESSICA SCHOFIELD: And 13.6 for
3 residential code, correct?

4 MR. JOHN ATHAS: Correct.

5 MS. JESSICA SCHOFIELD: And so based
6 on these figures, subject to check, I would suggest
7 that there's a three-year average savings from code of
8 14.8 and a three-year average savings for standards of
9 29.3.

10 MR. JOHN ATHAS: Subject to check,
11 yes.

12 MS. JESSICA SCHOFIELD: Thank you.
13 And so, based on those calculations, you would agree
14 that the majority of savings for residential customers
15 come from standards, correct?

16 MR. JOHN ATHAS: But you -- versus
17 codes and standards?

18 MS. JESSICA SCHOFIELD: Yes.

19 MR. JOHN ATHAS: Okay. Yes.

20 MS. JESSICA SCHOFIELD: And these are
21 potential savings for -- that could affect all
22 residential customers, correct?

23 MR. JOHN ATHAS: This is an
24 opportunity for all resident -- each residential
25 customer to -- to have savings because of the code and

1 standard.

2 MS. JESSICA SCHOFIELD: Thank you.
3 So, turning to LRI for a few minutes. Efficiency
4 Manitoba used the life cycle revenue impact as its
5 calculation metric, correct?

6 MR. JOHN ATHAS: Correct.

7 MS. JESSICA SCHOFIELD: And this is a
8 directional estimate?

9

10 (BRIEF PAUSE)

11

12 MR. JOHN ATHAS: I'm not sure that it
13 was -- I don't remember it being posed as just
14 directional versus magnitude, as well, if that's --
15 you know, it definitely tells whether some --
16 something is plus or minus, so that implies direction.

17 But I don't know -- I don't re --
18 recall that it was highlighted as just being able to
19 be used as direction.

20 MS. JESSICA SCHOFIELD: Okay. Thank
21 you. So, in paragraph number 3 of your review, your
22 report states that the Daymark review found the
23 formulas and modelling in this LRI analysis to be
24 proper and correct -- sorry, proper and accurate,
25 correct?

1 MR. JOHN ATHAS: Yes, for what they
2 were saying they were going to do.

3 MS. JESSICA SCHOFIELD: Thank you.
4 And LRI uses the same cost and benefit analysis as the
5 standardized rate impact measure, correct?

6 MR. JOHN ATHAS: The -- the RIM test?
7 Is that -- okay.

8 MS. JESSICA SCHOFIELD: Yes.

9 MR. JOHN ATHAS: The standardized word
10 threw -- threw me off. Yes.

11 MS. JESSICA SCHOFIELD: Thank you.
12 Now, it's my understanding that there was some
13 confusion with respect to Efficiency Manitoba's direct
14 evidence on the analysis that Daymark did in refining
15 the LRI.

16 And so, specifically, I'm looking at
17 tables 42 and 43 of your report.

18 MR. JOHN ATHAS: M-hm.

19 MS. JESSICA SCHOFIELD: And so, if I
20 may, I'm going to ask you to walk through that
21 analysis so that we all have that correctly.

22 MR. JOHN ATHAS: Correct. Okay, the -
23 - the analysis by -- of -- of LRI was by -- starting
24 with how it was handled with Efficiency Manitoba is --
25 as it was laid out in -- in your report, is you take

1 the present value of the cost, the present value of
2 the savings, the present value of the lost revenue and
3 you -- and you divide that by the present value of the
4 kilowatt hours, all the kilowatt hours sold during
5 those -- that period and you have the LRI parameter,
6 okay.

7 And that was all the -- and then when -
8 - but the present value of the kilowatt hours was --
9 was for thirty (30) years of kilowatt hours on the
10 denominator even though some of the programs were only
11 having NP -- the numerator numbers were only affecting
12 things for as low as three (3) to five (5) years and
13 very few of them went to -- went up to thirty (30)
14 years, okay.

15 So, the -- the way that we adjusted it
16 to proper -- to -- to account for measure life is we
17 essentially looked at the -- the mea -- the buckets of
18 me -- of measure life.

19 So, if we could look at -- if we could
20 pull up table 40, so do an electric example, we see
21 that -- that there's groups of se -- groups of
22 measures lives create a savings number and an NPV
23 number that could car -- be calculated from that, and
24 a lost revenue number and -- and the like.

25 So, what we, essentially, did was

1 calculate the LRI of each bucket. And -- and then we
2 applied that in the -- to illustrate it in five (5)
3 year segments to the -- to each of those to get the --
4 the total LRI.

5 So, in the first five (5) years -- all
6 the buckets have measures in the first five (5) years.
7 So, when we did the individual measure life buckets
8 LRI which is not shown anywhere but it's in our
9 spreadsheets, that the -- that the -- we -- we were
10 able to take a number from all of the -- all of the
11 measure life buckets, okay.

12 So, that -- that's how we got to the --
13 if you go back to that table 40 -- 42. So, that's how
14 we got the point five nine (.59) -- point-o-five nine
15 (.059), okay --

16 MS. JESSICA SCHOFIELD: Thank you.

17 MR. JOHN ATHAS: -- for the -- under
18 the first -- average first five (5) years column. The
19 -- the second five (5) years, the value for the
20 measures with a one (1) to five (5) year life is zero,
21 so we only took the measures -- the LRIs from the
22 other buckets.

23 MS. JESSICA SCHOFIELD: Yes.

24 MR. JOHN ATHAS: And if we went
25 further out in time, we'd be -- drop -- the next five

1 (5) years would not have one (1) from the first two
2 (2) buckets and stuff. So, the -- so that -- that's
3 how we -- that's how we did that -- that
4 determination.

5 And one (1) thing I'll just point out
6 here because -- as an illustration and stuff, we were
7 -- we're illustrating this without worrying about the
8 issue of the fact that there's -- that the one (1) --
9 the -- the -- this three (3) years of implementation,
10 we've kind of treated this as, like, one (1) year of -
11 - of implementation of measures just to make out --
12 just to make the math a little simpler and stuff.

13 And so that's why it's -- it was
14 illustrative and it talks about, you know, average
15 potential numbers and the like.

16 MS. JESSICA SCHOFIELD: Okay. Thank
17 you. And just so that we're clear, what is the
18 benefit of this refinement to the LRI analysis?

19 MR. JOHN ATHAS: It -- it's -- I
20 believe it more accurately refle -- reflects what
21 could come out of a very detailed impact on rates
22 determination when -- and you ma -- when you can make
23 all the assumptions of when -- when Manitoba Hydro is
24 going to ask for a rate increase based on the net
25 savings and ba -- or based on -- and -- and based on

1 the lost revenues and the like when -- timing of that,
2 the cost allocation me -- that -- the effect, you
3 know.

4 And so, there's many different
5 parameters that I mentioned. I think we mentioned in
6 the report and I might have mentioned in the
7 presentation that, you know, this is not meant to be a
8 estimate of the rate -- a detailed impact calculation,
9 but I believe it is much closer to the -- to the
10 effect of -- to a detailed rate calculation than the
11 Efficiency Manitoba thirty (30) year number would --
12 would produce.

13 MS. JESSICA SCHOFIELD: Okay. Thank
14 you. And then I just have one (1) more section of
15 questions this morning, and they relate to
16 recommendation number 10 of your report which I
17 believe is at page 133.

18

19 (BRIEF PAUSE)

20

21 MS. JESSICA SCHOFIELD: And so, this
22 comment relates to a concern with respect to double
23 counting, correct?

24

25 MS. KATHLEEN KELLY: This -- this
comment goes to not only double counting perhaps, but

1 in -- but also to confusion in the market about
2 descrip -- descriptions of similar programs that have
3 different names.

4 MS. JESSICA SCHOFIELD: Yes. Okay, so
5 the package that I sent last night had a description
6 with respect to the in-suite efficiency program, and
7 this should be the first page.

8 And so, you would agree, if we look at
9 that highlighted portion, that the purpose of this
10 program is to provide benefits to those in the suites
11 of multi-unit residential buildings, correct?

12 MS. KATHLEEN KELLY: That's what it
13 says, yes.

14 MS. JESSICA SCHOFIELD: And then if we
15 look at the renovation bundle, which was the second
16 page, which was the program that was program that was
17 raised in your report as perhaps having an overlap.

18 Sorry, Ms. Schubert, if you could just
19 go down to the overview section. You'll agree that
20 this renovation offer is only available to commercial,
21 industrial, and agricultural buildings, correct?

22

23 (BRIEF PAUSE)

24

25 MS. KATHLEEN KELLY: Correct.

1 MS. JESSICA SCHOFIELD: And so, the
2 distinction between those two (2) sets of programs are
3 that one (1) is available to tenants in an apartment
4 building or a multi-unit building and the other is
5 available to commercial, industrial, and agricultural
6 buildings, correct?

7 MS. KATHLEEN KELLY: So long as you
8 have all of your multi-use buildings assigned and
9 allocated that way. In many jurisdictions, we find
10 that there are overlap so that multi-use buildings
11 tend to end up in a commercial, so it's hard to -- to
12 determine where they are, and tho -- those folks that
13 are there will get confused.

14 MS. JESSICA SCHOFIELD: Okay.

15

16 (BRIEF PAUSE)

17

18 MS. JESSICA SCHOFIELD: And so you
19 would agree that if it is properly labelled as an in-
20 suite measure that is only applicable to those tenants
21 in the suites versus the building as a whole, that
22 that would alleviate that issue?

23 MS. KATHLEEN KELLY: Apparently, based
24 on that description.

25 MS. JESSICA SCHOFIELD: Thank you.

1 Those are my questions.

2 THE CHAIRPERSON: Thank you, Ms.

3 Schofield.

4 Ms. Steinfeld?

5 MS. DAYNA STEINFELD: Thank you, Mr.

6 Chair, and good morning to you, Mr. Athas, Dr. Gautam,

7 and Ms. Kelly. Nice to have you in our hearing room

8 again.

9

10 CROSS-EXAMINATION BY MS. DAYNA STEINFELD:

11 MS. DAYNA STEINFELD: I'll start

12 with just a few small matters, starting with the

13 undertaking requested by the Chair. For reference, I

14 believe the discussion is at transcript page 1361.

15 And the undertaking is with reference to Daymark

16 Exhibit 7, slide 66.

17 Daymark is asked to advise if there are

18 best practices for improving access for hard-to-reach

19 customers that are not included on slide 66.

20 MS. KATHLEEN KELLY: I believe that's

21 correct, yes.

22 MS. DAYNA STEINFELD: And is that an

23 undertaking you can provide?

24 MS. KATHLEEN KELLY: Yes.

25 MS. DAYNA STEINFELD: Thank you, Ms.

1 Kelly.

2

3 --- UNDERTAKING NO. 13: Daymark to advise if there
4 are best practices for
5 improving access for hard-
6 to-reach customers that
7 are not included on
8 Exhibit 7, slide 66.

9

10 CONTINUED BY MS. DAYNA STEINFELD:

11 MS. DAYNA STEINFELD: And again, just
12 a few smaller points -- short snappers, as Mr.
13 Williams would call them. If we go to Daymark 7,
14 slide 32, please.

15

16 (BRIEF PAUSE)

17

18 MS. DAYNA STEINFELD: And here, I
19 believe it was Mr. Athas, the third bullet, you were
20 discussing the portfolio -- the natural gas portfolio
21 being burdened with the impact of natural gas -- the
22 impact on natural gas of the electric portfolio.

23 Can you just clarify which natural gas
24 costs you say should not be counted towards the
25 natural gas portfolio?

1 MR. JOHN ATHAS: It -- it's -- it's
2 not which natural gas costs; it's which savings --
3 with -- the degree of savings on -- of natural gas
4 that's -- that is the issue. If you net out the
5 savings of the -- if you take the savings of the
6 programs and then reduce that -- that savings by the
7 in -- in -- increased gas usage from the interactive
8 effects of the electric programs, then you -- then
9 that reduction in benefits affects the metrics.

10 It's not a question of which costs not
11 to include; it's a question of -- of that -- that the
12 benefits get reduced.

13 MS. DAYNA STEINFELD: And so what
14 you're suggesting is that the interactive effects
15 should instead lessen the savings on the electric
16 portfolio.

17 MR. JOHN ATHAS: In a -- in a dollar
18 savings, yes, to differentiate between energy savings
19 and dollar savings.

20 MS. DAYNA STEINFELD: Because it's the
21 electric measures that are causing the increased
22 natural gas usage.

23 MR. JOHN ATHAS: Correct.

24 MS. DAYNA STEINFELD: And another
25 small clarification, on slide 33, I'm wondering if you

1 can clarify if -- if this is a calculation error or
2 perhaps I'm just missing something. If we look at the
3 Indigenous programs sector column, the row that you
4 follow through for small business has a PACT NPV that
5 is negative, and I'm not sure that I'm following why
6 that would be the case. And -- and for reference, on
7 page 516 of the plan, it would appear that that is a
8 cost-effective bundle.

9 So perhaps if -- if you could explain
10 why that's negative, or we can take that as an
11 undertaking if required.

12 And maybe, Ms. Schubert, we will just--

13 MR. JOHN ATHAS: If you -- if you
14 don't mind it as an undertaking, that probably would
15 be a little bit easier, but...

16 MS. DAYNA STEINFELD: Sure. So Ms.
17 Schubert has just put up the PACT ratio for the -- all
18 the bundles, but you'll see the small business
19 Indigenous programs there, and the PACT ratio is one
20 point three one (1.31).

21 So the undertaking would be in -- in
22 the context of the PACT ratio provided on page 516 of
23 the plan submission for the Indigenous small business
24 bundle, to explain why on slide 33 of Daymark 7, the
25 PACT NPV for that bundle is negative.

1 Can I have that as an undertaking,
2 please?

3 MR. JOHN ATHAS: Absolutely.

4 MS. DAYNA STEINFELD: Thank you.

5

6 --- UNDERTAKING NO. 14: In the context of the PACT
7 ratio provided on page 516
8 of the plan submission for
9 the Indigenous small
10 business bundle, Daymark
11 to explain why on slide 33
12 of Daymark 7, the PACT NPV
13 for that bundle is
14 negative.

15

16 CONTINUED BY MS. DAYNA STEINFELD:

17 MS. DAYNA STEINFELD: Turning to PUB
18 Exhibit 14, Board counsel Book of Documents at page
19 121, just generally, Mr. Athas, you'll agree that this
20 page gives us a listing of all of the electric
21 measures, correct?

22 MR. JOHN ATHAS: Correct.

23 MS. DAYNA STEINFELD: And page 123 of
24 this same exhibit, again generally, gives us a listing
25 of all of the gas measures, correct?

1 MR. JOHN ATHAS: Correct.

2 MS. DAYNA STEINFELD: Without getting
3 in to any confidential information or CSI detail, you
4 can confirm that there are measures that have TRC
5 ratios that are greater than the PACT ratios for
6 individual measures. Is that correct?

7 MR. JOHN ATHAS: I'm -- I'm sure that
8 that's the case, but I -- I don't have -- I don't have
9 the unredacted version right in front of me right this
10 second.

11 MS. DAYNA STEINFELD: At page 203 of
12 Board counsel's Book of Documents, we see a discussion
13 in the Daymark report about TRC ratios that are higher
14 than PACT ratios.

15 Does that help your memory in terms of
16 there being measures that have TRC ratios greater than
17 PACT ratios?

18 MR. JOHN ATHAS: Oh, absolutely. I
19 mean, in the -- in the -- in the bundle discussion we
20 had yesterday with one (1) of our -- on one (1) of our
21 slides, we -- we showed bundle information that said -
22 - and they -- I think one (1) of my comments was that
23 it -- it -- it -- it doesn't necessarily correlate
24 that the -- that the -- that the TRC ratio has to be
25 below the -- the PACT ratio. It happens a bunch of

1 times, but not necessarily.

2 MS. DAYNA STEINFELD: Subject to
3 check, Mr. Athas, at the measure level, would you
4 agree that seventy (70) out of two hundred and nine
5 (209) electric measures and sixty-one (61) of a
6 hundred and ten (110) gas measures have TRC ratios
7 that are greater than the PACT ratios?

8 MR. JOHN ATHAS: Subject to check,
9 yes.

10 MS. DAYNA STEINFELD: And in Daymark's
11 experience, would -- is that normal, or would you
12 expect to have that many measures with TRC ratios
13 greater than PACT ratios?

14 MR. JOHN ATHAS: Normal is a very
15 tough thing. I mean, it -- it's -- it's -- let's just
16 think about what it's a function of. It's a function
17 of having increased benefits because of -- because of
18 bringing in non-energy benefits for -- for the -- in
19 the total resource cost test.

20 And the -- why -- why I hesitate on
21 normal is -- is there's vary -- there's varying
22 degrees around the -- North America that -- of how
23 much non-energy benefits they'll include. Some
24 include a great deal -- and I think I might have
25 mentioned this a little bit -- some include a great

1 deal of that, so if you took them -- those -- that
2 grouping as normal, you would have expected to see a
3 higher percentage of -- of measure that improve.

4 The other part of the -- the other part
5 of the equation is based on program designs themselves
6 that basically split the -- set an incentive to split
7 the -- the cost between the incentive by -- provided
8 by the program administrator or the utility and the
9 amount of money that the customer has to pay, because
10 that customer amount of payment comes into the TRC
11 test.

12 So -- so depending on how aggressive
13 the programs tend -- tend to be in terms of having
14 high incentives, that's -- that -- that split changes.

15 It didn't surprise me that a number in
16 that area could be, you know, that came out like a --
17 it didn't -- didn't make us run and say we must be
18 doing something wrong, check this four (4) times. It
19 seemed like it's reasonable.

20 MS. DAYNA STEINFELD: And I think the
21 -- the last part of your answer there touched on what
22 we see on the screen in front of us, that one (1) of
23 the reasons TRC ratios might be higher than the PACT
24 is where you have programs with incentives or payments
25 to customers that go beyond the cost of the measure

1 itself, correct?

2 MR. JOHN ATHAS: Correct.

3 MS. DAYNA STEINFELD: You also
4 discussed the fact that with the TRC ratio you're
5 bringing in other benefits than what you see in the
6 PACT ratio, correct?

7 MR. JOHN ATHAS: Correct.

8 MS. DAYNA STEINFELD: And I know you
9 explained in your direct evidence yesterday that the -
10 - the legislation is pretty prescriptive in terms of
11 what counts in the PACT ratio.

12 But aside from what is prescribed, is
13 it Daymark's view that it is appropriate that the PACT
14 results exclude quantifiable non-energy benefits?

15 MR. JOHN ATHAS: The -- the PACT --
16 the PACT definition by -- in -- is one that is
17 describing not just -- not just naming a convention,
18 it's saying what circle you're drawing for what costs
19 that are changing inside that circle.

20 And by -- by calling it as it used to
21 be once, the utility test and now it's the program
22 administrator test, it's -- it only takes into account
23 money that changes in the utility costs and bills
24 aspect, okay.

25 So -- so by definition, any non-energy

1 benefit doesn't flow through that -- in that circle.

2 So the exclusion of it is because of how it was
3 defined, you know, as -- what it's trying to show.

4 You know, so -- because the -- the --
5 if you want to find out what the -- and the thing that
6 the -- that you can say from the PACT analysis and
7 what was prescribed in the legislation, if you want to
8 find out what the change in cost for Manitoba Hydro
9 because they're collecting the money that would go to
10 funding Efficiency Manitoba is a PACT ratio tells you
11 how their cost changed.

12 It doesn't say whether there's -- it
13 doesn't say with the non-energy benefits that there
14 could be a huge amount of benefits to the province of
15 Mani -- Manitoba, but it does tell you what are you
16 doing to the cost structure of Manitoba Hydro.

17 MS. DAYNA STEINFELD: And so maybe put
18 another way, it's not so much that, it's what the
19 legislation prescribes be included, it's what that
20 measure as an industry standard looks at.

21 MR. JOHN ATHAS: Yeah, by the
22 definition, as I mean, that's why I tried to clarify
23 that -- that you know, we -- we would try to be
24 careful that we didn't get lazy in tongue when I say
25 the legislation prescribes the PACT test, it

1 prescribes something that is the PACT test, as opposed
2 to saying the PACT test.

3 And the PACT test is named that because
4 it wants -- it's trying to point you to the fact that
5 it -- it is the costs that are captured in the -- the
6 change in the utility cost structure.

7 MS. DAYNA STEINFELD: And just closing
8 the loop on the questions about the TRC ratios being
9 higher than the PACT ratios, Ms. Schubert if we could
10 put on the screen transcript page 339 for reference.
11 Right there is perfect. Thanks, Ms. Schubert.

12 I'll just let you read what's on the
13 top of this screen, Mr. Athas. But here Mr. Stocki is
14 explaining that Efficiency Manitoba in its work papers
15 allocated program administrative costs to one (1)
16 measure within a bundle in order to calculate out the
17 bundle and portfolio level.

18 MR. JOHN ATHAS: Yes, that's what it
19 says.

20 MS. DAYNA STEINFELD: So in terms of
21 the number of measures that have TRC ratios greater
22 than their PACT ratios, is another possible
23 explanation the way that Efficiency Manitoba assigned
24 program administrative costs to one (1) measure within
25 the bundle?

1 MR. JOHN ATHAS: Yes.

2 MS. DAYNA STEINFELD: Would --

3 MR. JOHN ATHAS: One second, I just
4 want to...

5

6 (BRIEF PAUSE)

7

8 MR. JOHN ATHAS: Yeah, just -- just to
9 clarify, the -- that cost is in both the -- at the
10 measure level analysis at the PACT and the total
11 resource cost test. The allocation of the program
12 course to the measures.

13 So it -- it -- it could have an affect
14 on be -- helping affect that, but it's not necessarily
15 just the -- a -- a now including it in the TRC test,
16 it just is -- it might be affecting in the math.

17 I would actually think it -- it's
18 probably a small or -- affect of that if at all.

19 MS. DAYNA STEINFELD: And in terms of
20 the approach taken by Efficiency Manitoba and its work
21 papers, do you have any concerns about program admin
22 costs being allocated to one program within a bundle?
23 Would Daymark recommend that be done differently?

24 MR. JOHN ATHAS: The -- if you're
25 trying to do -- generally it's a good practice, I mean

1 you're trying to do cost effective analysis, is to --
2 is to not allocate costs.

3 If you look at what costs are caused by
4 things, and -- and so you run the risk of -- you run
5 the risk of saying something is a -- is a bad measure,
6 say in the -- in the measure context, because it --
7 that's where you put all the costs.

8 And then when you -- then when you say
9 okay, let's not do that, you've got to put the costs
10 someplace else again, and stuff like this. So it's
11 not a -- it can -- it can be a misleading indicator of
12 doing that.

13 I'm not in to just talk about whether
14 they did -- that was handled in -- anything improperly
15 there, as I don't believe that they -- that -- that
16 from all our discussions that they did a lot of
17 dwelling on the measure level analysis. That would be
18 the one (1) that was thrown off.

19 So if you're not -- if you're not -- if
20 you're just allocating -- if you're just looking at
21 program at bundles level, especially bundles at
22 portfolio level, where you put the stuff in the -- in
23 the little pieces doesn't matter.

24 MS. DAYNA STEINFELD: So put another
25 way, if you are wanting to look at it at a measure

1 level, it -- it may be problematic, but if you're
2 focusing on the bundle or portfolio level, then it's
3 not an issue so much.

4 MR. JOHN ATHAS: That's correct.

5 MS. DAYNA STEINFELD: Ms. Schubert,
6 slide 42 of Daymark 7, please. Just -- Mr. Athas,
7 just for reference, turning to Daymark's pure measure
8 value test.

9 Can you just explain what the pure
10 measure value test is meant to show that the TRC or
11 PACT does not?

12 MR. JOHN ATHAS: Sure. It's -- it's
13 meant to -- when -- when you -- when you get a -- a
14 TRC or a PACT analysis that has program related costs
15 and other stuff, it -- very often we start thinking
16 that the -- that the -- well, that means the -- that
17 it's a non-economic measure. Okay?

18 But what -- what it is is it's a non-
19 economic delivery of that measure. Okay.

20 So -- so the -- so the problem might
21 not be the measure cost itself, but the problem might
22 be how much it takes to get somebody to do it when
23 they wouldn't otherwise do it. Okay. And -- and the
24 like.

25 So this measure with pure measure value

1 test and one (1) reason why you use the word "pure" in
2 there is it only is intended to have measure costs, so
3 that if you -- so that you would know whether to say
4 that that measure is uneconomic versus the measure and
5 the delivery was -- was what was tested to be un-
6 economic.

7 MS. DAYNA STEINFELD: And you
8 explained in your direct evidence presentation that
9 you'd do that by removing the program administrative
10 costs from the calculation?

11 MR. JOHN ATHAS: All program costs.
12 It's just as if -- this is meant to be -- what would
13 be the cost of buying and installing if there's an
14 installation cost or just buying of some measure that
15 -- that happens if there was, you know, if there
16 wasn't a program if the person -- if somebody never
17 knew there was a program or if it was just handled
18 with a code and standard and other stuff like that.

19 So that's -- that's what was intended.

20 MS. DAYNA STEINFELD: Would the pure
21 measure value test also address the issue that we just
22 discussed with the way that program costs were
23 allocated in the work papers by Efficiency Manitoba at
24 the measure level?

25 MR. JOHN ATHAS: Well, it avoids that

1 completely. It doesn't -- doesn't fix it, it just
2 avoids it.

3 MS. DAYNA STEINFELD: At Daymark
4 report page 95, just scrolling down to the table,
5 right there is perfect.

6 Mr. Athas, I'm wondering if you can
7 just help me understand what a negative ME savings
8 from measures with PMVT ratios less than one (1) would
9 mean, which we see for, I believe, income qualified
10 and small business, for example.

11 What does it mean when that is a
12 negative number?

13 MR. JOHN ATHAS: It means that, on a
14 present -- present value basis, accounting for the
15 time value of money, that the -- that the costs are
16 greater than the benefits.

17

18 (BRIEF PAUSE)

19

20 MR. JOHN ATHAS: Yeah, the negative
21 savings is -- is issues around inter -- allocation of
22 interactive effects.

23 MS. DAYNA STEINFELD: Can you put a
24 finer point on that to make sure I've got it? I think
25 Mr. Ryall has it.

1 MR. JOHN ATHAS: I'll let --

2 MS. DAYNA STEINFELD: I take one (1)
3 more step usually.

4 MR. JOHN ATHAS: I'll let my colleague
5 do that.

6 DR. SUMAN GAUTAM: Sure. So, I think
7 we talked about how interactive affects are considered
8 in -- in Efficiency Manitoba's analysis study.

9 There is -- there are two (2) --
10 there's one (1) fuel interactive effects where the --
11 the effect of installing efficient -- efficient
12 measures of -- you know, so, for example, electric
13 measures are considered within electric portfolio, and
14 there are some considered in natural gas portfolio, as
15 well.

16 So -- so, these are -- we would look at
17 this a little bit at our end, as well. So, these are
18 the effect of interactive effects by electric measures
19 in electric savings.

20 MS. DAYNA STEINFELD: I've got it now.
21 Thank you, Dr. Gautam.

22 DR. SUMAN GAUTAM: Sure.

23 MS. DAYNA STEINFELD: And, Mr. Athas,
24 if we look at the row labelled, "Home renovation," and
25 we follow that through to the savings from measures

1 with PMVT ratios greater -- sorry, less than one (1),
2 we see a 91 percent there, correct?

3 MR. JOHN ATHAS: Ye -- yes. Yes. I
4 just had the wrong table on my -- my screen here, so
5 apo -- apologies.

6 MS. DAYNA STEINFELD: Do we read this
7 as telling us that 91 percent of the savings from the
8 home renovation bundle are not cost-effective on the
9 PMVT measure?

10 MR. JOHN ATHAS: Ninety-one percent of
11 the -- the measures -- yes, that's correct. The one
12 (1) thing I -- the one (1) thing I would add just for
13 -- just for the clarity, that we -- the -- the cost of
14 the -- you said it correctly, that as -- at the PMVT
15 level.

16 But the one (1) thing that we -- that
17 was mentioned by my colleague, Ms. Kelly, that the --
18 that we don't know how important that those measures
19 were toward the marketing and customer acceptance of -
20 - of a bundle and other things to know whether there
21 is a cost change in the delivery of the bundle of a
22 bunch of positive measures, in a sense, to know
23 whether that's at that level.

24 We didn't try to do any of that kind of
25 downstream effects of -- of any changes in measures.

1 MS. DAYNA STEINFELD: Thank you, Mr.
2 Athas. Report page 96 gives us, I believe, the same
3 table but for the natural gas measures. Do I have
4 that?

5 MR. JOHN ATHAS: Yeah.

6 MS. DAYNA STEINFELD: What we see
7 here, I believe, is that 25 percent of the total
8 savings achieved through the plan are from measures
9 that are cost ineffective using the pure measure value
10 test ratio.

11 Is -- is that correct?

12 MR. JOHN ATHAS: Correct.

13 MS. DAYNA STEINFELD: In your view and
14 in Daymark's view, is 25 percent a high proportion?

15

16 (BRIEF PAUSE)

17

18 MR. JOHN ATHAS: A couple of things
19 just to clarify. The -- I -- I believe we --
20 yesterday and in the -- in the report we talked about
21 that we developed this measure to -- to look at stuff.
22 We haven't done this measure analysi -- this specific
23 analysis in prior work, okay, so -- so I don't have a
24 lot of, you know, data that compare it as a surprise.

25 What -- what I actually was heading

1 toward, I think I might have mentioned yesterday, was
2 I actually thought the numbers would be -- would be
3 smaller for the -- for gas an electric at the measure
4 level when I would -- and -- and that was one (1) of
5 the things I expected to be -- you know, when -- when
6 you're -- when you're doing some work, you're
7 hypothesizing of what you're going to get for an
8 answer and what you think it's going to be useful for;
9 otherwise, you don't do it.

10 And -- and I -- I thought it would be
11 probably lower.

12 MS. DAYNA STEINFELD: The percentage
13 of savings from measures with ratios less than one (1)
14 or the cost-effective numbers themselves? I'm -- I'm
15 not sure which numbers you mean.

16 MR. JOHN ATHAS: The -- the ratio of
17 number -- the percentage of savings from measures less
18 than one (1).

19 MS. DAYNA STEINFELD: You thought
20 would be lower than 25 percent, as we see here?

21 MR. JOHN ATHAS: Yeah. I was
22 expecting it to be something that was not -- not as
23 low as electric but -- but closer to the -- the 4
24 percent than 25 is.

25 MS. DAYNA STEINFELD: And I -- I take

1 your point about the PMVT being something new that you
2 did for this analysis. But if we take a step back and
3 just consider it at a -- as a cost-effectiveness test,
4 in your experience, would 25 percent of savings from
5 measures that are cost ineffective be a high number?

6 MR. JOHN ATHAS: I don't -- I wouldn't
7 say I would -- if I did this in a whole bunch of
8 different jurisdictions, I wouldn't be surprised if
9 the number came out to be 25 percent because they --
10 there's been -- I've had -- had a lot of discussions
11 where the aggregation effect of taking and looking at
12 the bundle level or program level, depending on their
13 -- their nomenclature in that jurisdiction, that --
14 that is -- it's a fairly common practice to include
15 measures that, you know, they're not explicitly saying
16 that measures that would necessarily fa -- fail the
17 PMVT test because they don't talk like that.

18 But they -- they have no problem with -
19 - with bundling up measures that have much less
20 savings, let's say. And in order to -- because of the
21 delivery mechanism, I mean, Ms. Kelly mentioned that,
22 you know, you're in there. You can get this -- have
23 the least amount of in -- of program costs when you're
24 -- when you're there, and so it'll never be any
25 cheaper to get somebody to save that -- to save that

1 energy than -- than that time, so.

2 But that -- that seems like it's pretty
3 common practice in the discussions.

4 MS. DAYNA STEINFELD: Yesterday, I
5 think it was at transcript page 1,289, you summarized
6 Daymark's evidence as being that Daymark isn't
7 espousing throwing out programs if the ratios are less
8 than one (1) and also mentioned that optimizing value
9 doesn't necessarily mean picking the highest ratio
10 program.

11 Is that a fair summary of some of the
12 evidence you've given so far?

13 MR. JOHN ATHAS: Yes.

14 MS. DAYNA STEINFELD: And I -- I take
15 that to mean that there, aside from cost-
16 effectiveness, are other considerations that may
17 include even non-quantifiable benefits that may
18 justify pursuing certain measures?

19 MR. JOHN ATHAS: Ab -- absolutely,
20 other benefits or other -- that can be quantified and
21 other ben -- and non-quantifiable benefits.

22 MS. DAYNA STEINFELD: Is there a
23 point, though, at which the cost-effectiveness is so
24 poor that the initiative should not be pursued
25 regardless of the other benefits, in your view?

1 MR. JOHN ATHAS: I'd have to say I
2 don't know of a point there because this -- there can
3 be a lot of policy non-quantifiable benefits that --
4 that override a lot.

5 MS. DAYNA STEINFELD: So, one (1)
6 example might be, I think what Ms. Kelly has
7 identified around transforming the market or market
8 entry considerations, you might pursue a measure even
9 if the cost-effectiveness is extremely poor?

10 MR. JOHN ATHAS: At this -- yeah. And
11 that's a very good example because the -- this three
12 (3) -- first three (3) years could be a step toward
13 market transformation that they're not ta -- as I --
14 as we mentioned yesterday, that we're not taking into
15 any downstream effects like that.

16 They're just looking at the
17 installation and the measures now and other stuff. So
18 -- so, if it was -- if it's -- you know, if the -- if
19 to get some place good, the first step has to be in a
20 puddle, you -- you might want to take it.

21 MS. DAYNA STEINFELD: Would it be more
22 of a problem though if the cost-effectiveness for a
23 measure is extremely low and you're also planning on
24 spending a lot of money on that measure and achieving
25 a lot of savings from that measure?

1 And, for example, we might look at the
2 furnace replacement program that's included in the
3 natural gas portfolio.

4 MR. JOHN ATHAS: So, I mean, let me
5 try to paraphrase. If -- if -- would it -- would it
6 seem with -- if a measure that's -- has this test but
7 one has a very bit effect in energy consumption, would
8 -- I think it'd be more likely that you'd have -- that
9 you could -- that it's got policy and non-quantifiable
10 benefits that are -- that are high. Yes.

11 MS. DAYNA STEINFELD: Does the low
12 cost-effectiveness of that measure, though, become a
13 concern in the context of the magnitude of the measure
14 within the portfolio?

15 MR. JOHN ATHAS: Well, yes, I mean,
16 the -- to the extent that the, you know -- the one --
17 one (1) reason why people look at different tests is -
18 - as I said, the PACT test says what's going through
19 your utility costs. And to the extent that -- that
20 what's go -- how things are going through your utility
21 costs is really critical because of what's going on in
22 wherever locale you have, like the province, that's --
23 that gets a lot of scrutiny.

24 So the -- but the -- but if the -- you
25 know, if it's -- if it's not so much an issue on

1 what's going on in your utility, but you want to look
2 at the overall cost, then -- then you change tests and
3 other stuff like that. So it's -- it -- it's -- it --
4 you know, it -- it's -- it -- it's not as black and
5 white, because -- and -- and hopefully it's not as
6 black and white, because if you -- if you're trying to
7 make it black and white, you're probably not bringing
8 in the things that it would be good decision-making
9 practice to bring in.

10 MS. KATHLEEN KELLY: I -- I would add
11 to what Mr. Athas is saying that there are policy
12 goals that tend to drive a lot of the decisions about
13 at what level you're willing to accept the low
14 benefit-cost ratio for certain measures.

15 So if, as you look at the policy for
16 the province, there are many provinces in Canada and
17 states in the US that go well beyond this kind of test
18 to ensure that you're taking in a lot of the non-
19 energy benefits that John spoke of that go -- that are
20 quite broad.

21 So the -- it depends a lot on policy.
22 It -- it goes back to what it is we're desiring to
23 drive.

24 MS. DAYNA STEINFELD: So I'm
25 understanding that answer, Ms. Kelly, in other

1 jurisdictions, they look at not just a PACT test or a
2 PACT-like test, but a number of other types of
3 measures in order to assess things like policy
4 decisions that might be driving certain --

5 MS. KATHLEEN KELLY: That -- that's
6 correct. We've -- we've done some work in other
7 jurisdictions where folks are looking at health
8 benefits, downstream benefits of some of the programs.
9 It -- it goes a bit further far afield than these
10 tests, and it depends on, again, what the province is
11 trying to incent.

12 MS. DAYNA STEINFELD: And in Daymark's
13 experience, it's helpful to take that type of view
14 that looks at things from the perspective of other
15 measures, considering other kinds of benefits?

16 MS. KATHLEEN KELLY: Personally, I
17 think it is im -- important to understand the kinds of
18 implications these programs can have. It may not
19 necessarily be the decision kind of test, but it --
20 it's important to understand the broad benefits.

21 MS. DAYNA STEINFELD: Thank you.

22 MR. JOHN ATHAS: I don't -- one (1)
23 thing I just would point out, that the -- the kind of
24 -- the level of the discussion you just had, that's
25 done in many jurisdictions for renewable energy and --

1 and other things. It's not -- it's not -- it's not a
2 series of questions and issues that -- that has just
3 been applied to energy efficiency and the like.

4 And the reason -- and the one (1) thing
5 and the reason for the consideration, as -- as Ms.
6 Kelly said, that -- why it would be good to make sure
7 you do that is trying to avoid the circumstance where
8 you -- where you -- it -- you know, regulators or
9 legislators go -- go into the first meeting on
10 electric stuff, and they say -- look hard at the text
11 -- test, get blinders on. And then they go to the
12 next meeting with another problem that they're making
13 worse by -- by looking on with blinders.

14 And that's what it's meant -- meant to
15 be, to get -- to have them -- have consideration of
16 all the issues on their table.

17 MS. DAYNA STEINFELD: That's actually
18 a great segue way, Mr. Athas. Thank you.

19 MR. JOHN ATHAS: You're welcome.

20 MS. DAYNA STEINFELD: I'd like to
21 spend some time -- it might be a little bit painful,
22 but it won't be too long -- just walking through a few
23 transcript pages to make sure that you're familiar
24 with the evidence that's going to be the context for
25 my questions, knowing that you weren't here every day

1 last week. So if you'll bear with me, I have a few
2 pages that I'd like to take us to, and then I will get
3 to the questions.

4 So starting at transcript page 328,
5 down at line 24, and over on to the next page. I'll
6 give you a moment to read this, Mr. Athas, but if I
7 can summarize, what we're looking at is a discussion
8 between Mr. Stocki and myself where Mr. Stocki
9 confirms that at the first stage of the portfolio
10 design process, the high-level-screen stage, there
11 were not any measures eliminate because of cost-
12 effectiveness. Are you following me so far?

13 MR. JOHN ATHAS: I see that.

14 MS. DAYNA STEINFELD: At transcript
15 page 333, beginning at line 6, and it continues over
16 on to the next page, what we see here is a discussion
17 between Mr. Stocki and myself that confirms that at
18 the second stage of the preliminary portfolio review,
19 there weren't -- there were not changes made because
20 of cost-effectiveness.

21 If Ms. Schubert can scroll through us
22 there, and then you can let me know if I have
23 summarized that as you understand it.

24 MR. JOHN ATHAS: Yes, you have.

25 MS. DAYNA STEINFELD: And finally, at

1 transcript page 346, beginning at line 14, Mr. Stocki
2 confirms that at the final stage, there were not any
3 changes -- or, I'll rephrase that.

4 Cost-effectiveness did not result in
5 any material changes between the preliminary portfolio
6 and the final portfolio. Are you following?

7 MR. JOHN ATHAS: Yes. I think the
8 prior ones were talking about changes in measures, and
9 -- and I don't see the exchange here, unless it was
10 earlier, that was focussing this on measures.

11 MS. DAYNA STEINFELD: We can certainly
12 scroll up. I -- I believe the discussion indicates it
13 is on the measure level, and Mr. Stocki indicated that
14 there were -- I believe there was one (1) program that
15 was adjusted in part for a cost-effectiveness reason.
16 It was a window incentive. But no measures were
17 eliminated due to cost-effectiveness.

18 MR. JOHN ATHAS: That -- that --
19 that's helpful. I just wanted to make sure that --
20 because no changes could mean more things than -- than
21 elimination of measures.

22 MS. DAYNA STEINFELD: Absolutely, Mr.
23 Athas. I want to make sure we're on the same page
24 while I get into my questions, so thank you for
25 clarifying.

1 So while Daymark's evidence is that
2 programs should not necessarily be rejected because of
3 low cost-effectiveness, is it Daymark's view that
4 cost-effectiveness should play a greater role in the
5 portfolio and program design process than we've seen
6 in the evidence in this proceeding?

7

8 (BRIEF PAUSE)

9

10 MR. JOHN ATHAS: I think it's -- I
11 think it's -- it's -- it's good practice if there's
12 time and resources to essentially take some sort of
13 look, like equivalent to a -- a pure measure value
14 test. That can -- that can just help inform
15 intuition.

16 I mean, a lot of the -- a lot of this
17 design process is going on with -- with -- with -- by
18 people that have a lot of experience and -- for
19 themselves hands on, and they're interacting with
20 people -- a lot of experience.

21 So there's -- sometimes, the -- the
22 presumptive answer to the -- the analysis is pretty
23 damn good. And so you might -- given if there's a
24 constraint in resources and time to be able to do
25 stuff, you might not want to take -- you might not put

1 a -- an -- an importance on doing that.

2 But if you can -- if you have enough
3 time and other things, I think it would be a good
4 question to ask, and that's one (1) reason why I tried
5 to -- the reason why we asked ourselves the question,
6 and I thought it would be helpful for the panel to --
7 to see that information.

8 MS. DAYNA STEINFELD: You also
9 referenced early -- oh, sorry --

10 MS. KATHLEEN KELLY: If I could just--

11 MS. DAYNA STEINFELD: -- Ms. Kelly,
12 please.

13 MS. KATHLEEN KELLY: I think it's --
14 it's good process to follow to make sure that you've
15 looked at -- at the measures in particular, because
16 then you have a -- you have the information to then
17 justify to yourself as you're designing the program
18 just what it is that -- that is making you recommend
19 keeping that measure in the program and what your
20 intent is so that when you get to the evaluation
21 process, the -- the independent evaluator is looking
22 at just what kind of role that measure did or did not
23 play.

24 And it's also probably important when
25 you look at process evaluations and you're talking to

1 the folks in the field who are delivering the program
2 and you're also speaking with participants and non-
3 participants. It may become -- it may become apparent
4 that one (1) of the measures that you did not keep
5 would have brought in more participants.

6 So it's -- it's -- it's good to have
7 that back -- in your back pocket, so to speak, so that
8 it -- it helps you think through the program design,
9 so.

10 MS. DAYNA STEINFELD: And put another
11 way, Ms. Kelly, you're indicating that it's -- it's
12 helpful to look at cost-effectiveness particularly at
13 the measure level.

14 MS. KATHLEEN KELLY: Yes.

15 MS. DAYNA STEINFELD: So if I take
16 that a step further, would Daymark recommend that
17 rather than looking at cost-effectiveness solely at
18 the bundle and portfolio level, as Efficiency Manitoba
19 has done, they should go a step further and also it
20 consider it at -- at a measure-by-measure level?

21 MR. JOHN ATHAS: Yeah, I think that --
22 we think that's useful information, again, if you have
23 the resources and time to do it.

24 MS. DAYNA STEINFELD: Mr. Chair, I --
25 I'm -- I'm going to move into another area. I can

1 continue, or if you'd like to take a morning break,
2 this may be a good time.

3 THE CHAIRPERSON: And how long do you
4 think the next area will take?

5 MS. DAYNA STEINFELD: I probably have
6 maybe ten (10) to fifteen (15) minutes on the next
7 topic.

8 THE CHAIRPERSON: Okay. Why -- why
9 don't we proceed with the next topic, then we'll take
10 a break after that?

11

12 CONTINUED BY MS. DAYNA STEINFELD:

13 MS. DAYNA STEINFELD: Certainly. Ms.
14 Schubert, transcript page 1,325, which is from
15 yesterday's transcript.

16

17 (BRIEF PAUSE)

18

19 MS. DAYNA STEINFELD: And I think if
20 we scroll down just a bit -- right there is perfect.

21 Ms. Kelly, I believe this was your
22 evidence yesterday. Here, you're speaking about the
23 importance of Efficiency Manitoba providing the right
24 reports to this organization.

25 By that did you mean the Public

1 Utilities Board?

2 MS. KATHLEEN KELLY: Yes.

3

4 (BRIEF PAUSE)

5

6 MS. DAYNA STEINFELD: In the
7 Efficiency Manitoba Act, and we can go there if it's
8 helpful, but Section 16(3) refers to the independent
9 assessment report requirement.

10 Is that what you mean in referring to
11 the right reports, Ms. Kelly?

12 MS. KATHLEEN KELLY: Those reports,
13 I'm assuming, will be provided to the -- the PUB, but
14 I'm -- what I'm really referring to is that typically,
15 most utilities or organizations that are managing
16 energy efficiency programs or DSM programs provides a
17 report that talks about the level of participation in
18 programs, savings, what kind of issues have arisen.

19 They -- they're almost -- they're very
20 similar to the management reports that Efficiency
21 Manitoba likely will have on a monthly basis that
22 says, here are our goals, here's where we've gotten
23 to, here are the issues with that particular program's
24 delivery.

25 It's -- it's a series of metrics and

1 monitoring reports that says how are you doing, have
2 you taken activities to stimulate better
3 participation. It -- it's a reporting function that
4 would normally occur with any utility or Efficiency
5 Manitoba equivalent organization.

6 Many jurisdictions require those
7 reports on a quarterly basis and an annual basis to be
8 provided to the regulator or the PUB.

9 MS. DAYNA STEINFELD: Would it be your
10 recommendation that those types of quarterly reports
11 or annual reports be provided to this Board?

12 MS. KATHLEEN KELLY: Yes, it would.

13 MS. DAYNA STEINFELD: Do you have a
14 preference in terms of whether it should be quarterly
15 or annual in the context of the first Plan?

16 MS. KATHLEEN KELLY: For the first
17 Plan I -- I would believe that quarterly is req -- is
18 necessary, so that not only can Efficiency Manitoba
19 understand how well they're doing, but the PUB can
20 monitor how the regulation is working and -- and if
21 there are any issues, get some answers.

22 MS. DAYNA STEINFELD: In addition to
23 things like participation and how programs are being
24 rolled out, would that reporting include things like
25 procurement of the CRM, or contracting that is yet to

1 be completed?

2 MS. KATHLEEN KELLY: Yes, the major
3 initiatives that are being undertaken would be
4 reported on, typically in award-based response. But
5 the CRM development, the contracting with third-party
6 contractors, all the major steps that need to occur,
7 the training, it's -- it's informative.

8 It'll -- it -- from my perspective, if
9 -- if I were a member of the panel, and a member of
10 the PUB, I would want to understand before year-end if
11 there's an issue.

12 MS. DAYNA STEINFELD: In your
13 testimony yesterday in discussing the right reports, I
14 understand that that's a way Daymark has identified
15 some of the deliverability risks that Daymark has
16 identified can be mitigated.

17 Do I have that right?

18 MS. KATHLEEN KELLY: Which report?

19 MS. DAYNA STEINFELD: The -- the
20 reports that you're referring to now.

21 MS. KATHLEEN KELLY: That one I'm
22 referencing? Yes.

23 MS. DAYNA STEINFELD: So just to make
24 sure we're clear, because I didn't ask that very well,
25 but the type of quarterly reporting that you're

1 recommending happen is a way that Daymark sees the
2 deliverability risks be mitigated?

3 MS. KATHLEEN KELLY: I see the report
4 helping EM understand the delivery -- ability --
5 that's a bad word that I can't say -- help -- help
6 assess those risks and whether they're being
7 addressed, and then inform the PUB that -- that it's
8 occurring, that it's successful, or that there are
9 issues and they have solutions for how to handle them.

10 MS. DAYNA STEINFELD: Do you have a
11 recommendation in terms of what this Board would do
12 with the reports? Did they comment back to Efficiency
13 Manitoba, or is it more just a -- a transparency
14 matter?

15 MS. KATHLEEN KELLY: I think for the
16 most part, it's a transparency matter, but it -- it --
17 as I said, if something is of interest and appears to
18 be an issue, then there should be some means by which
19 the -- the PUB can go back to Efficiency Manitoba and
20 just request clarification.

21 I don't see it needing kind of
22 regulatory intervention as a hearing, but maybe some
23 information flow between the parties.

24 MS. DAYNA STEINFELD: Thank you, Ms.
25 Kelly. This is going to seem out of left field, but

1 under the -- the big heading of deliverability risks,
2 the -- it's risk 4 in the Daymark report. I can give
3 you a page reference, Ms. Schubert. I believe it's
4 Book of Documents, page 285.

5

6 (BRIEF PAUSE)

7

8 MS. DAYNA STEINFELD: Sorry, 287,
9 please. Thank you.

10 Risk 4 identifies that:

11 "Efficiency Manitoba relies on new
12 or updated sources for estimating
13 participation, including
14 consultations with delivery
15 partners, survey data, and recent
16 permit applications, which may
17 produce a step change increase in
18 the level of saving expected for
19 existing programs."

20 Do you see that there, Ms. Kelly?

21 MS. KATHLEEN KELLY: Yes.

22 MS. DAYNA STEINFELD: Ms. Dilay took
23 you to this yesterday, but she may be smarter than I
24 am, because I'm still having a hard time understanding
25 it, so I wanted to go back to it.

1 So first of all, can you describe for
2 me what the risk is that you're identifying in terms
3 of there being new or updated sources of information?
4 I'm not sure I understand what you're saying is the
5 risk.

6 MS. KATHLEEN KELLY: Okay. Give me
7 one (1) second to re-read it.

8

9 (BRIEF PAUSE)

10

11 MS. KATHLEEN KELLY: When we reviewed
12 the workpapers from Efficiency Manitoba and compared
13 them to Manitoba Hydro's information that was
14 available in their reports, it was evident that there
15 had been modifications to some of the resources that
16 were used in Efficiency Manitoba's target markets,
17 number of participations, how many participants had
18 already occurred and taken advantage of programs, and
19 the -- the level of participation planned, and
20 sometimes the savings especially associated with those
21 participants were different from what Manitoba had
22 been planning for and potentially also seeing in their
23 programs.

24 And that the -- once you got through
25 the workpapers, we realized that in some cases, the

1 participants went down, some cases, the participants
2 went up, but in a lot of cases, there was a -- a
3 fairly large increase in the savings associated with
4 each participant on average. And in looking at it,
5 that is, it is a change in the measures allocated to
6 those or identified as each participant would take
7 advantage of.

8 So that -- that was a concern from the
9 perspective of we're assuming that the measure
10 adoption rate is going to be very high, with a lot of
11 new measures. That takes a lot of work to make sure
12 it occurs in the delivery of the programs, and just
13 something to be monitored to see if the -- if -- if
14 that Plan is going to come apace with what your
15 projections are.

16 MR. JOHN ATHAS: And -- and in
17 addition, some of our discussions I can remember were
18 that, you know, there's -- there's -- you don't have a
19 track record as to whether that new information was
20 better, you know, as -- as -- I mean, they're --
21 they're -- the -- those are the real -- those are the
22 detailed things, but at -- at a very, you know,
23 question -- you know, it -- it -- you -- if you're
24 doing -- planning over and over again, you're using
25 some source, and it's -- and it's helping you come out

1 to be -- the -- your projection's pretty good, all the
2 way through the E, M V, you're -- you know, it's --
3 it's great.

4 If you pick up a different source, and
5 -- and now it seems to have a lot more information
6 than some other stuff, you're -- and using it, you're
7 -- you have a really good feel that it's probably
8 better, but it's an uncertainty.

9 MS. DAYNA STEINFELD: Breaking that
10 down to make sure I'm following. Daymark has
11 identified that Efficiency Manitoba is projecting
12 different levels of participation than Manitoba Hydro
13 had been?

14 MS. KATHLEEN KELLY: Yes.

15 MS. DAYNA STEINFELD: And Daymark's
16 understanding of the basis for those different
17 projections is that new or updated sources of
18 information are being used.

19 MS. KATHLEEN KELLY: That's our
20 understanding but not all the work papers had enough
21 information for us to follow it all the way through.
22 There were times when the information was there. It
23 may be -- may well be all in Efficiency Manitoba's
24 hands, but in the time frame we had to do this, we --
25 we couldn't keep circling back on some of the

1 information, so.

2 MS. DAYNA STEINFELD: And by and
3 large, those new or updated sources of information are
4 indicating increased participation and, therefore,
5 increased levels of savings beyond what Manitoba Hydro
6 was projecting it would achieve?

7 MS. KATHLEEN KELLY: Not always
8 increased participation. Maybe reduced participation
9 or increased, but it would have more measures so there
10 -- more and different measures being installed,
11 increasing the savings. So it's a combination of the
12 two (2).

13 MS. DAYNA STEINFELD: And so as I
14 understand the risk, as Mr. Athas puts it, because
15 these are new or updated kinds of information, it's
16 difficult to know whether it's as reliable as
17 something that has been tested in the past.

18 MS. KATHLEEN KELLY: One (1) of the
19 points in particular here was target market;
20 understanding how much has already been achieved
21 versus what's left to be targeted.

22 So that's -- that was one (1) of the
23 drivers of this comment in that when you're trying to
24 compare if the participation rate is -- is high enough
25 or whether there's an issue in the participation rate,

1 that -- that kind of information is helpful to someone
2 reviewing the program, and in many cases we didn't
3 have that kind of information; just wasn't there.

4 MS. DAYNA STEINFELD: Thank you, Ms.
5 Kelly and Mr. Athas. I'm following it now, so I
6 appreciate taking the -- you taking the time to
7 explain it to me.

8 MS. KATHLEEN KELLY: Can -- can I go
9 back to your question on the reporting?

10 MS. DAYNA STEINFELD: Sure.

11 MS. KATHLEEN KELLY: An important
12 point that -- that shouldn't be missed. The Energy
13 Efficiency Advisory Group that -- that is being used
14 by Efficiency Manitoba is likely going to be getting
15 those kind of reports on a regular basis, and -- and
16 probably is not asking for something new for the PUB
17 to review or to just be able to -- to see.

18 It's probably something that -- normal
19 course of business for that -- that group to get that
20 kind of information. If they're not, it would be good
21 for them to be getting it.

22 MS. DAYNA STEINFELD: That's helpful.
23 Thank you, Ms. Kelly.

24 MS. KATHLEEN KELLY: Thank you.

25 THE CHAIRPERSON: Ms. Steinfeld, can I

1 ask a question?

2 MS. DAYNA STEINFELD: Yes.

3 THE CHAIRPERSON: In relation to the -
4 - the report, as I have it, your -- your
5 recommendation is that for the first year they should
6 be filing quarterly reports with the PUB.

7 What happens after the first year? Is
8 it just for the first year or should there be annual
9 reports filed with the PUB? I'm just wondering -- you
10 know, I understand sort of the start-up element and
11 that for the first year there should be communication
12 back and forth.

13 What happens after the first year?

14 MS. KATHLEEN KELLY: I -- I would not
15 limit to the first year. I would go for all three (3)
16 years. This is a major transitional change of the
17 management of the programs and the design of the
18 programs.

19 I would personally -- it would be our
20 recommendation that -- that that continue for the
21 three (3) years, and potentially be modified as -- as
22 implementation becomes more disciplined. Then I would
23 potentially reduce what's provided.

24 THE CHAIRPERSON: Thank you.

25

1 CONTINUED BY MS. DAYNA STEINFELD:

2 MS. DAYNA STEINFELD: One last, I
3 think, quick clarification. Transcript page 1,391,
4 Ms. Schubert, also from yesterday.

5

6 (BRIEF PAUSE)

7

8 MS. DAYNA STEINFELD: Scrolling down a
9 bit here. Right there is perfect.

10 Mr. Athas, here you were discussing
11 with Ms. Dilay the potential that the independent
12 assessor could identify more savings. I just want to
13 understand, in what circumstances that -- that may
14 arise.

15 So are you able to provide an example
16 of when the independent assessor might identify more
17 savings than Efficiency Manitoba was projecting?

18 MR. JOHN ATHAS: The comment was made
19 without -- without a particular example in mind, but
20 just -- it was more to the effect that the -- the
21 independent evaluator of E, M, V process is going
22 through to figure out, you know, through the best
23 available information what has happened.

24 The estimates are -- were predictions
25 of what would happen on average, and -- but the -- the

1 conversations seem to take place as -- with an
2 expectation that the only outcome is that it gets to
3 what they -- what they hope for it to be in the
4 forecast or less, and that -- that comment was meant
5 to be that, you know, don't exclude the outcome on
6 certain elements at least, that it could -- the
7 numbers could come out higher, you know.

8 I mean, it was -- there was -- I forget
9 the context but it made me think about the fact that
10 everybody was focusing on the -- that the only -- the
11 only play around the actual occur -- impacts was
12 negative.

13 MS. DAYNA STEINFELD: If we assume
14 that Efficiency Manitoba does not go over budget,
15 would an example of more savings be if the independent
16 assessor determined that Efficiency Manitoba was too
17 conservative with its free rider assumptions?

18 Would that be one (1) example?

19 MR. JOHN ATHAS: I guess -- just
20 trying to think about whether the E, M, and V does a
21 good free rider estimate. Usually...

22 An E, M, and V process independent
23 evaluator might -- might perform the necessary
24 information to -- to test whether the -- the free
25 rider number was different, but it -- it might just be

1 as simple as the usage in the buildings was -- was
2 high. You know, like, I mean, if you -- when you
3 think about --

4 The simplest one that we always talk
5 about is the -- the electric usage of -- of lighting.
6 You know, when it's got -- and it's got that -- you
7 know, the absolute basic assumption, how long is the
8 light on, you know, and E, M, V, is -- I'm going to
9 try to have a -- to have an answer for how long the
10 light was on, you know, so to speak, and -- and things
11 like that.

12 So it's -- it's -- some of it is, you
13 know, a very raw assumption, but certainly --
14 certainly if they -- they might have a scope of work
15 that this finds -- this is -- give us an opinion about
16 whether the -- whether the free rider number was --
17 because you're not going to measure savings of -- a
18 lot of times if it's just purely -- purely let's
19 measure savings and see if the savings measures turn
20 out to be, they could be -- the evaluation could not
21 have a scope of work that says, and give us your
22 opinion on the free riders.

23 It's more like everybody has been
24 always worried from the inception of the energy
25 efficiency program is how do you know the savings is

1 really there, because it's on a piece of paper, so --

2 MS. KATHLEEN KELLY: I wanted to just
3 build on something that Mr. Athas said.

4 Depending on who participates and what
5 size customer participates, if it's -- if they're
6 different than the average used to develop the program
7 designs, in the evaluation you could -- you could
8 readily find that the savings are greater.

9 So if you have all customers who were
10 above the average size and you install all the
11 measures, you could have greater savings, but again
12 the opposite could occur as well.

13 MS. DAYNA STEINFELD: I'm going to try
14 another example. Would one (1) be if the independent
15 assessor determined that Efficiency Manitoba was being
16 conservative in its attributions of codes and
17 standards savings?

18 MR. JOHN ATHAS: There's two (2)
19 things there, right, how much activity happens due the
20 code, and that should be one (1) of the things that I
21 would hope that if you're getting independent
22 evaluator to come in after the fact and look at the
23 codes -- with the codes and standards you want to know
24 is, you know -- you know, again it's hard to -- it's
25 hard to put a feel to what the savings was.

1 You know, did the -- are there a number
2 of installations that -- you know, that housing starts
3 and other stuff, did they turn out close to being what
4 they were using for the estimates in -- at -- the
5 termination of this plan. That's -- that's one (1)
6 thing.

7 And then they would have -- they --
8 they might have, you know, a -- what's the right --
9 what's the right word -- test population, the -- that
10 -- that they -- that they...

11 Yeah, the -- yeah, the control group
12 around the -- around the analysis might have told them
13 that there's -- that -- that the baseline of -- from -
14 - from codes and standards might have been different
15 than what was assumed.

16 So there's -- so it can go to both of
17 those kinds of assumptions with a -- the degree of
18 activity and the -- and some of the parameters for
19 savings.

20 MS. DAYNA STEINFELD: And the -- the
21 primary point being that in addition to the
22 possibility that the independent assessor will find
23 less savings, they may also find more?

24 MR. JOHN ATHAS: Correct.

25 MS. DAYNA STEINFELD: Mr. Chair,

1 that's -- those are my questions in that area, so this
2 would be a good time for our morning break, if that
3 suits the Panel.

4 THE CHAIRPERSON: We'll -- we'll break
5 for fifteen (15) minutes. Thank you.

6

7 --- Upon recessing at 10:40 a.m.

8 --- Upon resuming at 11:01 a.m.

9

10 THE CHAIRPERSON: Ms. Steinfeld...?

11 MS. DAYNA STEINFELD: Thank you, Mr.
12 Chair.

13

14 CONTINUED BY MS. DAYNA STEINFELD:

15 MS. DAYNA STEINFELD: Ms. Kelly, just
16 briefly before the break I believe you mentioned that
17 Daymark did not have access to all of the target
18 market information that you would have liked to have,
19 is -- is that correct?

20 MS. KATHY KELLY: In the work papers,
21 yes, that's correct.

22 MS. DAYNA STEINFELD: And would having
23 that information have assisted Daymark in its ability
24 to assess Efficiency Manitoba's participation rates in
25 the plan?

1 MS. KATHY KELLY: It would have been
2 useful for that, yes. But one (1) of the ways that we
3 looked at some of that was by going back to the legacy
4 programs that -- that were in place at Manitoba Hydro.

5 So we had that for a -- a means by
6 which we could kind of compare and contrast.

7 MS. DAYNA STEINFELD: So you didn't
8 necessarily feel your analysis was -- was limited, you
9 had to do it in other ways?

10 MS. KATHY KELLY: Somewhat limited,
11 yes.

12 MR. JOHN ATHAS: I would just point
13 out too that the -- I mean, getting more information
14 without the -- without -- without the time to do it,
15 to use it, is -- you know, in a very compressed
16 schedule it might not have materially affected this go
17 around.

18 MS. DAYNA STEINFELD: In a future
19 assessment though, let's say if there was sufficient
20 time, that's something that would be useful to analyse
21 the reasonableness of the projections for things like
22 participation rates?

23 MS. KATHY KELLY: Yes, it would be
24 useful.

25 MS. DAYNA STEINFELD: Ms. Schubert,

1 turning to Daymark 7, slide -- actually, I think I
2 would prefer to go to Board counsel Book of Documents,
3 starting at page 366.

4 Mr. Athas, you've already spent some
5 time, both yesterday and today, on this. I'm wanting
6 to just go through it maybe again in smaller bites.

7 So looking at Daymark's adjustments to
8 the LRI calculation, to take it piece by piece, so am
9 I right that Daymark started by essentially taking an
10 inventory of the measure lives for all of the
11 measures, let's say in the electric portfolio?

12 MR. JOHN ATHAS: Correct.

13 MS. DAYNA STEINFELD: And then Daymark
14 grouped those measures into what I've been calling,
15 maybe to Ms. Kelly's chagrin, buckets?

16 MR. JOHN ATHAS: Correct.

17 MS. DAYNA STEINFELD: About the
18 chagrin or the buckets?

19 MR. JOHN ATHAS: I -- I can't see her
20 face right now.

21 MS. KATHY KELLY: I wouldn't say
22 chagrin, I'd say it's a term I use all the time.

23 MS. DAYNA STEINFELD: Okay.

24 MS. KATHY KELLY: Very technical.

25 MR. JOHN ATHAS: It's term -- it's a

1 term we felt very comfortable using, but not writing.

2 MS. DAYNA STEINFELD: Okay, fair
3 enough. Well then we'll use it as we talk through it.

4 So, you took the inventory of measure
5 lives and then you grouped those measures into buckets
6 of measure live length?

7 MR. JOHN ATHAS: Correct.

8 MS. DAYNA STEINFELD: And the -- I
9 think if we turn back to Board counsel Book of
10 Documents, page 360 actually is maybe a better
11 reference to have on the screen. Thank you.

12 If we look at the 1 to 5 year bucket,
13 that bucket would include all measures that have lives
14 of 1 to 5 years, and also beyond, correct?

15 MR. JOHN ATHAS: No, the -- the -- the
16 1 to -- the 1 to 5 year analysis of the LRI has all
17 the buckets in it.

18 MS. DAYNA STEINFELD: Right.

19 MR. JOHN ATHAS: What's in that table
20 has just the total savings for the measures with 1 to
21 5 year lives.

22 MS. DAYNA STEINFELD: So that's also
23 maybe not the right table.

24

25 (BRIEF PAUSE)

1 MS. DAYNA STEINFELD: Sorry, I'm still
2 not putting the right table on the screen. So maybe
3 we will go back to Daymark 7, and we can use slide 47,
4 it doesn't have all of the buckets, but I think it'll
5 assist the discussion.

6 Okay, so looking at the 1 to 5 year
7 bucket, all of the buckets or all of the measures with
8 lives that are between one year through 30 years plus
9 are within that bucket.

10 MR. JOHN ATHAS: Okay, the -- the 1 to
11 5 year here is a period of time for the average rate.

12

13 (BRIEF PAUSE)

14

15 MS. DAYNA STEINFELD: I think we're
16 talking about different kinds of buckets is maybe the
17 problem.

18 MR. JOHN ATHAS: No, but different
19 kinds of uses of 1 to 5.

20 MS. DAYNA STEINFELD: Yes. So the --
21 the 1 to 5 year bucket is just measures with lives of
22 1 to 5 years.

23 MR. JOHN ATHAS: Right.

24 MS. DAYNA STEINFELD: But when you're
25 doing the LRI calculation, you look at the 1 to 5 year

1 bucket as --

2 MR. JOHN ATHAS: The 1 to 5 year
3 effect.

4 MS. DAYNA STEINFELD: Right. As well
5 as the other buckets that also have lives that start
6 in that time period.

7 MR. JOHN ATHAS: Correct.

8 MS. DAYNA STEINFELD: And so the way
9 that that calculation works is that the LRI for the
10 first 1 to 5 years recovers the costs of measures that
11 have lives of 1 to 5 years in that time period.

12 MR. JOHN ATHAS: It -- it -- it
13 doesn't get into the -- they use the word "recovers"--

14 MS. DAYNA STEINFELD: Right.

15 MR. JOHN ATHAS: I mean it -- the
16 costs incur during those -- during those -- the costs
17 incur always during the 1 to 3. For all the -- all
18 the buckets, because we -- unless there's maybe a
19 couple of outliers that have some ongoing costs, but
20 the -- but the -- all the costs we're talking about
21 here for measures and programs is -- is in the three-
22 year period of the -- of the plan. Okay?

23 So what they -- what the -- what we're
24 talking about that also gets included in the -- in
25 this 1 to 5 year period is the implications of savings

1 and lost revenue that -- that occur over the -- over
2 the first five years.

3 MS. DAYNA STEINFELD: The 1 to 5 year
4 measures are fully addressed at the end of year 5 in
5 your analysis.

6 MR. JOHN ATHAS: Correct.

7 MS. DAYNA STEINFELD: So when we move
8 on to the second 5 years, the 6 to 10 year time
9 period, your calculation is again looking at all
10 measures except for the 1 to 5 year expired measures.

11 MR. JOHN ATHAS: Correct.

12 MS. DAYNA STEINFELD: And so when you
13 say that all of the met buckets have measures in the
14 first five (5) years, which you said to Ms. Schofield
15 earlier this morning, I -- I believe that's what we've
16 just discussed, that all of the measures or all of the
17 buckets, rather, have measures that are within that
18 time frame, but some of them also have measure lives
19 that go beyond.

20 MR. JOHN ATHAS: Correct.

21 MS. DAYNA STEINFELD: And if you're
22 using thirty (30) years for the LRI analysis rather
23 than these more refined time periods, does that mean
24 that you are presenting a calculation that has
25 ratepayers paying rates for measures that have long

1 since expired?

2 MR. JOHN ATHAS: You're -- the use of
3 the word "equivalent" here, so it's -- it's equivalent
4 to taking the -- taking the effects of -- of cost
5 savings and lost revenue, kind of taking it to the
6 side and saying we're going to amortize that over 30
7 years. Okay.

8 So it's -- it's everything over
9 (thirty) 30 years. And the -- and that -- that's the
10 -- so it's -- it's long gone measures that -- that the
11 effects are still going there, but it's not -- it's
12 not just cost, it's not just -- so it's all three (3)
13 of those parameters that go into this calculation.

14 The cost of the -- of the measure -- or
15 the cost of the program, the savings from the program,
16 and that gets translated into dollars, and the lost
17 revenue.

18 MS. DAYNA STEINFELD: At transcript
19 page 571, scrolling down to Mr. Stocki's answer, he
20 says here at line 13 that his understanding of
21 Daymark's LRI method is that only in that first
22 average of the first five (5) years they're only
23 looking at measure lives or considering measures that
24 have a five (5) year or less measure life in that.

25 Do you see that there?

1 MR. JOHN ATHAS: Yes, actually I was
2 monitoring the hearing at that time too.

3 MS. DAYNA STEINFELD: Perfect.

4 And am I understanding you're saying
5 today that that's not quite right?

6 MR. JOHN ATHAS: That's -- that's
7 correct. I -- I even mentioned it in an email after
8 the fact to -- to Mr. Stocki.

9 MS. DAYNA STEINFELD: Oh, you did?
10 Okay.

11 So the correction is what we've just
12 discussed, that in fact the first five (5) years
13 includes all measures?

14 MR. JOHN ATHAS: Correct. That's the
15 reason why I've had the story ready.

16 MS. DAYNA STEINFELD: Perfect. And in
17 your report, you identify that 40 percent of the
18 electric savings come from measures with lives of 1 to
19 5 years, correct?

20 MR. JOHN ATHAS: Correct.

21 MS. DAYNA STEINFELD: Do the Project 1
22 savings that first 99 gigawatt hour load displacement
23 project appear in the 1 to 5 year bucket?

24 MR. JOHN ATHAS: Yes.

25 MS. DAYNA STEINFELD: And are those

1 savings counted three (3) times in the Daymark
2 analysis?

3 MR. JOHN ATHAS: The -- the savings
4 are not restricted to the three-year period in any
5 calculation.

6 So if you put a -- if you put a -- a 15
7 -- ten-year measure in effect, the calculation of LRI,
8 both by how Efficiency Manitoba did it and we did it,
9 capture all those savings, all those years of activity
10 for the -- for the measure.

11 And -- and so it -- it does that in
12 this calculation for the -- for the -- that -- that 99
13 gigawatt hour measure in -- in the load displacement.

14 The only time where I've had
15 discussions of counting it three (3) times is three
16 (3) times toward the annual goal achievement, of the
17 target.

18 And so there -- there hasn't been a
19 spot where we've ever noticed the economic analysis to
20 do, double accounting or triple if it was three (3)
21 times. But when you -- but the -- the achievement
22 each year of -- of savings where a program, if you put
23 in a whole bunch of, you know, refrigerators that's to
24 get off the lightbulb kick for a change, efficient
25 refrigerators in year one, you have to put in to get

1 more -- to get credit in year two you have to put in
2 different refrigerators, more.

3 And the one (1) thing that is a little
4 different because of that -- on that measure from
5 Project 1, is that it -- it's the same measure and it
6 -- and it gets -- it's credited in the second and
7 third year as being energy efficiency created in that
8 year.

9 And that's -- that's due to the fact
10 that there's some budget requirements that come out to
11 make sure they operate the measure.

12 MS. DAYNA STEINFELD: Thank you. In
13 your report you identify a concern about the
14 proportion of measures in the plan that have lives of
15 15 years or less, correct?

16 MR. JOHN ATHAS: Correct.

17 MS. DAYNA STEINFELD: Turning to
18 Daymark 7, slide 82, this is on the electric side. Am
19 I right that this is a graphical representation of
20 that concern at a -- at a high level?

21 MR. JOHN ATHAS: Yes.

22 MS. DAYNA STEINFELD: I'd like to take
23 some time to just walk through this with you slowly to
24 make sure I'm understanding what Daymark is showing
25 here.

1 So we see at the bottom of the graph
2 those are the -- the years represented there from 1
3 through 16, correct?

4 MR. JOHN ATHAS: Correct.

5 MS. DAYNA STEINFELD: And along the
6 vertical axis we see the percent of savings?

7 MR. JOHN ATHAS: Correct.

8 MS. DAYNA STEINFELD: And what this
9 graph is showing us is an ongoing cumulative counting
10 of the savings achieved by the first three (3) year
11 plan?

12 MR. JOHN ATHAS: It's -- there's --
13 there's a lot of tongue twisters around the word
14 'cumulative'. It -- it is the ongoing annual effect
15 in those years.

16 So, it's not summing up prior year
17 stuff to be cumulative in -- in that sense of the
18 word, but it -- it has the effects in a year of the
19 accumulation of installations of measures and the
20 retirement of.

21 MS. DAYNA STEINFELD: So, if we take
22 it starting with the red bars then, Mr. Athas, we see
23 with those red bars the savings that are achieved from
24 each plan year of this three (3) year plan.

25 Do I have that?

1 MR. JOHN ATHAS: Well, roughly. I
2 mean, it's -- it's -- the first one's just programs,
3 not codes and standards.

4 MS. DAYNA STEINFELD: Okay.

5 MR. JOHN ATHAS: Okay. That's why
6 it's one point one three (1.13) as opposed to one
7 point five (1.5). And it -- and for -- for this
8 illustration, I took the average of the three (3)
9 years.

10 So, as opposed to in each year of the
11 plan -- of the plan year, it's just the -- I'm using a
12 simpler case where I'm looking at the average of the -
13 - of the three (3) years.

14 MS. DAYNA STEINFELD: And in the first
15 year, excluding codes and standards, the plan achieves
16 1.13 percent savings. In year 2, we see another 1.13
17 percent savings but is in addition to the 1.13 already
18 achieved, and similarly with year 3, correct?

19 MR. JOHN ATHAS: Yes. There's the --
20 the achi -- you would take the red bars as building
21 blocks absent any -- any measures being retired or end
22 of life.

23 MS. DAYNA STEINFELD: We're going to
24 get there. But if we stick with the red bars, after
25 three (3) years of doing the plan we see that the plan

1 had achieved over 3 percent of savings, correct?

2 MR. JOHN ATHAS: Correct.

3 MS. DAYNA STEINFELD: You just
4 explained, as well, that we might expect that to be
5 4.5, but it's not because you haven't included codes
6 and standards here?

7 MR. JOHN ATHAS: Correct.

8 MS. DAYNA STEINFELD: Looking at the
9 green bars though, that now is showing us what happens
10 when measures in the plan expire or reach the end of
11 their measure life?

12 MR. JOHN ATHAS: Correct.

13 MS. DAYNA STEINFELD: And so, starting
14 in the second year, we see that in addition to the new
15 energy savings being achieved, we also have measures
16 that are expiring and no longer achieving savings?

17 MR. JOHN ATHAS: Correct. And in the
18 -- and in the case, which makes this box a green 'B',
19 so big and the first two (2) -- first three (3) is
20 that that's assuming -- that -- that's essentially re
21 -- removing any chance of double accounting for the
22 load for that -- for that one ninety-nine (199)
23 gigawatt hour measure.

24 So, it's -- even though it's still
25 there, the fact that it was -- it's -- it's not -- not

1 a new installation in the red bar, we had to adjust
2 for that.

3 So, in the third year, we would see
4 measures with two (2) year lives expiring as well as
5 any measures that were installed in year 2 that only
6 have a one (1) year measure life, correct?

7 MR. JOHN ATHAS: Right.

8 MS. DAYNA STEINFELD: And although
9 this is a three (3) year plan, measures are being
10 installed that have lives that persist over time. But
11 what we see here, I believe, is that, over time, more
12 measures have lives that expire and, therefore, are
13 not contributing to persisting savings?

14 MR. JOHN ATHAS: Correct.

15 MS. DAYNA STEINFELD: And think
16 ultimately what we see is, at the end of the fifteen
17 (15) years, if you're counting things this way, the
18 effect of your first three (3) year plan is reduced?

19 MR. JOHN ATHAS: That's correct.

20 MS. DAYNA STEINFELD: So, we see that
21 just looking at the -- the three (3) year plan, the
22 first three (3) year plan, at the end of the fifteen
23 (15) years, the amount of savings that remain in
24 effect are 1.16 percent?

25 MR. JOHN ATHAS: Correct.

1 MS. DAYNA STEINFELD: And that doesn't
2 go down to zero because there are some measures that
3 last beyond the fifteen (15) years?

4 MR. JOHN ATHAS: Correct.

5 MS. DAYNA STEINFELD: And what I
6 understand in the text in this chart is, if you layer
7 in consecutive three (3) year plans because this is
8 only for one (1), you end up with savings of 9.22
9 percent?

10 MR. JOHN ATHAS: Correct.

11 MS. DAYNA STEINFELD: But that's still
12 less than we might expect if you take 1.13 percent and
13 multiply it by fifteen (15) years?

14 MR. JOHN ATHAS: Correct.

15 MS. DAYNA STEINFELD: And again, if
16 you count things this way, it's also less than the 22
17 1/2 percent that the Act indicates for cumulative --

18 MR. JOHN ATHAS: Right.

19 MS. DAYNA STEINFELD: -- savings? And
20 is one (1) of the things that Daymark is saying here
21 is that Efficiency Manitoba should be looking at doing
22 more measures that have longer lives, like, say
23 insulation or furnaces instead of shorter lived
24 measures like maybe light bulbs?

25 MR. JOHN ATHAS: We're really actually

1 not going the steps to say that because it was -- it
2 was much -- as much produced to say, if you're -- in
3 the context of approving this plan, if you're -- if
4 you're thinking that you're going to end up with the
5 22 1/2, or in this chart, the 16.95, that you're --
6 that in the -- in the definition of it being in the
7 blue bar range, the 22 1/2 showing up, is that it's
8 not going to work, so.

9 And -- and if -- if that is -- premise
10 is correct, then a potential way to mitigate or remedy
11 that would be to do real long life measures.

12 But we didn't -- we didn't bring it
13 into a recommendation because there is -- you know,
14 there -- there isn't a lot of definitive literature as
15 to what the -- what the long-term expectations are,
16 and it probably would be conflicting if you asked a
17 bunch of people.

18 MS. KATHLEEN KELLY: I -- I would add
19 to that. We didn't go that far, as John -- as Mr.
20 Athas said, but I think it -- it is good evidence for
21 the PUB to reflect on in that we know this is the
22 beginning of a three (3) year plan with multiple plans
23 to be coming after that and setting expectations and
24 setting for Efficiency Manitoba, their approach to
25 building the market so you can get to that 22 1/2

1 percent.

2 MR. JOHN ATHAS: Yeah. And -- and
3 when we had some discussion with the different
4 attorneys, and particularly MIPUG, we -- you know, I
5 mean, the attributes that were desired by the plan
6 are, you know, economics, customer savings at all
7 different levels of customers for accessibility, the
8 potential to defer investments, you know, which is --
9 has been factored into the economics but is -- but is
10 called out as a specific attribute.

11 The more you would focus on that kind
12 of attribute, the -- the more you'd like long live
13 measures.

14 MS. DAYNA STEINFELD: I believe Mr.
15 Hacault took this -- took you through this yesterday,
16 but you'd agree that part of Efficiency Manitoba's
17 mandate is to delay the point at which capital
18 investments and major new generation and transmission
19 projects are required by Manitoba Hydro?

20 MR. JOHN ATHAS: That's just the
21 attribute I just mentioned.

22 MS. DAYNA STEINFELD: If we continue
23 looking at the graph that's on slide 82, is there a
24 concern that the money and the effort being expended
25 to do DSM is not achieving the goal of delaying new

1 generation and transmission?

2 MR. JOHN ATHAS: This effect would
3 make it less likely that it's -- that it's achieving
4 it at a magnitude that you would want to have ha --
5 that they were intending to have happen so that it's -
6 - but, you know, to say not is a -- is a -- might be a
7 different story. It -- it -- I'm not sure how
8 sensitive the triggering could be.

9 The other thing to point out is that --
10 that this doesn't get into, especially on the
11 transmission side or distribution side, you know,
12 targeting geographically, which does go counter to the
13 accessibility things potentially, but targeting
14 geographically is -- is a way that many -- it's --
15 it's starting to become much more common in different
16 jurisdictions to -- to make the -- the deferral of
17 investment more impactful.

18 MS. DAYNA STEINFELD: And fair enough.
19 Mr. Athas, you're indicating that we do see in this
20 graph that you are reducing loads so, to an extent,
21 you're deferring new generation and transmission, it
22 may just not be at the magnitude of pushing say a
23 Keeyask off decades into the future?

24 MR. JOHN ATHAS: Correct.

25 MS. DAYNA STEINFELD: At slide 83 we

1 have the same graphical representation, but now we're
2 looking at the natural gas savings, correct?

3 MR. JOHN ATHAS: Correct.

4 MS. DAYNA STEINFELD: And this looks a
5 lot different than the electric one in the sense that
6 we see less in the way of reductions of savings over
7 time. Is that correct?

8 MR. JOHN ATHAS: That's correct.

9 MS. DAYNA STEINFELD: I believe, Mr.
10 Athas, you confirmed in your direct evidence that
11 that's because the gas measures are generally longer
12 lived than the electric measures in the plan?

13 MR. JOHN ATHAS: That's correct.

14 MS. DAYNA STEINFELD: And so, here,
15 layering on consecutive plans, we get 6.63 percent as
16 compared with the 7.65 percent you might expect if you
17 take fifteen (15) times .5?

18 MR. JOHN ATHAS: Correct.

19 MS. DAYNA STEINFELD: And that .5
20 again is reflecting removing codes and standards from
21 the assessment?

22 MR. JOHN ATHAS: The -- the program's
23 contribution toward the -- the .75.

24 MS. DAYNA STEINFELD: Thank you.

25

1 (BRIEF PAUSE)

2

3 MS. DAYNA STEINFELD: We can pull up
4 the transcript. I'm -- I'm moving into another area
5 now, but in a conversation with Board counsel, Ms.
6 Kuruluk identified, at transcript page 354, that the
7 level of savings needed to be achieved in the
8 legislation was one (1) of the key factors for
9 Efficiency Manitoba -- and it may be at the top of the
10 page. Perhaps not. Scrolling down.

11 So at the bottom of this page and on to
12 page 355 -- and sorry, it was Mr. Stocki identifies
13 that the level of savings needing to be achieved was
14 one (1) of the key factors. Do you see that there?

15 MR. JOHN ATHAS: Yes.

16 MS. DAYNA STEINFELD: And when you --
17 you discussed this yesterday at some length, but your
18 understanding is that the savings targets for
19 Efficiency Manitoba are established in the Act,
20 correct?

21 MR. JOHN ATHAS: That's correct.

22 MS. DAYNA STEINFELD: So both the 1.5
23 percent for electric and point seven five (.75) for
24 gas, as well as the fifteen (15) year period targets
25 we just discussed.

1 MR. JOHN ATHAS: Yes.

2

3 (BRIEF PAUSE)

4

5 MS. DAYNA STEINFELD: And I believe
6 what we see here is Efficiency Manitoba indicating
7 that that was a -- a key factor in designing the
8 portfolio, was ensuring the level of savings mandated
9 would be achieved.

10 MR. JOHN ATHAS: Yes. Let me back up
11 for one (1) second. I -- I'm -- without putting up
12 the Act, I -- I -- I would say that in the context of
13 which long-term was -- is mentioned is -- is different
14 in terms -- is -- is much more imbig -- ambiguous as a
15 target as to -- it's not true.

16 It -- it's -- it comes across almost as
17 an effect as opposed to a target and -- and stuff so
18 that I'm not sure whether that -- whether the
19 statements that are in the transcript here are
20 referring to both of those.

21 MS. DAYNA STEINFELD: That's fair, Mr.
22 Athas, and we can stick with the annual targets for
23 simplicity, the 1 1/2 percent and this point seven
24 five (.75) percent. Will you go with me there?

25 In Mr. Harper's evidence for the

1 Consumers Coalition, he suggests that an integrated
2 resource planning approach should be taken to setting
3 the targets themselves. Do you agree with that?

4 MR. JOHN ATHAS: Yes, that's good
5 level -- it's -- well, out -- out of the information --
6 -- from the information developed in an integrated
7 resource plan, you would -- you could -- you would
8 pick all the resource -- the levels of different
9 resources that you'd want to have part of the plan,
10 including DSM, so that would essentially make it
11 informing the target.

12 MS. DAYNA STEINFELD: In your evidence
13 yesterday, you referenced that the Board, under the
14 legislation, may recommend to the minister that
15 changes be made to the savings targets.

16 MR. JOHN ATHAS: Correct.

17 MS. DAYNA STEINFELD: So if the Board
18 were to do that -- and taken what you just said, say,
19 that an integrated resource planning approach should
20 be used to setting the targets -- what does Daymark
21 say such an approach would look like? How would you
22 use integrated resource planning to arrive at the
23 level of savings to be achieved?

24 MR. JOHN ATHAS: Okay. So --

25 MS. DAYNA STEINFELD: And I don't want

1 you to miss your Wednesday flight, so you can keep it
2 at a high level.

3 MR. JOHN ATHAS: I just -- I -- I --
4 obviously, you were listening. The -- I couldn't
5 remember what I made people as a joke on -- for -- but
6 the -- let's -- I'll talk about the -- for a moment,
7 just very quickly, what they do in -- what they've
8 done in Nova Scotia for integrated resource plan. And
9 they -- they -- they look at different levels of
10 energy efficiency investment within their -- within
11 their resource plan and the IR -- IRP, and they come
12 out with -- with a overall balanced por -- portfolio
13 that they rec -- that gets somewhat -- somewhat
14 approved with a certain level of energy efficiency.

15 It probably -- it -- as a practice, I
16 wouldn't call it a best practice. The -- that -- up
17 to that point of what I said is correct. What people
18 tend to walk away with is -- and it's -- it drives me
19 crazy a little bit -- is that they take that the
20 target of what to put in for DSM as to how much to
21 spend. They don't walk away with -- with -- from an
22 IRP and say, Let's go spend this much money on wind.
23 They say, Let's go get 100 megawatts of wind.

24 And when they -- when they walk -- when
25 they tend to do an IRP analysis, they say, Okay, this

1 justified the thirty million dollar (\$30 million)
2 budget of energy efficiency, when they really should
3 be saying, This is how much energy efficiency we want.

4 So -- so I -- I think that what -- what
5 you would come out of an IRP process is you'd say --
6 you'd have an understanding of what the -- what the
7 amount of energy efficiency for various parameters
8 that you've looked at in IRP are -- should be a
9 component of the resource plan and when that should
10 occur and what some key design parameters are of that.
11 And then you'd -- and so you'd make those as,
12 essentially, instructions to your procurement process.
13 And like -- and they -- and -- and it's the way you do
14 instructions to -- and this is as you make targets.

15 But you also might make other kinds of
16 attributes around there, like if -- you -- you could
17 say, Well, this is -- the real value out of this
18 energy efficiency that we studied in IRP is if it's --
19 measures are in there for a long time.

20 So you'd say -- you'd say, you know, Go
21 get me this much gigawatt hour savings, and -- and we
22 want it to be in -- in place in a long time, you know,
23 and stuff. Or get me a peak reduction, not just
24 gigawatt hours, and stuff like that. So you'd --
25 you'd -- you'd basically try to connect the dots to

1 have -- to have the -- the procurement or the delivery
2 people around energy efficiency working toward trying
3 to do -- make the -- the resource that showed up in
4 the plan happen.

5 And -- and in another jurisdiction that
6 I was familiar with is in -- in Vermont, they -- they
7 have a -- an IRP process that sets the general plan.
8 Then they have -- when they go -- when the utility
9 gets the resource, they have another process just --
10 and it says, How does that -- how did the economics of
11 that exact procurement look, because they now know the
12 exact cost parameters and other stuff. And they --
13 and one of the question that they -- that they spend
14 some time is, is this consistent with the integrated
15 resource plan?

16 So they -- they do a check of economics
17 and a check of some of the attributes to do that, but
18 they don't -- they -- they didn't -- you know, they --
19 they recognized that when you -- when you, at the
20 planning level assumptions versus the procurement
21 level of -- of impact, is -- there's -- you -- you
22 have to check for consistency, but there will be a
23 difference.

24 MS. DAYNA STEINFELD: And could one
25 (1) of those attributes be things like accessibility

1 to customers in different geographic regions or
2 different kinds of customers?

3 MR. JOHN ATHAS: It -- it's -- it's
4 possible that within an IRP, that you don't get into
5 that kind of detail. I mean, I would -- I prefer IRPs
6 that actually look at rate impacts. Some places
7 don't, and this would be kind of looking at a rate or
8 bill impact as a sub-population.

9 And you could do that in your IRP, or
10 you could take that information that didn't have that
11 from the IRP and then -- and then in accepting the --
12 the role of -- of DSM, you could then layer on some
13 other diff -- other things, like the -- like the
14 accessibility.

15 Now, if it's -- if the -- if the
16 parties involved, like -- if -- in -- in IRP here,
17 just like in Nova Scotia, I would expect that the
18 Efficiency Manitoba people would be involved. If they
19 -- if they do layer on different things, hopefully, if
20 somebody very quickly does a sanity check to say, If I
21 put that constraint on my -- on my procurement of
22 energy efficiency, does it still get me energy
23 efficiency for about the same other attributes of cost
24 and things?

25 And if it's -- and if it's yes, then

1 you can keep going. If it's -- if it's -- if it's no,
2 you have to rethink whether you, you know -- whether
3 it's ok -- whether it's okay. You don't have to stop
4 and go back; you just have to say -- ask yourselves
5 the question, Is it okay?

6 MS. KATHLEEN KELLY: I might just add
7 to Mr. Athas's description there, one (1) of the
8 things in looking at the rate impacts, as he suggests,
9 that needs to happen in the IRP that many
10 jurisdictions don't pay attention to is that looks --
11 that needs to look at not just the rate impacts of
12 potential DSM, but also the rate impacts of other
13 solutions to making sure that you have sufficient
14 resources to -- to serve the customers.

15 So it's -- in some cases, we've seen
16 places where people only look at the rate impacts of
17 the DSM and not look at the rest of the rate impacts.
18 So it -- it needs to be done on a balanced
19 perspective.

20 MR. JOHN ATHAS: Yeah, that -- that
21 should be done completely, and it should be -- and
22 that puts context around the same number of the -- of
23 just taking the DSM impact. You know, if it's -- if
24 the DSM impact is -- is 2 percent and rates are going
25 down, it's -- it's a lot easier to -- it's a lot

1 easier for the -- to imagine it's not causing much
2 pain. If it's -- if -- if rates are going up, it
3 could be a -- a different story and stuff or this or
4 that. That's where you get into a -- a little bit of -
5 - of judgment call around the -- around the use of
6 that attribute. But it's really important to have the
7 context.

8 MS. DAYNA STEINFELD: And Ms. Kelly,
9 when you mention other solutions, you're saying look
10 not just at that rate impact of something like DSM,
11 but also if you instead met your load with, say, a new
12 generation resource, or imports from other
13 jurisdictions, you have to consider those rate impacts
14 as well?

15 MS. KATHLEEN KELLY: Yes. It would be
16 any resource solution. If it was wind, or it was gas,
17 or the imports from the US, then I would -- I would
18 suggest that those comparisons are fair comparisons.

19 MS. DAYNA STEINFELD: I'm going to do
20 something which is probably one (1) of the reasons of
21 many -- why people hate lawyers, but I'm going to take
22 Mr. Athas's very eloquent and considered response
23 about integrated resource planning and -- and try to
24 sum it up very simply, which is that you're
25 identifying when you need new resources and what

1 resources you should procure to meet that need?

2 MR. JOHN ATHAS: Yes, but --

3 MS. DAYNA STEINFELD: Fair enough, Mr.
4 Athas.

5 MR. JOHN ATHAS: -- the -- the -- very
6 -- but -- no, but from a focal point of what a lot of
7 people do with IRP is they get foc -- focussed on the
8 next need for a shortcoming that -- of reliability.
9 Like, if we don't have a need -- if we don't have
10 addit -- an additional source in the case here of --
11 of dependable energy water, we're going -- we're going
12 to have a problem, you know.

13 But an IRP shouldn't be restricted to
14 just that focal point, because the IRP is also about
15 managing costs all along the process, and managing --
16 and then -- and then understanding rate impacts along
17 the process, and other stuff like that.

18 So the -- and -- an IRP analysis that
19 says, I mean, let -- let's take -- let's put it in
20 this context. An IRP analysis that says, let's throw
21 out any five (5) year measures because, we don't need
22 anything for twenty (20) years, that's a bad IRP,
23 because you're spending money all during the process.

24 You're -- you know, and if -- and if
25 you could lower the -- if you can -- without closing

1 rate impacts and other stuff, if you could lower the
2 bills in the -- in -- from five (5) year measures
3 during that time period, the IRP should have seen
4 that.

5 And you -- and you should want to do
6 it, so that it's -- so -- because -- because if you
7 just get focused on that need, that's -- that's the
8 but, the long but, sorry.

9 MS. KATHLEEN KELLY: I -- I might just
10 add that IRP is a long-term planning process, and it -
11 - many -- many utilities and jurisdictions wait too
12 late to ask the question. And it's a planning tool, a
13 long-term planning tool. It gives all the information
14 John's speaking about, but it allows regulators like
15 the PUB to set policy.

16 And that tool is useful for looking at
17 what are the implications of those policies over time,
18 and then assessing whether you're willing, in many
19 cases, to take a short-term rate increase to avoid
20 something in fifteen (15) to eighteen (18) years.

21 So there's a lot of considerations that
22 go into it. It's -- it -- but it's -- it's useful
23 information. It's useful to be done. And as I said,
24 many jurisdictions do it at the wrong time.

25 MS. DAYNA STEINFELD: And having the

1 savings targets set at the outset by legislation, the
2 approach being taken in Manitoba right now is not
3 consistent with an integrated resource planning
4 approach.

5 Would you agree with that statement?

6 MR. JOHN ATHAS: Well, it's -- it's
7 not directly from an integrated resource planning
8 approach. I mean, there's a -- a lot of -- many of the
9 elements of the NFAT analysis are elements of a -- of
10 a integrated resource planning analysis.

11 So to the extent that it was mentioned
12 by other parties, that -- that rather lengthy
13 questions and protracted discussions of the -- of NFAT
14 are -- are -- contributed to the genesis of the -- of
15 the legislation, and the -- and the targets, and other
16 stuff like that.

17 It's, you know, it's -- it's not in
18 contrast. It just didn't -- it just didn't use -- do
19 a full one and a new one to -- to set the number.

20 MS. DAYNA STEINFELD: You mentioned in
21 your earlier answer, Mr. Athas, that this wouldn't be
22 something, if you took an integrated resource planning
23 approach, that Efficiency Manitoba would do on its
24 own, that Manitoba Hydro would be involved.

25 Can you just clarify how you would see

1 Manitoba Hydro's role versus Efficiency Manitoba's
2 role?

3 MR. JOHN ATHAS: Well -- and I'll even
4 say there's third options. The -- in -- in the -- in
5 the State of Connecticut, their integrated resource
6 plan is done by the state, and then -- with inputs
7 from the utilities and their energy efficiency
8 administrator, and -- amongst other people.

9 So the -- what I would -- what I would
10 expect because of the -- the scope of knowledge and
11 being able to model and deal with that other stuff --
12 aspects that the -- that -- that main analytical and
13 integrated planning role is probably technically more
14 suited to be in Manitoba Hydro than in -- than -- than
15 Efficiency Manitoba, because they -- they don't have
16 to have people to do delivery of programs that
17 understand -- that understand the interactive markets,
18 and export contracts, and other things like that than
19 the -- than the hydrology of the -- that -- that
20 categorized the SPLASH model, here and other things.

21 But the -- so it would be really
22 layering on some skills that they have to do. So --
23 but they -- but just as the El organization,
24 Efficiency Nova Scotia, contributes assumptions and
25 looks at it as part of the stakeholder groups in -- in

1 Nova Scotia, there's a role there for that -- that --
2 and, you know, and -- and just as there's another role
3 -- as -- just as there's roles for other departments
4 in the integrative planning process, I mean, I -- a an
5 in -- as -- having spent time running an integrated
6 planning process, I was not the generation guy. I was
7 not the transmission guy. I was not the energy
8 efficiency guy. I was the integrating guy.

9 So it doesn't -- it -- it shouldn't
10 feel that much different to have an outside party be
11 one (1) of those -- one (1) of those players and --
12 and I -- guy was probably the wrong way to do it when
13 there's groups, but the -- the -- that the, you know,
14 bringing it to the table, if you're doing a proper
15 integrated resource planning, you, it -- it's really
16 good, almost, to have the integrated planner be
17 independent and challenge the assumptions of all of
18 them, not somebody that's -- not somebody that's kind
19 of wedded to one (1) of the options.

20 MS. KATHLEEN KELLY: One (1) of the
21 things Efficiency Manitoba as a role would have to do
22 is -- is to take its three (3) year plan and expand it
23 to a fifteen (15) or twenty (20) year plan to fit into
24 that kind of an IRP. I would say if we were to follow
25 this approach in program delivery and -- and

1 implementation, so we might have multiple cases since
2 I have -- we're going to follow a -- a low impact
3 approach, an aggressive impact approach, and a couple
4 of others.

5 So it allows that -- building up that
6 information and building up the load characteristics
7 of the options that they built, and there is necessary
8 to support either Manitoba Hydro or a third party in
9 getting an IRP done.

10 MS. DAYNA STEINFELD: And if that were
11 the approach that were taken, and Efficiency Manitoba
12 did what you just suggested, Ms. Kelly, in -- in
13 building out over, say, fifteen (15) years, at the end
14 of that planning process, when you have a plan, would
15 you then go back and identify in your 2020/'21, this
16 is the level of savings that needs to be achieved by
17 DSM in that year? That's the end --

18 MS. KATHLEEN KELLY: The means by
19 which you can set that, yes, but it also allows you to
20 say we have a goal of achieving 'X' percent by fifteen
21 (15) years from today, and will allow Efficiency
22 Manitoba to determine how it gets to that goal. It
23 may not be a straight -- a straight line, increasing
24 line. It could be a very lumpy, bumpy line, but it --
25 it allows folks to say, okay, based on all of the

1 parameters that we've looked at, this makes sense for
2 Manitoba to go after this amount of efficiency.

3 MR. JOHN ATHAS: And -- and that --
4 and that is -- is an analogous process to anything
5 from solar on -- if solar's in the resource, you'd
6 say, we'd really like to have 3,000 megawatts of solar
7 out there in -- in 2035, but we recognize that you're
8 not going to just plop 3,000 megawatts of solar in one
9 (1) year.

10 So here's -- here's a trajectory of
11 installations that we -- that the IRP said look --
12 seems to be reasonable, and other stuff like this. So
13 in -- in a sense, the -- whatever the instrument of
14 policy, or the utility doing themselves, or whatever,
15 to do the -- to get the solar in place, they would
16 start to say -- the idea would be direct your efforts
17 to have that happen as well.

18 So I just -- just want to make sure
19 that, you know, some of the -- the way we're talking
20 about something could happen is not just trying to be
21 special for energy efficiency.

22 MS. DAYNA STEINFELD: I noticed, Mr.
23 Athas, earlier in one (1) of your earlier answers, you
24 mentioned Manitoba Hydro having the information about
25 hydrology and those kinds of things.

1 Would the same kind of principles and
2 approach that you're mentioning also apply to the
3 natural gas system?

4 MR. JOHN ATHAS: I -- I would -- I
5 would think so. I think there's -- there's got to be
6 a -- an analogous standpoint to that. You have to be
7 projecting the long-term course of supply.

8 In -- in most jurisdictions, except --
9 except for the hydro-laden provinces, gas gets into
10 the electric equation as well, much -- much more
11 directly, but it's -- and it does here because gas
12 affects the price of our exports -- of export power,
13 as you get -- so it's -- but it -- there's -- there's
14 definitely -- in some ways it might be simpler, in
15 some ways it might be more complicated, because the --
16 you know, I mean, years ago people used to take in
17 more -- it was much more complicated site-ing
18 generation then when they started trying to site new
19 transmission, they started realizing it goes through
20 many backyards, and same thing with a pipeline.

21 So in some ways it's easier -- you
22 know, the more -- the more parties that get affected,
23 the -- the complicated solution is, and -- and that's
24 certainly the case with gas.

25 MS. DAYNA STEINFELD: So the details

1 might be different but the overarching principles and
2 approach would likely be similar.

3 MR. JOHN ATHAS: Correct.

4

5 (BRIEF PAUSE)

6

7 MS. DAYNA STEINFELD: At page 74 of

8 the report, just to clarify a discussion we had

9 earlier -- and just scrolling down a bit, Ms.

10 Schubert. Thank you.

11 Can you clarify, Mr. Athas, in terms of

12 our discussion about Project 1, in that one (1) to

13 five (5) year bucket, Project 1 is counted three (3)

14 times, correct?

15 MR. JOHN ATHAS: Yes.

16

17 (BRIEF PAUSE)

18

19 MS. DAYNA STEINFELD: Mr. Chair, I'd -

20 - I'd like to thank the Daymark Panel. Those are my

21 questions of them and I appreciate their time and

22 travel to Manitoba to assist the Board. Thank you.

23 THE CHAIRPERSON: Thank you. I'll ask

24 the Panel if they have any questions. Do you have any

25 questions?

1 Okay. I've got one (1) question. Just
2 based on the last discussion, I'm going to -- I'm
3 going to read this out and it's a little long-winded,
4 but, after considering the practice in other
5 jurisdictions, and you mentioned Nova Scotia and
6 Connecticut, which regulate DSM, an approach where
7 targets for savings are set out in statute without the
8 requirement of first having an IRP, would you consider
9 that to not be best practice?

10 MR. JOHN ATHAS: It -- it's -- it's
11 not the best IRP practice, if the -- if -- as I -- as
12 I think is generally the case here, if -- if the --
13 the setting of the target is a really important aspect
14 to create the activity and -- and almost the
15 development of the resource that you're going to use
16 an IRP.

17 So it's -- so absent an IRP, I would
18 say it's not a -- it's -- it's -- absent IRP being
19 done, it's -- it's a good practice to have a target
20 for -- for -- for the energy efficiency in -- set in
21 some other way, in the legislation or in this case the
22 legislation with the opportunity to adjust.

23 But the -- but it be -- it would be
24 good to have an informed policy analysis like an IRP
25 data that helps answer the question so we don't -- you

1 don't have to go through them in this proceeding, that
2 -- that a lot of people bring it up. But they go well
3 beyond the procurement aspect of -- and delivery
4 aspect of energy efficiency.

5 MS. KATHLEEN KELLY: I would also add
6 in response to that, there are many states in the US
7 that have taken that policy in that they are setting
8 energy efficiency standards to be met, which basically
9 sets a target by a certain year, and absent in many
10 cases an IRP to back it up.

11 THE CHAIRPERSON: That's very helpful.
12 Thank you for very much. Mr. Haight, do you have any
13 re-examination?

14

15 RE-DIRECT EXAMINATION BY MR. WILLIAM HAIGHT:

16 MR. WILLIAM HAIGHT: I have one (1)
17 question on re-examination that arises out of your
18 question, Mr. Chair, and that is, is -- is the lack of
19 an IRP in this situation make it more difficult for
20 the DSM provider to accurately forecast savings into
21 the future?

22 MR. JOHN ATHAS: No, that's not an
23 issue.

24 MR. WILLIAM HAIGHT: Okay.

25 THE CHAIRPERSON: Thank you. I'd like

1 to -- I'd like to thank the Panel for appearing and --
2 and assisting us.

3 We will adjourn -- Ms. Steinfeld...?

4 MS. DAYNA STEINFELD: I believe the
5 next panel is scheduled to start at 1:00, although if
6 you'd like to have them start at quarter to, for
7 example, my understanding is they'll be ready to go.

8 THE CHAIRPERSON: Well, we'll start at
9 quarter to 1:00. We'll adjourn till quarter to 1:00.
10 Thank you very much.

11

12 (INDEPENDENT EXPERT CONSULTANT PANEL: DAYMARK STANDS
13 DOWN)

14

15 --- Upon recessing at 11:50 a.m.

16 --- Upon resuming at 12:47 p.m.

17

18 THE CHAIRPERSON: Good afternoon.

19 Ms. Dilay...?

20 MS. KATRINE DILAY: Thank you, Mr.
21 Chair and good afternoon, Board members.

22 So I'd like to introduce to you the
23 Consumer's Coalition witness panel. Directly to my
24 right is Dr. Patricia Fitzpatrick. To her right is
25 Mr. Jim Grevatt. To his right is Mr. Chris Neme, and

1 at the far end, Mr. William Harper.

2 Before we start, could we have the
3 witnesses sworn or affirmed, please?

4

5 CONSUMERS COALITION PANEL:

6

7 Jim Grevatt, Affirmed

8 Chris Neme, Affirmed

9 Patricia Fitzpatrick, Affirmed

10 William Harper, Sworn

11

12 EXAMINATION-IN-CHIEF BY MS. KATRINE DILAY:

13 MS. KATRINE DILAY: Thank you, Mr.
14 Christle. Each witness has prepared a presentation
15 that they will be going through this afternoon that
16 they will present in turn.

17 Before the presentations I'd like to be
18 mindful of the Board's direction that we don't need to
19 qualify the witness -- the witnesses, rather. Just to
20 highlight their areas of expertise and experience, I'd
21 like to just spend a few minutes going through some of
22 their qualifications with you.

23 Starting with Dr. Fitzpatrick, Dr.
24 Fitzpatrick, you received your Bachelor of Arts
25 honours in anthropology and applied studies co-op from

1 the University of Waterloo in 1998?

2 DR. PATRICIA FITZPATRICK: That is
3 correct.

4 MS. KATRINE DILAY: And you received
5 your masters of natural resources management from the
6 natural resources institute at the University of
7 Manitoba in 2001?

8 DR. PATRICIA FITZPATRICK: That is
9 correct.

10 MS. KATRINE DILAY: And your doctor of
11 philosophy and geography from the University of
12 Waterloo in 2005?

13 DR. PATRICIA FITZPATRICK: Yes.

14 MS. KATRINE DILAY: Dr. Fitzpatrick,
15 you are an associate professor in the department of
16 geography at the University of Winnipeg?

17 DR. PATRICIA FITZPATRICK: That is
18 correct.

19 MS. KATRINE DILAY: And you're also an
20 instructor of the masters of development practice
21 Indigenous focus, also at the University of Winnipeg?

22 DR. PATRICIA FITZPATRICK: Correct.

23 MS. KATRINE DILAY: And you began your
24 career working with Indian and Northern Affairs
25 Canada, now called Indigenous Services Canada,

1 documenting community concerns associated with a
2 proposed diamond mine?

3 DR. PATRICIA FITZPATRICK: Correct.

4 MS. KATRINE DILAY: And this
5 experience served as the foundation for your masters
6 and PhD research, which focused on the nexus amongst
7 public participation learning provided for with an
8 environmental assessment?

9 DR. PATRICIA FITZPATRICK: The nexus
10 amongst participation, learning, and environmental --
11 yes, that's correct.

12 MS. KATRINE DILAY: Thank you. Over
13 twenty (20) years you have contributed twelve (12)
14 peer review journal articles and four (4) reports in
15 the area of public participation specifically?

16 DR. PATRICIA FITZPATRICK: Yes.

17 MS. KATRINE DILAY: And if we go
18 through just a couple of examples, at page 3 of your
19 CV, you'll confirm that you are currently involved in
20 a project entitled Your Voice Matters Really, public
21 participation and consumer engagement and regulatory
22 proceedings, correct?

23 DR. PATRICIA FITZPATRICK: Correct.

24 MS. KATRINE DILAY: And on page 4 we
25 see reference to a couple of projects relating to

1 complexity surrounding multi-jurisdictional
2 environmental assessment, negotiating a place for
3 public participation and learning?

4 DR. PATRICIA FITZPATRICK: Correct.

5 MS. KATRINE DILAY: And if we look at
6 item 10 on this same page, we see reference to an
7 article from 2012 entitled Transformative Learning
8 Theory Public Involvement and Natural Resource and
9 Environmental Management?

10 DR. PATRICIA FITZPATRICK: I think it
11 might be on a different page, but I had -- I have
12 published that article, yes.

13 MS. KATRINE DILAY: Thank you. And if
14 we look on page 7 of your CV, and specifically at
15 numbers 21 to 23, you'll agree that you see three
16 articles relating to meaningful public participation?

17 DR. PATRICIA FITZPATRICK: Correct.

18 MS. KATRINE DILAY: And looking to
19 page 15 of your CV, item 5 towards the bottom of the
20 page, in 2016 you were invited to facilitate a session
21 on a community -- on community engagement, and you
22 presented the results to the National Workshop on
23 Public Confidence in the Energy and Mining
24 Development, Energy and Mining Minister's Conference?

25 DR. PATRICIA FITZPATRICK: That is

1 correct.

2 MS. KATRINE DILAY: All told, you have
3 twenty (20) years of experience examining different
4 forms of public participation in administrative
5 tribunals?

6 DR. PATRICIA FITZPATRICK: Correct.

7 MS. KATRINE DILAY: And your areas of
8 expertise that would be relevant to this proceeding
9 would include public participation processes?

10 DR. PATRICIA FITZPATRICK: Correct.

11 MS. KATRINE DILAY: And finally,
12 you'll also confirm that you are an academic in
13 residence at the Public Interest Law Centre for the
14 current academic year, 2019-2020?

15 DR. PATRICIA FITZPATRICK: That is
16 correct.

17 MS. KATRINE DILAY: And does this mean
18 that you are on study leave from the University of
19 Winnipeg?

20 DR. PATRICIA FITZPATRICK: I am on
21 study leave from the University of Winnipeg, yes.

22 MS. KATRINE DILAY: And you are
23 undertaking various research and other projects, both
24 with the Public Interest Law Centre and with other
25 colleagues and organizations during this time?

1 DR. PATRICIA FITZPATRICK: I am.

2 MS. KATRINE DILAY: In terms of the
3 evidence that you filed in this proceeding, you can
4 confirm that you prepared expert evidence that has
5 been filed as Exhibit CC-5?

6 DR. PATRICIA FITZPATRICK: Yes.

7 MS. KATRINE DILAY: And you've also
8 prepared responses to Information Requests asked by
9 different parties in this proceeding, correct?

10 DR. PATRICIA FITZPATRICK: That is
11 correct.

12 MS. KATRINE DILAY: And can you
13 confirm that the written material was prepared under
14 your direction and control, and is accurate to the
15 best of your knowledge and belief?

16 DR. PATRICIA FITZPATRICK: It is.

17 MS. KATRINE DILAY: Thank you, Dr.
18 Fitzpatrick.

19 I'll now turn --

20 THE CHAIRPERSON: Thank you, Ms.
21 Dilay, can I interrupt you for a second?

22 If anybody is online Skyping, could you
23 please put your phone on mute, because we're starting
24 to get noises. Thank you.

25

1 CONTINUED BY MS. KATRINE DILAY:

2 MS. KATRINE DILAY: Thank you, Mr.
3 Chair. Mr. Grevatt, good afternoon.

4 MR. JIM GREVATT: Good afternoon.

5 MS. KATRINE DILAY: In terms of your
6 education, Mr. Grevatt, you have a Bachelor of Fine
7 Arts with university honours from the University of
8 Illinois from 1982?

9 MR. JIM GREVATT: That is true.

10 MS. KATRINE DILAY: And from 1991 to
11 1994, you worked as associate director and technical
12 specialist for Champlain Valley Weatherization
13 Programming in Burlington, Vermont?

14 MR. JIM GREVATT: Yes, I did.

15 MS. KATRINE DILAY: And from 1994 to
16 2005, you worked at Vermont Gas Systems in South
17 Burlington, Vermont?

18 MR. JIM GREVATT: Yes, I did.

19 MS. KATRINE DILAY: And with that
20 organization, you worked as manager of energy
21 services?

22 MR. JIM GREVATT: Correct.

23 MS. KATRINE DILAY: Manager of
24 residential energy services?

25 MR. JIM GREVATT: Yes.

1 MS. KATRINE DILAY: Manager of home-
2 based retrofit program?

3 MR. JIM GREVATT: Yes.

4 MS. KATRINE DILAY: As well as
5 technical specialist?

6 MR. JIM GREVATT: Indeed.

7 MS. KATRINE DILAY: And from 2005 to
8 2013 you worked in various capacities at Vermont
9 Energy Investment Corporation in Burlington, Vermont?

10 MR. JIM GREVATT: Yes, I did.

11 MS. KATRINE DILAY: Including as
12 director, residential services?

13 MR. JIM GREVATT: Yes.

14 MS. KATRINE DILAY: Managing
15 consultant?

16 MR. JIM GREVATT: Yes.

17 MS. KATRINE DILAY: And director of
18 targeted implementation?

19 MR. JIM GREVATT: That's correct.

20 MS. KATRINE DILAY: And since 2013 you
21 have worked as a consultant for Energy Futures Group?

22 MR. JIM GREVATT: Yes.

23 MS. KATRINE DILAY: Which is your
24 current position?

25 MR. JIM GREVATT: It is.

1 MS. KATRINE DILAY: And turning to
2 your CV, under Selected Projects and Selected
3 Presentations generally, you have over twenty-five
4 (25) years experience in energy efficiency program
5 operations?

6 MR. JIM GREVATT: That is true.

7 MS. KATRINE DILAY: At Energy Futures
8 Group specifically, you have advised regulators,
9 program implementors, and advocates in approximately
10 16 states and one Canadian province?

11 MR. JIM GREVATT: Yes.

12 MS. KATRINE DILAY: And you have
13 provided expert witness testimony in eight (8) of
14 those jurisdictions?

15 MR. JIM GREVATT: Yes.

16 MS. KATRINE DILAY: And in your past
17 roles you have had hand-on experience with industry
18 leading markets based approaches to designing and
19 managing energy efficiency programs?

20 MR. JIM GREVATT: I have, indeed.

21 MS. KATRINE DILAY: And your areas of
22 expertise that would be relevant to this proceeding,
23 include energy efficiency program planning and
24 operations?

25 MR. JIM GREVATT: Yes.

1 MS. KATRINE DILAY: And in terms of
2 the evidence you've prepared in this hearing, you can
3 confirm that you prepared a written report, which has
4 been filed as Exhibit CC-7?

5 MR. JIM GREVATT: Yes.

6 MS. KATRINE DILAY: As well as
7 responses to Information Requests from various
8 parties?

9 MR. JIM GREVATT: Yes, indeed.

10 MS. KATRINE DILAY: Can you confirm
11 that the written material was prepared under your
12 direction and control, and is accurate to the best of
13 your knowledge and belief?

14 MR. JIM GREVATT: Absolutely.

15 MS. KATRINE DILAY: Thank you, Mr.
16 Grevatt.

17 Mr. Neme, good afternoon. Mr. Neme, in
18 terms of your education, you have a BA in political
19 science from the University of Michigan from 1985?

20 MR. CHRIS NEME: Yes, I do.

21 MS. KATRINE DILAY: And a masters of
22 public policy from the University of Michigan from
23 1986?

24 MR. CHRIS NEME: Correct.

25 MS. KATRINE DILAY: In terms of your

1 experience, you worked as a senior policy analyst in
2 the Centre For Clean Air Policy in Washington, DC from
3 1986 to 91?

4 MR. CHRIS NEME: I did.

5 MS. KATRINE DILAY: And from 1999 to
6 2010 you were director of planning and evaluation at
7 the Vermont Energy Investment Corporation in
8 Burlington, Vermont?

9 MR. CHRIS NEME: That's correct.

10 MS. KATRINE DILAY: And since 2010 you
11 have been a principal at Energy Future's Group in
12 Vermont as well, correct?

13 MR. CHRIS NEME: I have, yes.

14 MS. KATRINE DILAY: And that's your
15 current position?

16 MR. CHRIS NEME: It is.

17 MS. KATRINE DILAY: And you've co-
18 founded this company, is that right?

19 MR. CHRIS NEME: I did.

20 MS. KATRINE DILAY: So in total you
21 have more than twenty-five (25) years working in the
22 clean energy industry?

23 MR. CHRIS NEME: I do.

24 MS. KATRINE DILAY: And if we look at
25 your curriculum vitae under Selected Projects, which

1 begins on page 1, and Selected Publications which
2 begins on page 3, generally, we won't go into detail
3 there, but you have worked for energy regulators,
4 utilities, government agencies, and advocacy
5 organizations in your career?

6 MR. CHRIS NEME: I have, yes.

7 MS. KATRINE DILAY: That included
8 working in over thirty (30) different states, five (5)
9 Canadian provinces, and several European countries?

10 MR. CHRIS NEME: Correct.

11 MS. KATRINE DILAY: You have defended
12 expert witness testimony in nearly sixty (60) dockets
13 before utility regulatory commissions in 12 different
14 jurisdictions?

15 MR. CHRIS NEME: Yes.

16 MS. KATRINE DILAY: And you've also
17 testified before several state legislatures?

18 MR. CHRIS NEME: That's correct.

19 MS. KATRINE DILAY: You've also led
20 several different training courses on the elements of
21 good energy efficiency program design?

22 MR. CHRIS NEME: I have.

23 MS. KATRINE DILAY: And you have
24 recently served as co-chair of Northeast Energy
25 Partnerships Evaluation, Management, and Verification

1 Committee?

2 MR. CHRIS NEME: Yes, Northeast Energy
3 Efficiency Partnerships.

4 MS. KATRINE DILAY: Thank you, I
5 missed a word there.

6 Which included a forum project
7 estimating savings for emerging technologies,
8 including field study of cold climate heat pumps?

9 MR. CHRIS NEME: Correct.

10 MS. KATRINE DILAY: And your areas of
11 expertise that are relevant to this proceeding would
12 include analysis of markets for energy efficiency,
13 demand response, renewable energy, and strategic
14 electrification measures, and the design and
15 evaluation of programs and policies to promote them?

16 MR. CHRIS NEME: Correct.

17 MS. KATRINE DILAY: You can confirm
18 that you prepared expert evidence in this proceeding
19 which has been filed as Exhibit CC-8?

20 MR. CHRIS NEME: I have.

21 MS. KATRINE DILAY: And you've also
22 prepared responses to Information Requests from
23 various parties, correct?

24 MR. CHRIS NEME: Yes, I have.

25 MS. KATRINE DILAY: And can you

1 confirm that that written -- written material was
2 prepared under your direction and control, and is
3 accurate to the best of your knowledge and belief?

4 MR. CHRIS NEME: It was prepared under
5 my direction and control. I have a couple small
6 mostly typo type changes, however, that I discovered
7 in going back over it in the last day or so.

8 MS. KATRINE DILAY: And so maybe I'd
9 invite Mr. Neme to point those out for the -- the
10 record.

11 Ms. Schubert, if we could pull up
12 Exhibit CC-8, which is Mr. Neme's report.

13 MR. CHRIS NEME: Okay, first turning
14 to the top of page 5. And the second line where it
15 says "where example high efficiency electric heat
16 pumps installed to displace natural gas", it should
17 say "natural gas, oil or propane".

18 Secondly, on page 9, in the middle --
19 the fifth line down of the second paragraph it says,
20 "The two (2) year period end in March 2010." It
21 should say 'ending' instead of, "end."

22 And then on the very next page in
23 footnote 22, at the bottom, you can see that at the
24 end there's a semicolon. And then it says, "It also
25 shows." That should all be stricken. There should

1 just be a period at the end of the word, "program."

2 And that's it.

3 MS. KATRINE DILAY: Thank you, Mr.

4 Neme. And turning now to Mr. Harper. Good afternoon.

5 MR. WILLIAM HARPER: Good afternoon.

6 MS. KATRINE DILAY: To start with your

7 education briefly, you received your honours Bachelor

8 of Science from the University of Toronto in 1973 --

9 MR. WILLIAM HARPER: That's correct.

10 MS. KATRINE DILAY: -- with a major in

11 mathematics and economics?

12 MR. WILLIAM HARPER: Yes.

13 MS. KATRINE DILAY: And you also

14 received your master of applied science and management

15 science from the University of Waterloo in 1975?

16 MR. WILLIAM HARPER: Yes.

17 MS. KATRINE DILAY: And, Mr. Harper,

18 you started your career at the Ontario Ministry of

19 Energy as economist in the strategic planning and

20 analysis group?

21 MR. WILLIAM HARPER: That's correct.

22 MS. KATRINE DILAY: You then worked at

23 Ontario Hydro in various capacities from 1980 until

24 1999 --

25 MR. WILLIAM HARPER: Yes.

1 MS. KATRINE DILAY: -- including in
2 positions relating to cost allocation, rate design,
3 and regulation?

4 MR. WILLIAM HARPER: That's correct.

5 MS. KATRINE DILAY: And you also
6 worked at Hydro One as manager in regulator
7 integration, regulatory and stakeholder affairs?

8 MR. WILLIAM HARPER: That's correct.

9 MS. KATRINE DILAY: And since the year
10 2000, you have worked as a consultant?

11 MR. WILLIAM HARPER: Yes.

12 MS. KATRINE DILAY: That has included
13 work for clients in British Columbia, Ontario,
14 Manitoba, Quebec, Saskatchewan, and at the federal
15 level?

16 MR. WILLIAM HARPER: Yes.

17 MS. KATRINE DILAY: And the issues to
18 which your consulting services relate include
19 generally the regulation of electric utilities with
20 respect to revenue requirement determination, cost
21 allocation, and rate design and resource planning?

22 MR. WILLIAM HARPER: That's correct.

23 MS. KATRINE DILAY: And if we look
24 specifically to the Manitoba experience on page --
25 starting at page 3 of your CV, you have been involved

1 as a consultant to Interveners in most of the Public
2 Utilities Board proceedings relating to Manitoba Hydro
3 since 2002?

4 MR. WILLIAM HARPER: That's correct.

5 MS. KATRINE DILAY: And your areas of
6 expertise that are relevant to this proceeding would
7 include the regulation of electricity utilities in
8 regards to rates and resource planning?

9 MR. WILLIAM HARPER: That's correct.

10 MS. KATRINE DILAY: And can you
11 confirm that you prepared expert evidence in this
12 proceeding which has been filed as Exhibit CC-6-1?

13 MR. WILLIAM HARPER: Yes.

14 MS. KATRINE DILAY: And that would be
15 your revised report from December 13th, 2019?

16 MR. WILLIAM HARPER: That's correct.

17 MS. KATRINE DILAY: And you've also
18 pre -- prepared responses to Information Requests,
19 correct?

20 MR. WILLIAM HARPER: Yes.

21 MS. KATRINE DILAY: Can you confirm
22 that the written material was prepared under your
23 direction and control and is accurate to the best of
24 your knowledge and belief?

25 MR. WILLIAM HARPER: Yes, I can

1 confirm that.

2 MS. KATRINE DILAY: Thank you. Before
3 turning it over to Dr. Fitzpatrick I'd like to enter
4 some exhibits on the record of the proceeding starting
5 with Exhibit Coalition CC-15. This is a letter that
6 we filed yesterday which provides a few corrections to
7 Dr. -- one (1) correction to Dr. Fitzpatrick, her
8 report to a footnote, a couple of corrections to Dr.
9 Grevatt's -- to Mr. Grevatt's evidence, pardon me, and
10 a correction to a response from Mr. Neme that was
11 filed on December 20th.

12

13 --- EXHIBIT NO. CC-15: Letter filed yesterday
14 which provides one (1)
15 correction to Dr.
16 Fitzpatrick, her report to
17 a footnote, a couple of
18 corrections to Mr.
19 Grevatt's evidence, and a
20 correction to a response
21 from Mr. Neme that was
22 filed on December 20th

23

24 MS. KATRINE DILAY: In terms of the
25 presentations that we're filing today, they have been

1 distributed electronically as well as in paper copies.
2 And we'd like to mark Dr. Fitzpatrick's presentation
3 as Exhibit CC-16, Mr. Harper's presentation as Exhibit
4 CC-17, Mr. Neme's presentation as Exhibit CC-18, and
5 finally, Mr. Grevatt's presentation as Exhibit CC-19.

6

7 --- EXHIBIT NO. CC-16: Dr. Fitzpatrick's
8 presentation

9

10 --- EXHIBIT NO. CC-17: Mr. Harper's presentation

11

12 --- EXHIBIT NO. CC-18: Mr. Neme's presentation

13

14 --- EXHIBIT NO. CC-19: Mr. Grevatt's presentation

15

16 CONTINUED BY MS. KATRINE DILAY:

17 MS. KATRINE DILAY: I'll pass it over
18 to Dr. Fitzpatrick for her presentation. I will just
19 note for the panel that, in order to accommodate Dr.
20 Fitzpatrick, she will be leaving the room after her
21 presentation today and will only be present in the
22 room during her portions of cross-examination.

23 We have coordinated with legal counsel.

24 And I have asked that her questions be placed either
25 at the beginning or end of their cross-examinations

1 just to facilitate the transition as she comes into
2 the room.

3 So, with that said, I'll pass it over
4 to Dr. Fitzpatrick.

5 DR. PATRICIA FITZPATRICK: Thank you.
6 Good afternoon. I wish to begin with some
7 acknowledgements. First, I'm grateful to meet with
8 you here on Treaty 1 territory which, as we've heard,
9 is the traditional territory of the Anishinaabe Cree,
10 Oji-Cree, Dakota, and Dene people and the heart of the
11 homeland of the Metis people. It's an honour to speak
12 with you in this place over the next few days.

13 Next, I would like to expend -- estend
14 a special thank you to the Public Utilities Board, the
15 Board members and the staff, particularly Kristen, and
16 Efficiency Manitoba for making accommodations for my
17 visual impairment; it's much appreciated.

18 I would echo the appreciate extended by
19 several Interveners over the course of the Hearing to
20 Efficiency Manitoba for its work in preparing this
21 filing and its first plan.

22 I would also extend similar recognition
23 to the Interveners in this process and the members of
24 the EEAG who have spent and will continue to spend
25 valuable time and effort to bring forward the

1 2020/2023 plan, so thank you very much. The next
2 slide.

3 My present today -- presentation today
4 will be brief. And I am just going to keep track of
5 my time as I go. On the screen you'll see an outline
6 of what I pla -- intend to talk about.

7 For the most part, my discussion
8 synthesizes the material I brought forward in my wri -
9 - written testimony as well as my response to the IRs,
10 and so it falls in five (5) parts.

11 Part 1, I'll briefly talk about public
12 participation, part 2, what Efficiency Manitoba was
13 asked to do, part 3, how did Efficiency Manitoba
14 approach this component, part 4, how's the public been
15 engaged in other cases or in other jurisdictions, and
16 part 5, my suggestions or recommendations for moving
17 forward. Next slide.

18 An important message for my
19 presentation and for my testimony is that, if designed
20 and implemented well, public participation can serve
21 many functions.

22 So, as was discussed in my evidence and
23 was agreed upon in the transcript by Efficiency
24 Manitoba, it's on the record dated January 8th well
25 designed and implemented public participation can add

1 legitimacy to the process and to the outcomes. It can
2 strengthen public trust and confidence in the process.

3 It can improve representative in
4 deliberate representative -- pardon me,
5 representativeness in deliberation, particularly when
6 designed to ensure the interest of minorities or key
7 groups are reflected in actions.

8 It builds transparency surrounding the
9 costs, benefits, and risks of options and can enhance
10 learning and innovation by all involved. And this is
11 just a selection of some of the benefits of public
12 participation if done well that are documented in the
13 literature starting in 1969 quite actively. We have a
14 long track record. Next slide.

15 In my written document I talk about
16 basic principles of meaningful participation. There
17 are a number of scholars who write on this topic, and
18 so how these principles are packaged may vary.

19 I'm particularly fond of the work of a
20 panel from 2017, a federal panel that was reviewing
21 the federal environmental process. And what they
22 identified is that meaningful participation should be
23 transparent, inclusive, informed, and meaningful, a
24 little redundant, but we'll go over the definitions
25 quite quickly.

1 So, transparency is a critical aspect.
2 People must be able to see and understand how their
3 information is being used or applied in the decision
4 making. There has to be transparency.

5 It should be inclusive, so the process
6 should be designed to take into account the
7 perspectives of all interested parties and seek to
8 accommodate different interests, different
9 demographics, different sectors, anyone who may be
10 impacted by that policy, that program.

11 It should be informed, meaning the
12 record should be evidence based. And with respect to
13 meaningful, the process must be perceived by the
14 Interveners as being a real opportunity to be heard
15 and feel that they had a chance to influence the
16 ultimate decision.

17 There are a wide array of techniques
18 that exist for meaningfully engaging the public. And
19 depending upon who a target audience is, you may
20 choose from a different basket of methods or
21 techniques, as I've just said. And so we have great
22 evidence on the public record about how to design,
23 implement, and utilize a public participation program
24 in a meaningful way.

25 Next slide, please.

1 So in terms of Efficiency Manitoba's
2 plan, I took my first direction from the Act, and this
3 definition or this clause of the Efficiency Manitoba
4 Act has been before the panel during these hearings.
5 I would just repeat the highlighted part:

6 "The Crown corporation was asked to
7 document input received from
8 stakeholders, including the
9 Stakeholder Advisory Committee and
10 the public, in preparing the plan
11 and the process established for
12 receiving that input."

13 I am not an attorney. I am a professor
14 in geography, and so my understanding of legislation
15 is based on my experience working with primarily
16 environmental assessment legislation, not from a legal
17 background.

18 But as someone who's worked with the
19 public, I interpret this clause to suggest that I
20 would expect that Efficiency Manitoba would have
21 solicited information from stakeholders, including the
22 Stakeholder Advisory Committee -- or the EEAG, as it
23 has now come to be known -- and the public in the
24 design and for, potentially, the implementation of
25 their plan. Next slide.

1 This is one (1) piece of my evidence
2 which has not been before the tribunal in any form to
3 date. I -- in listening to the evidence -- I've been
4 following online -- I -- I think there may be a need
5 to clarify who is the public versus who is a
6 stakeholder versus who is a customer. And so I've
7 prepared these definitions based on my experience.
8 Apologies -- the research I did on what is a
9 stakeholder dates back to 1998, and I did not have
10 time to go back and completely review the academic
11 record.

12 So how I crafted these definitions was
13 based on my experience in public participation. I
14 prepared drafts, then I sent the drafts of my
15 definitions out to peer review to three (3) of my
16 learned colleagues, took their feedback into account,
17 and that is how we come up with these three (3)
18 general definitions.

19 So the first definition is the public,
20 and the public, I would determine or define as the
21 collective citizens and residents of a state who may
22 or may not be interested in or who may be affected by
23 a particular issue. So members of the public are
24 Manitobans, residents of Manitoba, in this case. It's
25 a pretty broad definition.

1 A stakeholder is individuals or
2 organizations with an interest in an issue and
3 therefore something at stake in the dis --
4 deliberation and decision. This does not include
5 government authorities. So a stakeholder generally
6 has some informed perspective, and by informed
7 perspective, that could be lived experience, that
8 could be a research background, something that is seen
9 as important to understanding the issue.

10 A customer is someone who uses the
11 goods or services provided by a company, a Crown
12 corporation, or what have you. In the diagram, you
13 will see that someone could simultaneously be a member
14 of the public, a stakeholder, and a customer, but that
15 is not necessarily the case.

16 So it's important, from my perspective,
17 to be clear about how to define who we are talking
18 about, particularly in light of the legislative
19 component that I just reviewed. We need to involve
20 the public; we need to involve the stakeholders,
21 including the Stakeholder Advisory Committee. Next
22 slide.

23 In terms of reviewing the plan, in my
24 report, I talk about how the engagement process, as
25 termed by Efficiency Manitoba, appeared to focus on

1 three (3) core activities. One (1) would be the
2 efficiency advisory group -- the Energy Efficiency
3 Advisory group, or the EEAG; the second would be the
4 stakeholder survey; and the third would be the
5 stakeholder summary report.

6 An important message from my report and
7 from my testimony will be that Efficiency Manitoba --
8 the application as put forward has evidence that
9 Efficiency Manitoba engaged and consulted with
10 stakeholders in the planned design, but there is an
11 opportunity to strengthen its approach in plan
12 implementation and plan evaluation moving forward.

13 With respect to the public at large,
14 it's -- there is less evidence on the record to
15 demonstrate that Efficiency Manitoba engaged with the
16 public at large in the design of its program, and so
17 there's a good opportunity to build additional public
18 participation prior to plan implementation over the
19 next few months, during plan implementation, and in
20 plan evaluation.

21 So that evaluation, if we'll go to
22 slide 9, comes from -- pardon me, slide 8 -- comes
23 from my review of the three (3) core components. So
24 the EEAG is required, as part of Section 27 of the
25 Energy Efficiency Act. And here:

1 "A stakeholder advisory committee
2 should be made -- comprised of
3 persons with expertise and
4 experiences in energy efficiency,
5 and it is designed to provide advice
6 with respect to plan development."

7 The terms of reference for the EEAG req
8 -- identified that it would -- the committee would
9 ensure that the inaugural pan (sic) represented the
10 optimal compilation of actions and strategies, and
11 members of the EEAG were asked to help facilitate
12 communication engagement with their respective
13 communities or networks. Next slide.

14

15 (BRIEF PAUSE)

16

17 DR. PATRICIA FITZPATRICK: At
18 different places in the application, what the mandate
19 of the EEAG was, was articulated in different ways.
20 So in my report, I give examples from the main body of
21 the application as compared to testimo -- or, sorry,
22 the -- the terms of reference, and so -- and again,
23 through an IR request. And so at times, the EEG -- AG
24 was designed to provide what I would term as 'armchair
25 advice,' or to provide advice and guidance based on

1 their expertise. In other instances, it was presented
2 as a committee that was responsible for engaging
3 members of a stakeholder community, and they -- the
4 members were to represent the public.

5 And so moving forward, it's going to be
6 important to clarify specifically what the Stakeholder
7 Advisory Committee should do, because those are very
8 different actions and activities. If you're providing
9 advice based on your experience, your expertise, that
10 doesn't require you to communicate or interact on an
11 ongoing specific basis with either your constituency
12 or a broader group of people who you are purported to
13 represent.

14 And so you can have an independent
15 advisory committee that could provide that technical
16 advice, and it's valuable, or you could have them do
17 more. But that needs to be clear to the people who
18 become part of your committee what they're required to
19 do, how much time they're going to spend doing it, how
20 their ideas will be listened to and responded to by
21 the Crown corporation, and any other number of factors
22 in setting up the terms of reference.

23 So it will be important to add clarity
24 in what the EEAG is. There are several ways this
25 could happen. This could happen through the creation

1 of bylaws, updating terms of reference, creating
2 contracts. There are many different models.

3 But in this, it'll be important to
4 establish what the specific mandate is, what the roles
5 and responsibilities of committee members are,
6 including their relationship with the public, their
7 relationship with specific sectors, and missing from
8 my slide -- although I should have said move forward -
9 - thank you. Missing from this slide is also their
10 relationship with their specific constituency, so
11 roles and responsibilities.

12 It will also be important to establish
13 the membership formally of EEAG, including the
14 appointment process, so boards often identify how
15 people are apornt -- appointed and what the process is.
16 Being transparent is important.

17 Other things will be important like
18 what is a quorum for meetings, estimated time
19 commitments of committee members, and regardless of
20 what the specific mandate is, how feedback from the
21 committee will be addressed, either affirmatively or
22 in the case that it -- it's not addressed, how that
23 will be documented for them to understand.

24 Next slide, please.

25 MS. KATRINE DILAY: And, Dr.

1 Fitzpatrick, not to interrupt, but I'm just wondering,
2 I'm not sure you touched upon the last point in your
3 last side, and I'm not saying you have to but I just
4 wanted to flag it in case you missed it.

5 DR. PATRICIA FITZPATRICK: Thank you
6 very much. It's one (1) of the challenges with my
7 laptop, which is specially correlated with my eyes.

8 So I did miss the last point, and the
9 EEAG should be resourced. It should have funding
10 associated with it, and that the funding should be
11 commensurate with the mandate.

12 So if the mandate is to provide
13 armchair or desktop advice, there'll be -- need to be
14 a level of funding for members. If you're asking
15 people to go beyond using their existing expertise to
16 critique valuable information, then the funding will
17 have to increase. Thank you for pointing that out.
18 Next slide.

19 The second area for engaging
20 stakeholders was a stakeholder survey and, as noted in
21 the application, the survey was distributed to over
22 twenty-five hundred (2,500) contractors, suppliers,
23 installers, consultants, et cetera.

24 The response rate was between 9 and 12
25 percent, according to an IR response, and that was

1 clarified that not everybody answered every question,
2 so the maximum response rate was 12 percent, the
3 minimum was 9 percent, and there was no distinguishing
4 who answered what question.

5 My report identifies a number of
6 challenges with the stakeholder survey in terms of
7 design, in terms of distribution, and in terms of
8 analysis, and so on the slide I've just highlighted a
9 few.

10 As I read through the design and the
11 questions, when you're using a Likert scale,
12 particularly for such technical information, it's
13 common to include a not applicable or don't know
14 answer so you're not forcing someone to pick a
15 category, simple things like that.

16 In terms of distribution, the
17 distribution was largely to one (1) type of
18 stakeholder according to the description in the
19 application, although the response in a more detailed
20 PowerPoint and the IR includes that some consumers
21 were responsive to this, and so the distribution was -
22 - was specific, and so it might be appropriate to
23 focus a survey for a specific target area, but then it
24 should be named appropriately.

25 In terms of analysis, there were a

1 number of different problems with how I saw that the
2 data analys -- analysed, so with a Likert scale the
3 use of averages with the ordinal data that is included
4 is not -- not really appropriate. It can be used if
5 you're comparis -- comparing responses between years,
6 but since this was the first survey, it wasn't a
7 comparison survey, it's difficult to average out what
8 the mean response was when you have no way of knowing
9 what the difference was between strongly agree and
10 agree.

11 There was a missed opportunity to link
12 the sector of the respondent with some of the answers,
13 particularly those about what the respondent would be
14 most interested in Efficiency Manitoba.

15 And at times, and in one (1) specific
16 case, the analysis conflated response groups, and by
17 this I mean that there was a question that allowed for
18 further detail, and when presenting the further
19 detail, two (2) of the responses overlapped what --
20 what was in the original question. So I'm troubled by
21 the design, the implementation, and the analysis of
22 this survey.

23 MS. KATRINE DILAY: And Dr.
24 Fitzpatrick, you referred to the Likert scale, I
25 believe. Can you just clarify briefly what that is?

1 DR. PATRICIA FITZPATRICK: Yes, I'm
2 sorry. A Likert scale is the scale that you use when
3 you're asking if you agree, strongly agree, are
4 neutral, slightly disagree, very much disagree. That
5 -- that's a scale that is called a -- termed a Likert
6 scale.

7 So thank you for the next slide.
8 Moving forward, it will be important to employ
9 statistical analysis in designing subsequent service
10 in the design, implementation, and analysis of those
11 surveys.

12 The last component of engagement that I
13 reviewed was the stakehold (sic) summary report,
14 which, according to the application, outlines facets
15 of public engagements.

16 When we asked for more detail, what we
17 received was six (6) pages of a table that listed the
18 date, the stakeholder type, the attendance, the method
19 of engagement, the location, and a very short program
20 discussion or feedback received in the box.

21 When we sought additional clarity about
22 what was heard through these stakeholder engagement
23 experiences, there is a -- a brief response provided
24 in -- on December 6th, 2016, that identified some
25 things that were heard that were then included in the

1 plan design without context for what was the range of
2 things heard, how were these ones selected, were they
3 heard frequently, were they from a specific customer
4 segment, and so they were acontextual.

5 So looking at that information, there
6 are some challenges with the data that was available
7 to me. There seemed to be limited interaction with
8 northern communities and First Nations. Admittedly,
9 the six (6) pages was not the entire record, according
10 to Efficiency Manitoba, but it was the record that was
11 available to me in my analysis, and so on there was
12 limited interaction with those two (2) groups.

13 There were limited interaction with
14 specific consumers and no specific interaction with
15 First Nations, Metis, or low income customers
16 identified on that record. Next slide.

17 So moving forward, it will be important
18 for Efficiency Manitoba to use a more robust issues
19 tracking table. I, in my evidence, provided a model
20 of what an issues tracking table would look like,
21 minus the response frame. And the response frame
22 would be yes, we incorporated your idea in this part
23 of the plan, or no, we were unable to incorporate this
24 idea because of "X" or "Y" or "Z," and thank you very
25 much.

1 So an issues tracking table is quite
2 common in public engagement practice now, so it'll be
3 important to document that as -- that as a mechanism
4 of transparency.

5 Next slide. So bringing together some
6 of the things that I'm suggesting moving forward. An
7 effective, transparent, and meaningful process would
8 have sought early engagement from all the stakeholders
9 and the public. And this was recommended by the
10 members of the EEAG.

11 This is important to include the public
12 in the development of the plan, but there are many
13 opportunities where this could be continued. Just
14 because we've missed this opportunity, we can still
15 bring the public into plan development and Plan
16 implementation, particularly implementation and review
17 for the next application.

18 Importantly, Efficiency Manitoba should
19 have more specific interaction with members of the
20 public, not just stakeholders or the public through
21 the EEAG. Efficiency Manitoba, I would expect, as a
22 Crown corporation, and because of what's in the Act,
23 would be seeking input from different members of the
24 public as they develop, implement, and review their
25 Plan.

1 The model that's been presented as part
2 of the application conflates what happened as part of
3 the Plan development and what will happen moving
4 forward, and it's the model, you'll recall, that has
5 the EEAG in the centre. And according to the
6 application, and testimony, and response to IRs,
7 that's where they also see the public.

8 What I would suggest is that Efficiency
9 Manitoba take this opportunity to develop two (2)
10 models. One is what has happened to date, so one that
11 is retrospective, and one that is prospective, one
12 that will illustrate in a visual manner how they plan
13 to engage with stakeholders and the public moving
14 forward.

15 Next slide, please. I would encourage
16 Efficiency Manitoba to follow some value -- valuable
17 advice given by members of the EEAG. I went through
18 all the minutes, and put them in a table, and
19 categorized them, and I think there is a lot to learn
20 from these representatives with respect to engaging
21 with First Nations, and engaging with Metis, and
22 consulting with consumers and the public. So they --
23 they have a skills -- skilled group of people on the
24 EEAG who can continue to advise them about how to
25 implement this very important component of their

1 program.

2 They should provide more mechanisms for
3 the public to be involved, and they should consider
4 establishing different ways, depending upon the
5 demographics of specific groups. So Efficiency
6 Manitoba may wish to engage community lia -- liaisons
7 for low income and hard-to-reach customers, people who
8 are members of the community who can help them be in
9 touch with those communities. It's something that
10 Manitoba Hydro does in certain project designs.

11 Efficiency Manitoba could develop an
12 outreach and education program. This would be a first
13 step in allowing for evidence and meaningful
14 participation, and evidence-based approach. So you
15 could -- their outreach and engagement program could
16 advi -- provide information about the range of options
17 that are available to municipalities or residential
18 customers, and allow people to learn about those
19 programs and then seek advice about which they would
20 find most useful for them to implement. And so it's
21 possible to develop a combined communication and
22 education, or communication and engagement strategy.

23 Next slide. In the information
24 requests, I was asked to give examples of how -- how
25 people have been engaged in program design. And so on

1 this slide, I have examples of local public
2 engagement. And something that one (1) of my mentors
3 often said is, You can do it well, if you have time,
4 or you have money, but it may be a little challenging
5 to do it well if you are trying to do it with no time
6 and no money.

7 I think that these examples on the
8 slide are ones that were programs that were done well,
9 and relatively quickly, and relatively speaking, were
10 inex -- inexpensive.

11 So the University of Winnipeg Campus
12 Sustainability Plan. We underwent a -- a revised
13 Campus Sustainability Plan in 2017, and it was
14 facilitated by our sustainability coordinator off the
15 side of her desk. Her methods included a written
16 survey, which had two thousand four hundred and one
17 (2,401) responses in a community of about thirteen
18 thousand (13,000) at the time. There was one (1)
19 written submission. There was a very creative
20 speaking tree with twenty-five (25) people visually
21 presenting their ideas over a period of time in a
22 central location. There were lunch sessions, two (2)
23 lunch sessions, with a total of fifty (50)
24 participants, and a half-day workshop with university
25 leaders.

1 And so it was staffed, as I said, by
2 one (1) person, although she did employ a student to
3 do data analysis. And the total cost estimate outside
4 of the staff person's salary was three thousand
5 dollars (\$3,000).

6 Another example is the Coalition, who
7 asked me to provide evidence in this hearing, has a
8 great history of trying to hear from the public. And
9 so recently, they provided evidence to the CRTC
10 review, and that included a quantitative survey of a
11 thousand Manitobans, I believe over the phone, a
12 survey for hard-to-reach persons facilitated by
13 community organizations.

14 And that should have -- pardon me, that
15 should be qualitative engagement through a workshop
16 session. And it's my understanding that cost be --
17 we'll say ten thousand dollars (\$10,000), plus or
18 minus two thousand dollars (\$2,000), and was done over
19 the period of about three (3) months.

20 So those are local examples of how you
21 can engage the public. The next slide is how has the
22 public been engaged in energy and/or demand-side
23 management in other jurisdictions. And so in my
24 response to this IR, I note that I just went through
25 what was publicly available, and I haven't spoken with

1 anyone involved in either of these plans, but you'll
2 see that in the Yukon, where they were developing --
3 or updating their Resource Plan, which included
4 demand-side management, so a combined process, they
5 had a Technical Advisory Committee, which I would say
6 was similar in nature to the Stakeholder Advisory
7 Committee.

8 There was a survey of forty-five
9 hundred (4,500) households with a 63 percent response
10 rate. They had meetings with Chiefs and councils of
11 First Nations in the Yukon. There were three (3) sets
12 of public meetings in six (6) communities, an active
13 communication strategy, and of course, they used the
14 response table that I've spoken about.

15 Another example would be in
16 Massachusetts, and that is a Specific Eff --
17 Efficiency Plan. And according to the -- the
18 application I reviewed in responding to this IR, they
19 have in Energy Efficiency Advisory Council. They have
20 annual open houses for trade allies. They have best
21 practice working groups. They have an option for
22 third-party program proposals, which could be a really
23 interesting thing to launch for high school students
24 and university students, innovation in energy.

25 That last part about high school

1 students is just my commentary. It's not in the
2 evidence.

3 They make public presentations, and
4 then they also talk about their interaction with peer
5 organizations. And so there are many different ways
6 to expand the public and Stakeholder Engagement
7 Program.

8 Next slide. And so moving forward, I
9 would encourage the Public Utilities Board to require
10 Efficiency Manitoba to develop a robust plan for
11 engaging the public, including low-income and hard-to-
12 reach customers in program design, implementation, and
13 evaluation.

14 This plan should distinguish between
15 stakeholders, members of the EEAG, and the public, and
16 should involve all three (3) parties. Thank you.

17 MS. KATRINE DILAY: Thank you, Dr.
18 Fitzpatrick.

19 I wonder if the panel has any questions
20 for Dr. Fitzpatrick at this time?

21 BOARD MEMBER GRANT: So for complete
22 disclosure, we have the same employer, if they're
23 listening, they're pretty tolerant because neither --
24 we're not at work today, so we're both here.

25 I just want to drill down on this. I -

1 - given the difficulty in public engagement, I'd like
2 to focus on the EEAG as to how to make it a sort of
3 representative body, or if it's going to be the
4 conduit to the public, as you used the expression in
5 one case.

6 We've dealt with in -- in rate
7 increases distinguishing between -- I mean, we talk
8 about the public ratepayers and taxpayers, and so at a
9 normal rate increase setting, you know, you're really
10 looking as stakeholders being the -- the ratepayers
11 and -- and having representation.

12 Efficiency Manitoba do you see it cut a
13 bit differently? I mean, is there more of a public
14 interest aspect to it, where public -- when you look
15 at stakeholders it wouldn't be strictly ratepayers as
16 much as you'd be looking at including a -- a broader
17 cross-section of, say, stakeholders?

18 DR. PATRICIA FITZPATRICK: I -- I
19 would agree. I work with youth and young people and
20 young adults, many of whom are not ratepayers because
21 many of my students live at home, per se. And yet,
22 they are very interested in -- and engaged and
23 invigorated by discussions about energy efficiency.

24 Certainly, I think that if we focus on
25 people who are customers, or ratepayers, we will be

1 missing out a very valuable demographic segment. And
2 so I would separate between the customer and the
3 public.

4 In terms of separating between
5 stakeholders and the public, I think that the -- the
6 distinction is made because it's in the legislation,
7 and so I'm going to respect the legislation.

8 Personally, twenty (20) years ago, I
9 decided to talk more about members of the policy
10 community and their relative interest and experience
11 in an issue and map that out along the lines of how
12 much control and power they have.

13 And so I -- I would focus on a policy
14 community, but respecting the legislation
15 stakeholders, it would seem to me, tend to have more
16 technical experience or a more lived experience
17 history. So, not saying that they have to be
18 academics or respected members of the energy
19 efficiency sector.

20 I believe that people who live in
21 northern communities and who are making sure that
22 their furnace is working, they have lived experience,
23 which is a stakeholder worthy.

24 But they need access to -- to decision
25 making as well. So I think that everybody in Manitoba

1 is a member of the public, but not everybody would be
2 necessarily a stakeholder.

3 And so the stakeholder advisory
4 committee is important for targeting large, broad
5 demographic sectors, but it doesn't capture everyone.

6 As I look at the members of the EEAG, I
7 am a ratepayer in Manitoba, I'm certainly someone who
8 has an interest in energy efficiency, and I'm not
9 certain who I would be talking to about my concerns or
10 my ideas for Efficiency Manitoba on this very esteemed
11 EEAG.

12 I would prefer to speak with Efficiency
13 Manitoba specifically, and have a portal or a
14 mechanism to do so.

15 THE CHAIRPERSON: If I could follow up
16 with a question.

17 Kristen, could you go to -- I think
18 it's screen 9, I'm not sure. It's -- it's heading
19 EEAG-moving forward. Okay.

20 On that point, when you have communi --
21 I'm trying to figure out the roles and
22 responsibilities of the EEAG in relation to the public
23 versus Efficiency Manitoba in relation to the public,
24 and how you communicate.

25 Now, who is communicating -- who is

1 best able to communicate with the public? Is it
2 Efficiency Manitoba or is it the EEAG, and how do you
3 avoid miscommunication or conflicting messages to the
4 public sort of soliciting input from the public?

5 DR. PATRICIA FITZPATRICK: In my
6 experience I would look to Efficiency Manitoba to
7 communicate with the public. A number of different
8 advisory boards that I've studied have a role in
9 communication, in addition to the corporation.

10 But the last word and the
11 responsibility always falls on the corporation. So my
12 default would be to follow the model, for example, of
13 an independent oversight board for the -- the first
14 diamond mine in the Northwest Territories, where that
15 Board, that independent oversight agency was able and
16 permitted to communicate with the public or its
17 constituencies, they weren't handcuffed or limited,
18 but public engagement was the responsibility of the
19 corporation.

20 So similarly, I think that those types
21 of models, in my research work best, where the
22 corporation is responsible for public engagement, the
23 advisory board is permitted to cont -- to communicate
24 with its constituency or its not put under a cone of
25 silence, but the last word is with the corporation.

1 THE CHAIRPERSON: Okay then. So, if
2 you could clarify, where you have the relationship
3 with the public in relation to the EEAG, is that the
4 relationship with the people in the respective groups,
5 or is it, although they are members of the public, or
6 are they also communicating with the general public?

7 That's where my confusion is, and I --
8 I understand your point about the primary
9 responsibilities on a Efficiency Manitoba, I'm just
10 trying to figure out how the EEAG has a role with the
11 public other than their constituent groups.

12 DR. PATRICIA FITZPATRICK: Thank you
13 for that, the opportunity to clarify.

14 So my confusion comes because at
15 different points in the evidence the roles and the
16 responsibility of the EEAG with respect to the public
17 were articulated in a different way.

18 So in the terms of reference, it would
19 appear that the EEAG just provided expert advice and
20 may introduce Efficiency Manitoba with representatives
21 of their sector.

22 But in the main body of the application
23 and in the model, there seemed to be confusing who was
24 responsible for engaging with the public. And so I
25 became confused reading the application and reading

1 the IRs and listening to the testimony about what were
2 the expectations of the members of the EEAG.

3 And so my request or my suggestion that
4 there's a need to clarify is based on what was in the
5 main body of the report, as compared to the terms of
6 reference and testimony.

7 And so I would argue that I appreciate
8 what's in the terms of reference for the committee and
9 I think that that would have the role of committee
10 members as providing technical advice and facilitating
11 contact between Efficiency Manitoba and the public. I
12 would like that.

13 THE CHAIRPERSON: Thank you. Thanks
14 very much. Any other questions?

15 BOARD MEMBER HAMILTON: Thank you, Dr.
16 Fitzpatrick. I noticed that you seem very taken with
17 the idea of engaging high school students. And I
18 recognize it's your personal opinion, not evidence.

19 What would you recommend to Efficiency
20 Manitoba about engage in the consumers of the future?

21 DR. PATRICIA FITZPATRICK: In my
22 personal experience and, in fact, my research
23 experience, the consumers of the future are able to
24 understand the complexities of energy efficiency and
25 climate change quite well, and they're quite

1 passionate about thinking how to do better.

2 And so, when I have been in northern
3 and remote communities and held workshops about
4 community energy planning, youth show up, high school
5 students show up, which is something quite interesting
6 for a university professor, to have young people give
7 up a night in the summer to talk about energy
8 efficiency.

9 There are a number of different high
10 school programs I think that -- that could be
11 utilized. For example, in Churchill, they do a
12 program called Four Plus One where high -- select high
13 school students are in class for four (4) semesters,
14 and then spend -- or sorry, four (4) months, and then
15 spend one (1) month in the field doing hands-on work.

16 And so, at the end of this month, I'm
17 going to spend a day virtually with some high school
18 students talking about energy -- energy efficiency,
19 community energy planning.

20 We've got some energy monitors so they
21 can, you know, track how much energy they're using on
22 their cell phone and things like that. And then,
23 hopefully, I'll spend more time in the next Four Plus
24 One doing some -- some programming.

25 So, programming for high school

1 students, I think there's an opportunity through our
2 education system in Manitoba to -- to work hands --
3 hands on with high school students.

4 You also have the science fair program
5 whose name escapes me at the moment that gets students
6 working on active science programs together,
7 enthusiastically learning science skills.

8 So, there are a number of different
9 ways to engage high school students who will then
10 influence their parents, but also their own personal
11 choices.

12 BOARD MEMBER HAMILTON: Thank you.

13 THE CHAIRPERSON: Thank you, Dr.
14 Fitzpatrick.

15

16 CONTINUED BY MS. KATRINE DILAY:

17 MS. KATRINE DILAY: Thank you. And
18 so, maybe I'll invite Dr. Fitzpatrick -- I don't think
19 she'll need to present for the rest of the afternoon.
20 And so, just while she's gathering her stuff, I
21 believe Dr. -- Mr. Bill Harper will be next in terms
22 of presenting.

23 I believe his presentation should be in
24 the range of forty (40) to forty-five (45) minutes,
25 and so perhaps after his presentation might be a good

1 time for a break. Thank you very much. Mr.
2 Harper...?

3

4 (PATRICIA FITZPATRICK STANDS DOWN)

5

6 MR. WILLIAM HARPER: Thank you very
7 much. Excuse me, I'm just recovering from a cold, so
8 if I cough now and clear my throat, I apologize.

9 Good afternoon, Chairman Gabor, Vice-
10 Chairman Kapitany, Board Members Hamilton and Grant.
11 And also good afternoon to the Hearing participants
12 that are present and those that -- that are listening
13 online.

14 Can we go to the second slide? In this
15 presentation, I plan to briefly go over the scope of
16 my evidence and how it relates to the issues list
17 approved by the Board in Order 191/'19.

18 I intend to provide some context as to
19 how we got here and what that means in terms of how
20 one should consider Efficiency Manitoba's approach to
21 developing its proposed 2020 to 2023 efficiency plan.

22 I will then go through each of the
23 three (3) issues my evidence addresses, highlighting
24 Efficiency Manitoba's proposals and the observations
25 made in my evidence. I will then conclude by

1 summarizing my -- my conclusions. The next slide,
2 please.

3 As you can see from the witnesses you
4 had before you here, the Consumers' Coalition has
5 assembled a team -- a team of experts with a wide
6 variety of backgrounds.

7 Through discussions with both counsel
8 for the Coalition and other experts, they would agree
9 that I would prepare evidence on three (3) issues
10 identified in the PUB Order 191/'19.

11 The first one is issue PUB 1c which
12 deals with the appropriateness of the methods used to
13 select or reject demand side management initiatives.
14 In this regard, I have focussed on Efficiency
15 Manitoba's general approach to -- to developing its
16 plan and the parallels with integrated resource
17 planning.

18 In the interrogatory responses I
19 explained why the development of the plan should be
20 looked at from an integrated planning perspective.
21 And I plan to address this as well in the context
22 portion of my presentation this afternoon.

23 The second item addressed in my
24 evidence relates to PUB issues 2a and 2d which deal
25 respectfully with the reasonableness of the

1 methodology to evaluate cost effectiveness, more or
2 less the PAC test, and the rate impact and customer
3 bill impact analysis undertaken by Efficiency
4 Manitoba.

5 The third item addressed in my evidence
6 is PUB issue 2e which deals with efficiency Manitoba's
7 apportionment of overhead and support cost between
8 electric and natural gas portfolios. If we could have
9 the next slide, please.

10 As we're all aware, the creation of
11 Efficiency Manitoba was the result of the PUB's
12 findings and recommendations from its Needs For and
13 Alternative To, or NFAT, review of Manitoba Hydro's
14 preferred development plan.

15 In its NFAT report, the Board found
16 that DSM was not considered on an indepen -- as an
17 independent resource and given equal weighting with
18 other resource options in the development of the
19 preferred plan.

20 This led to the PUB making two (2)
21 significant recommendations. The first was that the
22 planning and provision of DSM services should be
23 divested from Manitoba Hydro.

24 And the second one was that integrated
25 resource planning, referred to as IRP, become the

1 cornerstone of a new clean energy strategy for the
2 Province of Manitoba.

3 The second recommendation was linked to
4 the fact that a key principle in integrated resource
5 planning is that all conceivable resource options be
6 placed on an equal footing and evaluated on an equal
7 basis. If we could have the next slide, please.

8 Efficiency Manitoba was subsequently
9 established through the Efficiency Manitoba Act with a
10 mandate to implement and support demand side
11 management initiatives to meet the savings targets and
12 achieve any resulting reductions in greenhouse gas
13 emissions.

14 This main -- mainly also includes
15 achieving additional reductions in the consumption of
16 electrical energy or natural gas if the reductions can
17 be achieved in a cost-effective manner and, also,
18 mitigating the impact of rate increases and delaying
19 the point in time at which capital investments for new
20 major generation and transmissions projects would be
21 required by Manitoba Hydro.

22 The Act also goes on and de -- defines,
23 well, what are to be considered -- what are to be considered
24 DSM initiatives in terms of Efficiency Manitoba's
25 activities and the annual savings targets for natural

1 gas and electricity which are linked to me -- metered
2 sales to customers. Could we have the next slide,
3 please?

4 The Act then goes on further and sets
5 out what is to be included in Efficiency Manitoba's
6 three (3) year energy efficiency plans which includes
7 information not only regarding how they're going to
8 meet their targets and the cost-effectiveness of the
9 proposal -- proposed portfolios, but also other
10 information regarding the environmental impacts and
11 other benefits that -- that are to be achieved by the
12 plan.

13 The Act then sets out the items that
14 the PUB itself must consider in reviewing the plan in
15 making its recommendations to the minister. And
16 again, these items go beyond just meeting the targets
17 and considering cost effectiveness. There are a
18 number of other considerations identified in the Act
19 as well.

20 And finally, what -- what's really
21 important is the Act permits the Board to make
22 recommendations regarding the suitability of the
23 targets themselves instead of whether alternative
24 portfolios that have either higher or lower targets
25 would -- would be more appropriate from a public

1 interest perspective. We -- can we go to the next
2 slide, please?

3 Under the Act, the Government has also
4 introduced the Efficiency Manitoba regulation which
5 further clarifies the scope of the DSM initiatives
6 Efficiency Manitoba can undertake, defines how cost-
7 effectiveness is to be determined, and sets out a
8 number of additional considerations the Board can take
9 into account when formulating its recommendations to
10 the minister.

11 I don't propose to go to -- go through
12 all of them. There are a number listed here and a
13 number listed on the next slide. The key point in my
14 mind is the considerations listed and that the Board
15 is to take into account include a number of items
16 besides just savings and savings levels and cost-
17 effectiveness. There are a number of other
18 considerations that the Board has to take into
19 account.

20 If we could then maybe flip forward to
21 slide 9. Now, when I step back and compare what Effic
22 -- what the Efficiency Manitoba Act and its reg -- the
23 company regulations say about what needs to go in an
24 efficiency plan and the considerations the Board has
25 to take into account when reviewing that plan and I

1 compare that with what is involved in an integrated
2 resource planning process, I see a lot of similarities
3 between the two (2).

4 Both have targets for new -- new re --
5 new resources that are linked ba -- basically to load.
6 In both cases, there are a number of options and
7 alternatives that are available to meet the targets
8 and both involve multiple evaluation criteria in
9 trying to come up with what's the best combination of
10 options and alternatives to -- to meet that need.

11 In addition, in both cases, there is a
12 focus on cost-effectiveness as opposed to least cost.
13 In the case of the efficiency plan, the Board is
14 required to consider cost-effectiveness of the plan.
15 It is not directed to determine whether the proposed
16 plan is the least cost plan available to meet the
17 targets.

18 Indeed -- and I'm not a lawyer, but my
19 re -- reading would suggest it's not even required to
20 reject the plan if the plan is not cost-effective.

21 Similarly, in the case of an integrated
22 resource planning process, the preferred plan is one
23 that best balances the evaluation criteria. And while
24 cost is typically an important consideration, it is
25 not the only consideration, such that the preferred

1 plan may not be the least cost plan.

2 Overall, in the case of both the
3 Efficiency plan and integrated resource plan, the
4 preferred plan will be the combination of options and
5 alternatives that best balances the chosen evaluation
6 criteria. As I note in my evidence, these
7 similarities should come as no surprise, since DSM is
8 actually one of the options that will be considered by
9 Manitoba Hydro when it comes to develop its resource
10 plan.

11 And in particular in Manitoba Hydro's
12 case, I strongly suspect that the DSM options that it
13 considers were based largely on, if not entirely on --
14 on input from Efficiency Manitoba. To this extent
15 that I've characterized in my evidence, the
16 development of the Efficiency plan can actually be
17 viewed as micro version of a resource plan that's
18 focussed just on DSM op -- DSM options and
19 alternatives.

20 When one couples this perspective with
21 the Board's NFAT recommendation that integrated
22 resource planning become a cornerstone for a new
23 clean-energy strategy in Manitoba, in my view, a key
24 consideration for the PUB in its review of Efficiency
25 Manitoba's approach to developing its plan should be

1 the extent to which the approach conforms with the
2 principles of integrated resource planning. Excuse me
3 for a second.

4

5

(BRIEF PAUSE)

6

7 MR. WILLIAM HARPER: I've made
8 reference to the principles of integrated resource
9 planning, and so I thought it would be useful to set
10 out my understanding of what -- what these are. As
11 suggested in the Board's NFAT report, integrated
12 resource planning is a process whereby all feasible
13 options are considered on equal footing using a common
14 set of evaluation criteria, and the referred plan is
15 the one that best balances the various criteria and
16 options involved.

17

As I noted in my interrogatory
18 responses, determining the appropriate va -- balance
19 is not a matter of applying weights and formula, but
20 rather a matter of judgment, which is why plans are
21 generally viewed by regulatory bodies such as
22 yourselves.

23

The components of an integrated
24 resource planning process typically involve
25 identifying the plan requirements -- that will be what

1 are -- what are the resources required or what are the
2 savings required and when are they required;
3 identifying the evaluation criteria; identifying the
4 feasible options -- in the case of a full integrated
5 resource plan, that would include not only DSM, but
6 supply side options and perhaps even transmission
7 options that -- that -- that could -- that could be
8 used.

9 It then involves constructing multiple
10 resource port -- portfolios, all of which will be
11 designed to meet those needs, and assessing the
12 alternative portfolios against the evaluation
13 criteria, with a view to selecting what's -- what's
14 the preferred or best portfolio involved that balances
15 the various considerations.

16 Thank you. You're right ahead of me
17 there.

18 Turning to the development of
19 Efficiency Manitoba's proposed plan, in terms of the
20 planning or savings targets, the Act states that:

21 "Each year -- in each year,
22 Efficiency Manitoba is responsible
23 for meeting an electrical energy
24 savings target that it at least
25 equal to 1.5 percent of the

1 electrical consumption in the
2 preceding year."

3 With the current plan, which covers the
4 fiscal years 2021 -- 2020/'21 through 2022/'23, this
5 would be 1.5 percent of the consumption in the years
6 2019/'20 through 2021/'22, respectively; however, the
7 actual consumption in these years is -- is not yet
8 known.

9 And what Efficiency Manitoba has done
10 is relied on forecast values from Manitoba Hydro from
11 its most recently available load forecast in order to
12 provide a proxy for these numbers. And in my view,
13 that -- that -- that's a perfectly reasonable approach
14 to take given the information that they have
15 available.

16 However, as I've noted in my evidence,
17 the forecast values used by Efficiency Manitoba are
18 based on volumes at the point of generation and
19 include electricity used by Manitoba Hydro itself for
20 construction and station service.

21 In contrast, the Act defines
22 consumption as "electrical energy that is metered and
23 sold to a customer in Manitoba," which would exclude
24 electricity used internally by Manitoba Hydro and
25 would also suggest that the measurement point should

1 be at the point of delivery, i.e., the meter, not the
2 point -- point of generation.

3 In establishing the reference loads for
4 each year, Efficiency Manitoba has also made
5 adjustments to account for the fact that Manitoba
6 Hydro's load forecast doesn't include the impact of
7 DSM programs implemented after 2017/'18. However, as
8 I noted in my evidence, in doing so, Efficiency
9 Manitoba seems to have overlook -- overlooked the
10 savings that would be achieved by Manitoba Hydro's
11 2018/'19 DSM plan.

12 Finally, since both the load forecast
13 and the annual DSM plans include the impacts of codes
14 and standards implemented prior to 2017/'18 -- but
15 what the impacts of those will be in subsequent years,
16 given that they will impact new loads occurring in
17 each year -- Efficiency Manitoba adds back this impact
18 to avoid to -- double-counting. However, in doing so,
19 it appears that Efficiency Manitoba has likely also
20 added back the impact of new codes and standards that
21 will be implemented after 2017 and '18, something that
22 has -- that has not accounted for in the load
23 forecast.

24 During the IR process, I -- I was asked
25 -- and this was PUB-19 -- what the impact on the

1 derivation of the targets would be if calculated per
2 my evidence and what this would mean in terms of the
3 savings required, and the results are set out on this
4 slide here. I don't propose to go through -- through
5 -- through the numbers, but -- but at a high level,
6 both the savings target change as well as the savings
7 -- savings that are required by the plans change. But
8 at the end of the day, the -- the -- the percentage is
9 -- the percentages are roughly the same. As you can
10 see, at the end of the day, the average is still in
11 the order of 1.5 percent, which was what -- what was
12 included in Efficiency Manitoba's plan.

13 So -- so really, at the end of the day,
14 the change in the -- the change in approach does not
15 change the savings that -- that the plan is required
16 to deliver. I know that in its rebuttal evidence,
17 Efficiency Manitoba has performed a similar
18 calculation and arrived at generally the same results.

19 In my evidence, therefore, I make the
20 same point that Efficiency Manitoba made last week,
21 which is, namely, that what's important is
22 establishing a consistent and standard approach for
23 how we're calculating these targets. But in my view,
24 the approach I've set out in my evidence is
25 preferable, as -- as since it follow the requirements

1 of the Act, it eliminates the potential for future
2 controversy regarding how the savings targets are to
3 be calculated. And also, as I understand from the
4 testimony last week, it reflects how the calculations
5 of savings versus targets will be done on an actual
6 basis.

7 Can we go to the next slide, please?

8 In the case of natural gas, the Act
9 states that:

10 "In each year, Efficiency Manitoba
11 is responsible for meeting the
12 savings target that is at least
13 equal to 0.75 percent of the natural
14 gas consumption in the previous
15 year."

16 The Act also requires that gas used a
17 feedstock or as an ingredient in the manufacture of a
18 product be excluded. Again, actual consumption for
19 the relevant years is not yet known; however, in this
20 case, since Centra's volume forecasts are considered
21 to be commercially sensitive and therefore not
22 available, Efficiency Manitoba has relied on actual
23 natural gas sales volumes as reported in Manitoba
24 Hydro's most recent annual report and made adjustments
25 for the statutory exclusions. Again, given the

1 limitations on the data that's available, I view this
2 as being a reasonable approach.

3 Efficiency Manitoba then also adjusts
4 the actual sales for 2017/'18, which was the last date
5 they had available at the time they prepared the plan,
6 by the expected savings from DSM plans implemented
7 after 2017/'18.

8 In my view, this second adjustment may
9 not be required, as in my view, it would be equally
10 reasonable to assume that the actual sales for 2017
11 and '18 are a reasonable proxy for the future sales
12 inclusive of the impacts of -- of the DSM. However,
13 if the DSM adjustment is to be included, then it will
14 be necessary to also include the adjustments from the
15 impact -- from the impacts of Centra's 20 -- 2018/2019
16 plan, which Efficiency Manitoba's calculations
17 currently exclude.

18 I should note that including or
19 excluding the DSM adjustment does not have a material
20 impact on the savings required; however, excluding the
21 DSM savings does make the calculation a -- a lot
22 simpler to undertake.

23 Finally, in the case of the natural gas
24 plan, the savings are offset by increases in use due
25 to electric efficiency programs. This is what's

1 referred to as the in -- interactive effect. In my
2 view, the PUB should consider the resulting gas
3 savings and the cost-effectiveness test both with and
4 without these -- these -- these interactive effects,
5 because both are -- are a rel -- relevant perspectives
6 to take into account.

7 Can you go on to the next slide,
8 please?

9 In terms of the evaluation criteria,
10 Efficiency Manitoba has used different evaluation
11 criteria at different stages in the development of its
12 plan. In the initial stage of the plan's development,
13 potential technologies and measures are -- are subject
14 to a high-level screen in order to determine whether
15 they should be formally considered for inclusion in
16 the plan.

17 At this stage, the screening or
18 evaluation criteria focus on aspects such as whether
19 the technology's been approved for use in Canada, is
20 the technology compatible with Manitoba's climate,
21 have the savings claims been verified, and are there
22 local suppliers of the product?

23 In my view, the screening criteria used
24 by Efficiency Manitoba at this stage is reasonable.
25 They are not overly restrictive, but rather focus on

1 practical considerations.

2 Go to the next slide.

3 Evaluation criteria were also used in
4 the development of the proposed electric and natural
5 gas portfolios. For this purpose, the key evaluation
6 criteria used to determine the DSM initiatives to
7 include in the final portfolios were the level of
8 energy savings, the program costs, and the program
9 cost-effectiveness. This -- this was confirmed in
10 Efficiency Manitoba's response to Coalition 14-B.

11 However, as I've already noted, the
12 Efficiency Manitoba Act and the regulation identify a
13 number of other factors that the PUB is to consider
14 when it's reviewing the plan. To do so properly, such
15 considerations should be factored into the development
16 of the plan as part of the multi-criteria analysis so
17 the tradeoffs involved can be fully understood. Such
18 an approach would also be consistent with the
19 principles of integrated resource planning.

20 I acknowledge that the Act and the
21 regulation list a large number of factors that the
22 Board is to consider such that as a practical matter
23 the multi-criteria analysis may not be able to include
24 them all.

25 If this is the case, then a short list

1 of factors is required, then I -- I think the best
2 approach to take would be to, through some
3 stakeholding process, determine which of those
4 considerations are -- are most relevant to, and I
5 guess refer it to whether it be the public, the
6 stakeholders, or -- or ratepayers in -- in the
7 Province of Manitoba.

8 In PUB-22, I was asked for my views on
9 what the appropriate factors would be and I've listed
10 them here, however, these are not the factors I'm
11 recommending. Again, I'm recommending that rather
12 whatever factors are relevant should be determined
13 through some stakeholding process with -- with
14 interested parties.

15 Go to Slide 17. While Efficiency
16 Manitoba has not undertaken a formal DSM potential
17 study for purposes of developing the plan, they have
18 canvassed from what I understand, a wide variety of
19 sources in order to identify potential DSM
20 initiatives.

21 Overall, the pool of measures and
22 technologies identified is likely to be representative
23 of what's available. Furthermore, Efficiency Manitoba
24 has budgeted in its plans to undertake a full DSM
25 potential study as -- as part of this current three

1 (3) year plan.

2 Having said this, Efficiency Manitoba
3 has no central repository where the information it
4 gathers on potential DSM measures and technologies are
5 stored, nor is the information collected on a consist
6 -- in a consistent format. Ensuring comparable
7 information is available for all options considered is
8 important if they are all to be given equal weight and
9 consideration and -- and evaluated on a common basis.

10 The PUB should recommend that such a
11 central repository be developed as part of the current
12 three (3) year plan.

13 Another limitation with respect to
14 Efficiency Manitoba Hydro's -- excuse me, I keep on
15 saying Efficiency Manitoba Hydro just because I was
16 used to saying Manitoba Hydro so often. I apologize.

17 Another limitation with respect to
18 Efficiency Manitoba's consideration of options is it
19 did not consider alternative incentive levels when
20 evaluating the measures to include in the plan.
21 Incentive levels are critical in determining both the
22 level of participation, and therefore savings, as well
23 as critical in determining the overall level of
24 program costs. As a result, it would be reasonable to
25 view alternative incentive levels as alternative

1 options when -- when developing the plan.

2 Go to Slide 17, please. In terms of
3 the development of the preferred portfolios, it is
4 understood that the preliminary portfolio for each of
5 natural gas and electricity was developed by
6 incorporating all the measures that -- that -- that
7 had been identified through the pre-screening process.
8 More or less nothing was left out.

9 However, what's not clear from the
10 evidence to date are the objectives and criteria used
11 to develop the -- the programs, i.e., the incentive
12 levels that were used to deliver each of those
13 technologies and -- and the measures.

14 Reference is made in the IR responses
15 to Efficiency Manitoba going through various
16 iterations with respect to rebates and incentive
17 levels, but there's no -- no clear indication as to
18 what the overall program design objectives were.

19 For example, was the preliminary report
20 fully designed to get the most savings possible? Was
21 it designed to be the most cost-effective one? Was it
22 designed to achieve a certain participation level?

23 It's not understood what the objectives
24 in the preliminary design were, and also if there was
25 more than one (1) design objective, how they were

1 balanced off.

2 Since -- since -- when we look at the
3 way the portfolio -- final portfolio was developed,
4 the preliminary portfolio was effectively the
5 foundation on which subsequent changes were made. And
6 if we're going to understand how the final portfolio
7 balances the various considerations, it's important
8 mind -- in my mind to understand how that preliminary
9 portfolio was constructed.

10 Then, finally, based on the multi-
11 criteria analysis, these preliminary portfolios for
12 gas and electric were then refined with a view to
13 aligning the savings with the targets, reducing budget
14 costs, and improving cost-effectiveness, while at the
15 same time a number of corrections were made to the
16 program inputs and changes were made to the way the
17 Program Administrative Cost Test was actually
18 calculated.

19 As a result, it's difficult to
20 understand if one compares the preliminary portfolio
21 to the final portfolio, how the specific adjustments
22 would be made to savings levels, improving cost-
23 effectiveness, or achieving the targets, how they
24 actually impacted the change between those two (2).

25 Another key component of integrated

1 resource planning is development of alternative
2 resource portfolios. In order to clearly show the
3 differences that would arise, depending upon the
4 weight given to -- to different evaluation criteria,
5 therefore, allow parties, including the regulator, to
6 consider the trade-offs that are involved. Indeed,
7 the Energy Efficiency Advisory Group requested that
8 alternative portfolios be included in the plan,
9 however, Efficiency Manitoba indicated that there
10 wasn't possible -- it wasn't possible due to time
11 constraints.

12 The PUB should indicate in its
13 recommendations that the development and presentation
14 while an alternative portfolio should be included in
15 future plans, that these portfolios should reflect a
16 wider range of criteria than simply cost savings and
17 budget levels.

18 In its testimony last week, Efficiency
19 Manitoba distinguished between two (2) types of
20 alternative portfolio analysis. The first was with
21 respect to alternative portfolios that met the same
22 savings target, and the second was alternative
23 portfolios that meet different savings targets.

24 I'd just like to clarify that in my
25 evidence I was talking about the first of these two

1 (2) types of analysis, that is, alternative portfolios
2 that meet the same savings target.

3 Efficiency Manitoba claims that its
4 plan strikes the appropriate balance between the
5 various considerations involved. The inclusion of
6 alternative portfolios that meet the same savings
7 target would help parties, including the PUB, to
8 understand the nature of the balance inherent in their
9 proposed plan.

10 However, in order to address the
11 appropriateness of the targets and to assist Manitoba
12 Hydro in its eventual resource planning, at some point
13 in time it will also be necessary, in my mind, for
14 Efficiency Manitoba to develop alternative portfolios
15 that meet different savings target levels.

16 Can we go to Slide 18, please? I would
17 like to now turn to the second of the three (3) topics
18 addressed in my evidence, and that is the cost-
19 effectiveness and the customer impact tests used by
20 Efficiency Manitoba.

21 Cost-effectiveness, as determined by
22 the Program Administrator Cost Test, or PACT Test, is
23 one (1) of the mandatory considerations the Board must
24 take into account when making its recommendations to
25 the Minister.

1 The basis of the test is set out in the
2 Efficiency Manitoba regulation. It involves comparing
3 on a net present value basis, the cost to Efficiency
4 Manitoba of achieving the energy savings, with the
5 value to Manitoba Hydro of the savings that are
6 achieved.

7 Along with Efficiency Manitoba's costs,
8 Manitoba Hydro's marginal values, key inputs into the
9 calculation include the discount rate to be used in
10 the analysis and the time period over which the
11 analysis is to be performed.

12 In terms of the marginal values
13 provided by Manitoba Hydro, there are a couple of
14 notable shortcomings. The first is, it's not clear
15 how current the resource plan used to determine the
16 marginal values for electricity was. The last
17 resource plan that's available public was prepared in
18 2016, which is now almost four (4) years ago.

19 Also in the case of electricity values,
20 there's no distinction made between peak and off-peak
21 savings. Even though there is a material and
22 consistent difference between peak and off-peak MISO
23 market prices, the individual DSM options can have
24 different peak, off-peak savings profiles.

25 In the case of natural gas where no

1 marginal values attributed to the deferral of either
2 transmission or distribution capacity requirements on
3 the Centra system due to DSM and no explanation
4 provided as to why not. At a minimum, Efficiency
5 Manitoba should be directed to pursue these issues
6 with Man -- with Manitoba Hydro.

7 In terms of the discount period,
8 Efficiency Manitoba uses a thirty (30) year time
9 frame, which is reasonable as it allows the analysis
10 to capture the benefits associated with efficiency
11 measures that have long useful lives. At the same
12 time, extending the time frame beyond thirty (30)
13 years would likely have a minimal impact on the PAC
14 Test results.

15 In terms of the discount rate,
16 Efficiency Manitoba uses a nominal rate of 6 percent
17 as provided by Manitoba Hydro, which is meant to
18 reflect Manitoba Hydro's weighted average cost of
19 capital.

20 As set out in my evidence, this
21 discount rate appears to be calculated by Manitoba
22 Hydro using the same approach as it used to calculate
23 the discount rate for its NFAT filing regarding its
24 preferred development plan.

25 Parties that participated in that

1 review will recall that there was some debate during
2 the proceeding as to what the appropriate cost of
3 equity for Manitoba Hydro should be since its rates
4 aren't regulated on a cost of service basis -- excuse
5 me, on a rate of return basis.

6 Similar issues also arose during
7 Manitoba Hydro's more recent 2017/18, 2018/19 GRA. To
8 date, these debates have not provided any definitive
9 answers.

10 Efficiency Manitoba has provided the
11 PAC Test results based on a range of discount rates
12 and the PUB should take into account the sensitivity
13 of the cost-effectiveness on plans to -- to do -- due
14 to the discount rate assumptions when making its
15 recommendations.

16 Would you turn to the next slide,
17 please? There are two (2) other issues of note that
18 arise with respect to the calculation of the PAC Test.
19 The first is the treatment of cost and savings for
20 codes and standards included in the plan.

21 For purposes of calculating the
22 electric and natural gas PAC results at the portfolio
23 level, Efficiency Manitoba has included the cost it
24 will be incurring with respect to the codes and
25 standards, but has not included any savings. The

1 inclusion of the cost reflects the fact that the
2 expenditures related to code and standards are -- are
3 part of the plan, and are -- money they are going to
4 spend over the three (3) year period in my mind is
5 reasonable.

6 However, since virtually all the codes
7 and standards from which the savings for period are
8 based were implemented prior to the Plan period, and
9 the independent evaluator has yet to opine on what
10 savings from codes and standards Efficiency Manitoba
11 can actually count towards its targets. Exclusion of
12 the savings at this time seems also reasonable in my
13 view.

14 The last issue is the treatment of the
15 cost to be recovered by the Furnace Replacement
16 Program funds. The -- and these are funds that have
17 already been -- been collected from customers.
18 Efficiency Manitoba Hydro includes -- excuse me,
19 Efficiency Manitoba includes such costs in the
20 calculation of the PAC Test. To me, this approach is
21 reasonable, as the PACT status is meant to measure
22 actual costs versus actual benefits, regardless of
23 whether the money has been collected already or not.

24 Efficiency Manitoba regulation also
25 requires that the PUB consider when reviewing the plan

1 the impact of the plan on rates. The purposes of
2 demonstrating the impact of the Plan on rates,
3 Efficiency Manitoba uses that -- a lifecycle revenue
4 impact measure, which is meant to indicate the one (1)
5 time change in rates required to establish a balance
6 between utility revenues, marginal benefits and
7 program costs. The calculation uses the same marginal
8 values and discount rates as the PAC Test. My earlier
9 comments would also apply here.

10 The calculation I notice he uses a
11 thirty (30) year timeframe, similar to that used for
12 the PAC Test. However, in this case, the thirty (30)
13 year timeframe misses the fact that the cost of the
14 plan will likely be recovered through rates over a
15 much shorter period of time.

16 Currently, Manitoba Hydro amortizes
17 DSM costs over a ten (10) year period. As a result,
18 the PUB needs -- it needs to also consider what the
19 impact on rates would be from using a ten (10) year
20 period for purposes of calculating the lifecycle
21 revenue impact, as -- as well as using the -- the
22 thirty (30) year value.

23 The lifecycle revenue impact measure
24 also takes into account lost revenues that arise from
25 the DSM savings. And Efficiency Manitoba has forecast

1 these lost revenues assuming future electricity and
2 natural gas rates increase at inflation. This
3 assumption may be reasonable for natural gas, but
4 based on Manitoba Hydro's recent request for
5 electricity rate increases, and the most recent
6 financial forecasts available for Manitoba Hydro, such
7 an assumption does not appear to be reasonable in the
8 case of electricity. A more reasonable assumption
9 would be for rate increases of slightly under 4
10 percent per annum for at least the first ten (10)
11 years, and then at inflation thereafter.

12 Finally, the calculation requires a
13 forecast of the system sales affected by the rate
14 increases, to which Efficiency Manitoba has -- Mani --
15 Manitoba has used Manitoba Hydro's load forecast, we -
16 - we -- which is not exactly accurate, if one wanted
17 to be precise, but -- but is reasonable, in my
18 assumption.

19 Go to slide 21. Similar to the PAC
20 Test, questions arise as to how to treat codes and
21 standards and the Furnace Replacement Program funds in
22 the calculation of the lifecycle revenue impact
23 measure.

24 In terms of codes and standards, the
25 plan costs are included, but the savings benefits are

1 not; similar to the approach used in the PAC Test. In
2 addition, the revenue losses due to codes and
3 standards are also excluded from the calculation. In
4 my view, this treatment is reasonable for the same
5 reasons as I outlined earlier.

6 However, for purposes of the rate
7 impact test, the cost to be covered by the funds from
8 the Furnace Replacement Program are not included in
9 the calculation. And in this case, that seems
10 reasonable to me, since we're looking at what's going
11 to be the impact on customer rates when these funds
12 have all -- were -- already been collected from
13 customers.

14 Finally, the regulation requires the
15 PUB to consider the impact of the plan on customers'
16 bills. For -- for this purpose, Efficiency Manitoba
17 has calculated the average bill savings for
18 participating customers in each customer segment, as
19 well as the thirty (30) year net present value for the
20 savings of each portfolio.

21 In my view, the calculations don't
22 present a true picture of the -- of the impact of the
23 plan on participating customers for two (2) reasons.
24 First, they don't include the upfront investments
25 required from participants by many of Efficiency

1 Manitoba's programs. And second, in calculating the
2 net present value, Manitoba Hydro's discount rate has
3 been used as opposed to a rate that would reflect the
4 participating customers' time value of money.

5 Overall, in my view, the Board -- the PUB should not
6 attach significant weight to these results when --
7 when considering its recommendations to be made to the
8 Minister.

9 The final issue addressed in my
10 evidence is Efficiency Manitoba's allocation of
11 overhead and support costs to -- to electric and gas
12 programs. And that -- this is on the next slide.

13 Thanks.

14 The cost involved is roughly 3 million
15 -- \$3 million per year in corporate overheads, plus \$8
16 million per year in enabling strategy costs.

17 Efficiency Manitoba allocates these costs by
18 converting the electric and natural gas savings to a
19 gigajoule equivalent, and then basing the allocation
20 on the relative contribution of each to the total
21 savings. The result is a 75/25 split between
22 electricity and natural gas.

23 Actually, it's common practice for
24 utilities to undertake studies to determine how to
25 allocate corporate and support cost between

1 affiliates, or between lines of business within a
2 particular company. Examples I am familiar with are -
3 - are Fortis, where the holding company allocates
4 costs between the electric utility and the gas utility
5 in BC, which are separate companies, and also in
6 Ontario, where Hydro One allocates its corporate
7 overhead costs between its transmission and
8 distribution lines of business, which are both in the
9 same bis -- which are both in the same corporate
10 entity, but are -- but are regulated set -- separate
11 entities.

12 In such cases, the allocation is
13 typically done using the principle of cost causation.
14 And based on cost drivers, such as staff count, labour
15 costs, O&A costs, or investment in plant. Indeed,
16 while I have not been involved in any of the Centra
17 cases here in Manitoba, I understand a similar
18 approach is used by Manitoba Hydro to allocate the
19 common cost between its gas and electric utility
20 operations.

21 Efficiency Manitoba's organizational
22 structure is still to be finalized, such that a
23 detailed breakdown of corporate costs and staffing is
24 not available. However, two (2) reasonable basis for
25 the allocation of corporate overheads and support cost

1 would be either a) the total direct costs associated
2 with delivering gas versus electric programs, or the
3 staffing costs involved with elect -- and elec -- with
4 delivering either gas versus electric programs.

5 Interesting enough in both cases, the
6 results of the allocation would be roughly the same,
7 and lead to a 70/30 split between the electric and --
8 and the gas portfolios. It is recommended from my
9 perspective that the Efficiency Manitoba adopt the
10 cost-driver approach for allocating corporate
11 overheads and support costs, and that for the current
12 plan, the allocation be a 70/30 as between the
13 electric and the natural gas portfolios.

14 Next slide. I'd now like to briefly
15 summarize the conclusions in my evidence. In terms
16 electricity DSM targets, the reference load used by
17 Efficiency Manitoba does not align with the definition
18 set out in the Act. Adopting a definition that
19 conforms with the Act would not mat -- materially
20 change the savings targets required by the plan, but
21 it would reduce the potential for future controversy
22 regarding the calculations.

23 In the case of the DSM targets for gas,
24 Efficiency Manitoba's approach is reasonable.
25 However, it is not evident that the DSM adjustments

1 are required, and the elimination of those adjustments
2 would simplify the process.

3 In terms of the evaluation crit --
4 criteria used by Efficiency Manitoba, the initial
5 screening criteria are reasonable. However, for the
6 multi-criteria analysis used in the development of the
7 portfolios, evaluation criteria should include more
8 than just budget costs, savings targets, and cost-
9 effectiveness. Also, a stakeholder process should be
10 used to identify the appropriate criteria if a short
11 list is -- is required.

12 Go to the next slide. In terms of the
13 measures and technologies considered for inclusion in
14 the portfolios, the pool of options identified by
15 Efficiency Manitoba is likely representative of those
16 available. However, by failing to consider the
17 possibility of different incentive levels as different
18 options, Efficiency Manitoba has failed to consider
19 the full range of feasible options in the development
20 of the portfolio.

21 Also, a lack of consistent
22 documentation in a central repository raises concerns
23 regarding the transparency and the consistency in
24 considering the options.

25 In terms of the approach used to

1 develop the preferred gas/electric portfolios, there
2 is a lack of transparency in terms of the objectives
3 underlying both the creation of the preliminary
4 portfolio and the development of the final portfolio.

5 Also, the lack of alternative DSM
6 portfolios limits the ability of the PUB and other
7 parties to consider the trade-offs involved, and
8 consider whether the Efficiency Plan that Mani --
9 Efficiency Manitoba has put forward achieves the
10 appropriate balance. It achieves a balance between
11 the objectives. The question is: Do we understand
12 exactly what the nature of that balance is? The PUB
13 should recommend that alternative DSM portfolios be a
14 part of future plans.

15 In terms of Efficiency Manitoba's
16 application of the -- of the PAC Test, the use of the
17 thirty (30) year discount period is reasonable.
18 However, there are shortcomings in the values for both
19 the electric and gas marginal values that need to be
20 addressed or explained in future plans.

21 There is uncertainty regarding the
22 appropriate discount rate, and the PUB should consider
23 the sensitivity of the results to a range of discount
24 rates. And finally, the gas PAC Test should con -- be
25 considered both with and without the interactive

1 effects.

2 With respect to the customer bill
3 impacts, my -- my comments regarding the discount rate
4 and marginal values also app -- also apply to
5 Efficiency Manitoba Hydro's calculation of the
6 lifecycle revenue impact measure. In addition, with
7 respect to this rate impact measure, the Board should
8 consider the ten (10) -- ten (10) year values, as well
9 as the thirty (30) year values.

10 On any of the electricity rate
11 increases used in the analysis were underestimated in
12 the short term. A more reasonable assumption would be
13 to assume electric rate increases in the order of 3.9
14 percent for at least the next ten (10) years.

15 In terms of the customer bill impacts,
16 the calculations provided by Efficiency Manitoba
17 provide an incomplete picture of the impact on
18 participating customers, and the PUB, therefore,
19 should not attach that significant weight to them.

20 The last issue of my evidence dealt
21 with the Efficiency Manitoba allocation of corporate
22 overheads and support costs as between the gas and
23 electric portfolios.

24 In this regard, the PUB should
25 recommend Efficiency Manitoba adopt the cost-driver

1 approach and that for the current plan a 70/30
2 allocation between the electric and gas portfolios be
3 adopted.

4 So subject to any questions you may
5 have, that's the end of my presentation.

6 THE VICE-CHAIRPERSON: Thanks, Mr.
7 Harper.

8 Could you just go to -- back to page 11
9 of your presentation?

10 And my question is around your
11 assertion that the Efficiency Manitoba isn't measuring
12 targets correctly and it's between point of delivery
13 and point of generation. I read it in your evidence
14 as well on page 13 and I'm not clear on what the
15 benefit would be of changing the way that it's
16 measured.

17 MR. WILLIAM HARPER: Well, I guess as
18 I indicated in my presentation at -- at the moment we
19 ended with roughly the same -- same requirements in
20 terms of savings.

21 So if you could say what does that mean
22 in terms of the current plan? Not a lot of
23 difference.

24 I guess the question is that that works
25 this time. What -- what will work three (3) years

1 from now if we come forward and if somebody says you
2 aren't applying it right, or they do the calculation
3 and they come out somewhat diff -- different at that
4 point in time.

5 Also, at any point in time somebody
6 could say you weren't foll -- following the Act and --
7 and you introduced some controversy into how the
8 calculation is be -- being done.

9 So in my view, it's just a matter of if
10 we align -- if we align more closely with the Act, we
11 just eliminate this po -- possibility for controversy.

12 At this point in time, it has no
13 material impact on what Efficiency Manitoba has to
14 deliver.

15 THE VICE-CHAIRPERSON: Do you have a
16 view of which way to measure the savings is better?

17 MR. WILLIAM HARPER: Not -- not -- not
18 -- excuse me, not really. And I apologize for the
19 pause, because the -- because to some extent, you
20 know, we're establishing a -- a target and the target
21 is something that Manitoba Hydro is been directed to
22 achieve, but the PUB has also been directed to comment
23 on whether the target is appropriate and should be
24 higher or lower.

25 So, depending on how you calculate that

1 target, you may come up with -- with a different
2 number, but at the end of the day, in my mind, the
3 litmus test is, is that the appropriate number, which
4 is something which the PUB is also re -- required to
5 consider.

6 So if you calculate it a different way
7 and the savings came up, you know, came up slightly
8 differently, then -- then this -- in my mind the
9 critical question at the end of the day is is the plan
10 at the end developing a -- delivering a portfolio of
11 measures that are in the public interest and balance
12 the evaluation criteria?

13 BOARD MEMBER GRANT: I was wondering
14 if the last slide you want a cost of service hearing,
15 but I won't ---

16 MR. WILLIAM HARPER: Well, you know, I
17 -- I -- I appreciate Board -- Board counsel loves to
18 talk to me about cost allocation, and I figured if I
19 didn't slip in something there, you know, --

20 BOARD MEMBER GRANT: I -- I won't say
21 I never understood that. So could I go back to
22 integrated resource planning for an audit or scope.

23 I'm -- I'm not sure, on page -- so I've
24 got sort of a related question. Maybe -- I guess my
25 question will be how you're defining cost effective

1 versus least cost. And if I can do my preamble, and
2 correct me where I'm wrong, but I would see integrated
3 resource planning as where you've got six (6) or seven
4 (7) supply options, whether it's solar or wind, or you
5 know, and DSM in a more narrowly defined, you know,
6 reducing demand.

7 And I'm going to now, in an integrated
8 way, choose the one with the lowest marginal cost to
9 meet that last bit of demand, I guess, if you like.

10 And so that's how I would sense
11 integration, that I'm going to sit down all the
12 players at the table and we're going to make these
13 decisions in an interactive way.

14 To my mind it seems like a little bit
15 what we got now is -- like, I'm going to say you and I
16 are talking and I'm going to do this and you can do
17 whatever you want after I've already made up my mind.

18 Is that -- that sort of sequential --

19 MR. WILLIAM HARPER: I hate to say
20 this, but I'd like to step back a bit because I'm not
21 too sure if I agree with all your premises as to what
22 integrated resource planning is.

23 BOARD MEMBER GRANT: Sorry, the
24 invitation was explained to me what integrated
25 resource planning ---

1 MR. WILLIAM HARPER: Okay, you know,
2 because I -- I think -- I think you were suggesting
3 through your description that the purpose of
4 integrated resource planning was to come up with the
5 least cost plan where the lowest marginal cost and I
6 don't think -- I don't think that's one (1) of the
7 objectives of integrated resource planning is to
8 consider costs, clearly cost considerations are -- are
9 an important consideration.

10 But as I said, integrated resource
11 planning involves looking at a number of evaluation
12 criteria, and at the end of the day trying to balance
13 those.

14 And I think it's fair to say that cost
15 gets a material balance in that consideration, but it
16 doesn't get 100 percent and everything else gets zero.

17 And so then at the end of the day
18 you're trying to come up with the plan that, you know,
19 balances those -- balances those consid -- those
20 considerations. It may not be the least cost plan, it
21 -- it may -- it may well be but -- but -- but it may
22 not.

23 And to your point, integrated resource
24 planning, you're right. We've got solar, we've got
25 gas, we don't have nuclear in Manitoba, but other

1 places we could have nuclear, you know? And we try to
2 balance those off.

3 What I was trying to draw the parallel
4 with is when we come to Efficiency Manitoba developing
5 its plan, we have different options. We have load
6 displacement options that the industrials talk about.
7 We have code sourced heat pumps that parties on this
8 panel talk about. We have a number of different
9 options and we're trying to come up with what's the
10 view of the best plan by assembling a portfolio of
11 options that meets a set of evaluation criteria.

12 So that while we're not doing
13 integrated resource planning here on a full scale by
14 any -- by any stretch of the imagination, but I think
15 the same principles and concepts apply.

16 That's what I was trying to articulate
17 in my evidence in my presentation.

18 BOARD MEMBER GRANT: Okay, so if I can
19 just -- the only point then, how are you defining cost
20 effective? Is this where you've got a particular
21 objective and you're going to select the one (1) that
22 achieves it at the least cost, or --

23 MR. WILLIAM HARPER: Well, I think,
24 you know, that is a very good question, because if I
25 read the Act, and I'm no lawyer, but if I read the

1 Act, cost -- cost -- cost effective means the benefits
2 exceed the costs.

3 It's not necessarily the least cost.

4 So if one (1) plan has a PACT ratio of one -- if one
5 (1) measure has a PACT ratio of 1.1 and another
6 measure has a PACT ratio of 14.1, they are both cost
7 effective.

8 You know, when you talk about the
9 relativities of the cost-effectiveness, and that --
10 but they're both cost-effective, in -- interestingly
11 enough, another jurisdiction I work in which -- which
12 is BC, there's been a very -- the Commission there has
13 made a very distinct distinction between what's cost
14 effective and least cost.

15 And cost effective, in their view, is
16 not least cost. Cost effective is the one that from a
17 public interest perspective best balances what are
18 things like requirements for reliability, costs, and
19 whatever other considerations should -- should go in -
20 - into that mix.

21 And so I think -- and actually when I
22 first started thinking about cost effectiveness, I was
23 thinking about it from that perspective. But then I
24 had to reorient myself to what the Act in this
25 particular jurisdiction and how it defines cost

1 effective.

2 BOARD MEMBER GRANT: So that's not how
3 I would define cost effective, but that's fine.

4 And -- and I wish people would stop
5 apologizing for not being a lawyer, because --

6 MR. WILLIAM HARPER: Well, well, well
7 -- well, I think -- I think it's more a matter of
8 saying I'm not giving you a legal opinion, I'm giving
9 you my personal opinion.

10 BOARD MEMBER GRANT: Thank you.

11 THE CHAIRPERSON: I certainly am
12 thrilled that the two (2) remaining people on the
13 panel who are lawyers have the last word.

14 Thank you very much, Mr. Harper.

15 MR. WILLIAM HARPER: Thank you.

16 THE CHAIRPERSON: We'll -- we'll take
17 a break now for fifteen (15) minutes. Thank you.

18

19 --- Upon recessing at 2:38 p.m.

20 --- Upon resuming at 2:56 p.m.

21

22 THE CHAIRPERSON: Ms. Dilay...?

23

24 CONTINUED BY MS. KATRINE DILAY:

25 MS. KATRINE DILAY: Thank you. I will

1 now pass it over to Mr. Jim Grevatt for his
2 presentation this afternoon.

3

4 PRESENTATION BY MR. JIM GREVATT:

5 MR. JIM GREVATT: Thank you. I'd like
6 to thank the Board members and parties, certainly the
7 Consumers' Coalition for inviting us to be here. I
8 understand that we may experience a little of Manitoba
9 winter, at least the southern part, in the next few
10 days, which is exciting. And -- maybe not. Maybe
11 this isn't Manitoba winter. Please let me know.

12 And I also specifically want to thank
13 the people at Efficiency Manitoba who've been working
14 on this plan and all the IR responses. I've been on
15 that side of -- of the table. I know how much work
16 you're putting in, and the long hours, and I just want
17 to acknowledge that and appreciate it.

18 So, Energy Futures Group, Mr. Neme and
19 myself are both representing that firm here on behalf
20 of the Consumers' Coalition. We're a small consulting
21 firm based in Vermont, although we operate in dozens
22 of states and half a dozen provinces or so over the
23 last six (6) to eight (8) years.

24 And our speciality is clean energy
25 consulting. We have a lot of experience in what we

1 think are leading approaches to energy efficiency
2 programming and -- and we like to share our knowledge
3 where we can.

4 My focus in looking at the Efficiency
5 Manitoba plan was to assist the Consumers' Coalition
6 in their review of the plan and look at specifically
7 some of the items that have been highlighted in the --
8 the issues list, the reasonableness of the projected
9 savings in the three (3) year plan and what's going to
10 be included in the plan, or what was included in the -
11 - the plan, how the -- the initiatives were selected,
12 and especially whether the plan adequately considers
13 the interest of residential customers and whether it
14 meets the bar of accessibility to residential
15 customers.

16 A few high-level observations. And I
17 have to say that, in reviewing the plan, initially it
18 was frustrating for me because I didn't find the
19 detail in the plan that I thought was necessary to do
20 a thoughtful review and analysis of -- of what was
21 proposed.

22 I would say that the general program
23 categories are in line with what we see in leading
24 portfolios across North America. There are program
25 opportunities that could serve many different types of

1 customers if the budgets and savings targets and
2 participation targets are sufficient.

3 That's been a little hard to sort out.
4 But my general conclusion is that the -- the budgets
5 are unreasonably conservative in how opportunities are
6 targeted to residential customers.

7 And another observation, and this is
8 from my experience in being part of a start-up
9 operation and managing energy efficiency programs for
10 many years, is that a lot of things have to go right
11 in order for Efficiency Manitoba to succeed in
12 implementing this plan, and they may, and I certainly
13 hope that they will but, in reviewing the plan itself,
14 the evidence is not there to -- to give confidence
15 that they will.

16 I did observe in review of the plan
17 that there is a strong focus on complying with the
18 framework in the minister's letter and, you know,
19 importantly, to operate these programs -- offer these
20 programs to Manitobans at a very -- as a very
21 streamlined and efficient operation at a low cost.

22 And these are, I agree, critically
23 important attributes of an effective energy efficiency
24 plan, but they're not all that matters. And when we
25 look at some of the considerations in the Act, it's

1 important to consider whether the initiatives are
2 reasonably accessible to all Manitobans.

3 And I -- it's my habit. When I look at
4 something like this, I think, well, what does that
5 mean, 'accessible'. And so, I go to the dictionary to
6 understand what the term means, and 'accessible',
7 available, easy to find, you know, it's not something
8 that should be hard to do.

9 And the analogy which I think dates me
10 that I thought of is, if I was watching Oprah, for
11 example, and Oprah said here's a book that I think
12 everyone should read. And I thought, well, I'm going
13 to down to the bookstore and find it.

14 And I walked in the bookstore and said
15 I want to find this book that Oprah recommended. And
16 the person who's working there says, oh, yeah, we've
17 got that, we've got one (1) copy, it's two hundred
18 dollars (\$200) and I can't tell you which floor it's
19 on or which section it's in, if you have the time and
20 the money, you can go find it.

21 Now, to me, that's not accessible. I
22 would say, if I walked in the bookstore and there was
23 -- I used to know what these are called, but you know
24 the display when you walk right in that has bunches of
25 copies of the book you're looking for and it's right

1 there in front of you and you can just go and get it,
2 that's accessible.

3 So, when I look at this plan and think
4 about whether the programs are reasonably accessible,
5 especially to residential customers, it doesn't appear
6 to me that they necessarily are.

7 We already had a little conversation
8 about cost-effective and the use of that term. In my
9 experience in energy efficiency parlance, cost-
10 effective means -- it is a binary question. It's the
11 benefits are greater than the costs or they're not.

12 And I bring this up not just because
13 there's been some conversation here, but I hear it in
14 many jurisdictions where I think the term 'cost-
15 effective' takes on a number of different meanings.

16 And so, I think, again, when we're
17 looking at the requirements of the Act, it's important
18 to be clear about what we think it means. So, for
19 example, in an IRR from AMC, there was -- in the
20 evidence -- AMC's evidence there was a lot of use of
21 the term 'cost-effective'. It to me did not seem it
22 was used in that binary it's cost-effective or it's
23 not way.

24 So, we asked a question about it. And
25 the answer was that the term 'cost-effective' as used

1 in the evidence refers to the pro -- program cost per
2 unit of energy saved, which I would call the levelized
3 cost of saved energy. That's different than whether
4 something's cost-effective or not. They're both
5 important metrics, but I don't think they're the same.

6 And so, the reason I think this is
7 important, in particular, is -- skip the slide -- here
8 it is, sorry -- that the mandate says that:

9 "Efficiency Manitoba should achieve
10 additional reductions if the re --
11 reductions can be achieved in a
12 cost-effective manner."

13 And to me that means, if the benefits
14 exceed the costs, not if it's the lowest cost
15 available, my observation on that. Sorry for jumping
16 around on the slides.

17 And again, in the regulation, that
18 echoes what's in the Act, to consider whether the
19 savings -- the initiatives required to achieve the
20 savings target is cost-effective.

21 So, I've looked at energy efficiency
22 plans and reports in a number of jurisdictions, and
23 the level of information that's included in them
24 varies.

25 And as someone who's trying to

1 understand what's proposed because my interest in is -
2 - is in providing information that will hopefully be
3 used to make the implementation of the plan
4 successful, it's really important to be able to see
5 what is being proposed.

6 I found that the narrative talks about
7 some of the mandates in reducing costs, being more
8 streamline, being accessible and so forth didn't
9 provide a lot of detail about how that's going to be
10 done.

11 And, importantly, there weren't -- in
12 the plan there -- there was not information about the
13 specific measures that were going to be propo --
14 proposed and promoted and how they're going to be
15 prioritized.

16 And again -- so, for background, when I
17 ask about or think about what's a measure, it's the
18 thing that the program is trying to get customers to
19 buy or to do in order to save energy.

20 So, it's not a -- the program is not
21 necessarily a bundle of things, it's -- it's a thing.
22 Maybe it's an efficient air conditioner or an
23 efficient refrigerator or an improvement to an
24 industrial process or a light bulb or it's a -- it's a
25 thing.

1 And when we look at the plan to assess
2 the reasonableness of it, it's really important to be
3 able to understand how many of which things at what
4 cost they're proposing.

5 This information was not in the plan.
6 Just some examples, we look at 2020 national grid. In
7 the retail lighting measures they list out half a
8 dozen or eight (8) different either types of measures
9 or approaches.

10 So, halfway down LED bulb hard to reach
11 is different than just the LED bulb that's going to be
12 available at -- at the big box store, how many of
13 each, what they think the life that they're claim
14 savings is going to be for that measure, how much
15 they're proposing to pay for each of those bulbs, and
16 what the gross and net to gross savings are going to
17 be.

18 That tells me what they're proposing to
19 do in this program. Another example, Public Service
20 Company Colorado, they have a lot of sub-initiatives
21 in each program.

22 So, in the business program, I mean,
23 there's about fifteen (15) or eighteen (18) different
24 sub-programs. In this case, they look at the -- how
25 many participants they expect, the average rebate per

1 customer, and the average to be saved per customer.

2 And I can look at this and I can say,
3 well, they're going to have a lot of -- a thousand
4 participants on the cooking side, I think it says, or
5 maybe it's cooling. I didn't put my glasses on. The
6 third row -- third row -- one (1) down, they're going
7 to do a lot of lighting efficiency.

8 They have three (3) projects in self-
9 direct, big rebates and a lot of savings, but only
10 three (3) of them. It gives me a sense of what's
11 happening and what they're proposing. And then --
12 then there's something for us to comment on.

13 What -- what we saw in the plan is --
14 this is an example. On the home renovation rebate
15 offers, we're going to provide rebates on a variety of
16 energy saving technology, such as, didn't tell me how
17 much of each, how much they're going to pay for each
18 or any of that.

19 And so, I don't -- as I acknowledged, I
20 -- I don't want to appear critical. I understand how
21 much work there is that's involved in this. But for
22 the Board's information and for parties to be able to
23 comment on it, it would be important to see some
24 changes in the future about the level of information
25 that's provided in a plan.

1 And, you know, just to follow up, we
2 asked very specifically for this information on
3 November 4th. We didn't get it until the end of
4 November. So, with the compressed time schedule,
5 there really wasn't much opportunity to -- to do much
6 with it.

7 And -- and the data were incomplete.
8 This was what was in the plan. Number of houses,
9 suites, I understand this was spoken about at some
10 point in the Hearing in the last few days. And the
11 typographical error, understandable.

12 Here it shows number of houses in 2021
13 three thousand four hundred and twenty (3,420) in the
14 income qualified program, but that was corrected to
15 five hundred (500) on the electric side, thirteen
16 hundred (1,300) on the gas side.

17 And again, with the amount of time that
18 we had after receiving these data, it was very hard to
19 do any kind of thoughtful review.

20 But in spite of that, there -- there
21 are indications to me that there are not sufficient
22 opportunities for residential customers in the plan.
23 The program -- the framework, direct install product
24 rebates, home renovation, new homes kits and
25 education, within those program areas there's a lot of

1 room to do a lot of important work.

2 And I don't have any issue with the --
3 with framing the program opportunities in -- in this
4 way; it targets specific types of opportunities. That
5 seems appropriate to me.

6 But again, without the measure level
7 detail, when we look at the residential savings -- and
8 this total portfolio, everything in, codes and
9 standards, load displacement on the nonresidential
10 side.

11 So, the nonresidential is in the orange
12 and the residential is in the blue, and this is just
13 the electric portfolio. But we can see that the
14 electric residential all-in savings around 20 percent
15 of the total portfolio compared with about 80 percent
16 for the nonresidential, but when we look at the
17 electric use, it's about 33 percent of the total.

18 So, that's for me a red flag. But when
19 we then look at -- let's divide -- or see what is --
20 see what is going into the residential portfolio,
21 where are the savings coming from, and the blue bar is
22 residential codes and savings and the green bar is
23 what I call residential programs, things that a
24 residential customer could participate in voluntarily,
25 go out, buy something, have somebody come to the home

1 and do an energy audit, those kinds of activities, not
2 codes and standards.

3 It's, you know, not a large fraction
4 there. And then when we put it back on top, you know,
5 the -- the residential portfolio savings broken out,
6 you see the green bar is the program savings and the
7 blue is codes and standards and the orange is
8 nonresidential and we're looking at about 7 to 8
9 percent of the portfolio savings per year on the
10 electric side coming from residential programs.

11 And to me -- and that's -- in
12 residential, I'm including the LIC0125 and the
13 Indigenous programs, so I -- I'm not sure that means
14 they're accessible; in fact, I -- I would maintain
15 that really not. When we look at codes and standards
16 and think about who benefits from those initiatives on
17 the residential side -- somebody who's building a new
18 home or undertaking a major renovation, somebody who's
19 buying a new appliance that's covered by an appliance
20 standard.

21 But for people who are not doing those
22 things, making those kinds of investments, codes and
23 standards don't provide any direct benefit. They
24 don't provide any opportunity for those residential
25 customers who don't have the funds to make these

1 investments to save energy.

2 The one (1) exception to that,
3 potentially, is the -- the general service lighting
4 standards, but, you know, so we look at here. I mean,
5 it -- the lighting standards per customer buying
6 efficient lightbulbs -- the savings are small per
7 customer, and they're certainly diminishing on the
8 code front.

9 And this is also an area where I think
10 there's some risk that independent evaluator may come
11 in and says, We think those estimates of codes are --
12 savings from codes are a little optimistic, because,
13 really, the standard has been -- I should say
14 standard, sorry -- has been in place for a number of
15 years. The market is shifting in that direction
16 anyway, and we're not sure that the fact that there's
17 a standard on the books is contributing materially to
18 the savings anymore. I can't make that judgment, but
19 it's an area that -- where -- where an independent
20 evaluator could.

21 And again on the question of who
22 benefits from codes and standards, there were some
23 discussion about horizontal equity in the AMC
24 evidence, and so we asked an IR and said, you know, Do
25 codes and standards provide -- do they meet the

1 horizontal equity test, in your view? And -- and the
2 answer was, In theory, but not necessarily in
3 practice, and can actually lead -- you know,
4 increasing building codes can actually lead to an
5 increase in the inequity, the gap of energy efficiency
6 of on-reserve and off-reserve housing because lack of
7 enforcement on reserve and -- I think I've said that.

8 And going back to the importance of
9 residential programs, and to echo the idea -- or, the
10 question of accessibility or the requirement for
11 accessibility, we look at the letter from the premier
12 that says:

13 "Efficiency Manitoba will do a
14 better job lowering energy
15 consumption, cutting emissions, and
16 reducing costs for Manitoba
17 ratepayers."

18 When I think of how we use energy
19 efficiency to reduce costs for ratepayers, there are
20 certainly system-wide benefits from cost-effective
21 investments, but for any individual customer who can
22 participate in a program, that is probably the single
23 best way to reduce costs. And so if there are
24 opportunities -- abundant, accessible opportunities
25 for res -- residential customers to participate --

1 that's how we reduce costs for those customers.

2 And again, to the cost-effectiveness
3 question -- again, this is electric portfolio -- these
4 programs are all cost-effective, and when we look at
5 home renovation with a benefit-cost ratio of two point
6 nine (2.9), that says to me, There's headroom there to
7 do more of this and remain cost-effective, possibly
8 not have the cost-effectiveness diminished depending
9 on what's in the measure mix, which, again, I don't
10 understand.

11 So I just want to talk a little bit
12 about startup challenges -- I -- because in my
13 evidence, I identified a number of risks to the
14 startup and implementation of the programs. And staff
15 hiring and transition, there's, you know, been some
16 reassurances, I understand, during the hearing from
17 Efficiency Manitoba, both about hiring and transition
18 and -- and procurement of program implementors, which
19 is reassuring, but I don't think it means that the
20 risk is gone.

21 And interestingly, as I've thought
22 about this, you know, I think there's a sense that
23 because the Efficiency Manitoba staff has experience,
24 that means that we should rely on what they're saying
25 and these things will be accomplished. From my point

1 of view, it's my experience that tells me these risks
2 exist, and -- and if I were trying to do this launch,
3 I would be much better off to identify the risks,
4 acknowledge them, and think about how I would address
5 them if they come up.

6 And I also want to say that in going
7 through that exercise, often, one might identify risks
8 that -- hadn't thought of and think of ways to sort of
9 cut them off before we get to the point where they're
10 happening and we don't know what to do. So I think
11 it's a really important tool in project management.

12 But of -- of the -- I don't want to go
13 through all of these. I -- I think that the point is
14 simply that optimism is not the same as success, but I
15 do want to talk a little bit more again about codes
16 and standards savings as a risk.

17 So I want to say, I think codes and
18 standards savings are an absolutely legitimate,
19 valuable resource, and that it's perfectly appropriate
20 for efficiency programs to undertake activities that
21 either promote adoption of increased codes and
22 standards or that increase compliance with existing
23 codes and standards and to claim savings for that.
24 And I recommend this in other jurisdictions.

25 There's a lot of work in making these

1 things happen, and while I -- I had this discussion in
2 the Carolinas last week -- while I wouldn't ever
3 suggest that a utility was trying to subvert adoption
4 of new codes because it would make it harder for them
5 to get their energy efficiency savings, that's very
6 different than actively supporting adoption of new
7 codes and doing -- you know, providing some of the
8 technical expertise and some of the training that will
9 allow success with those codes.

10 And if the utility -- or in this case,
11 Efficiency Manitoba -- doesn't have the ability to
12 claim some savings for those activities, they have no
13 reason to participate, and that's not, I don't think,
14 in the public interest. I think it's better if they
15 participate and actively help support these codes and
16 standards.

17 I will say that the approach, as I
18 understand it, to claiming -- or, attributing the
19 savings in Manitoba is -- and -- and some of the other
20 provinces in Canada -- BC is a different approach too,
21 and Ontario, and in the States -- half a dozen or
22 twelve (12) states where programs are claiming savings
23 from codes and standards south of the border, there's
24 usually some kind of evaluated attribution process
25 where the evaluators will determine how much credit

1 they think the program should get. That's less the
2 case here. I'm not an evaluator; I don't have an
3 option on that. I'm just making that observation.

4 But there are market forces at work.
5 We know that, for instance, the lighting industry is
6 advancing LED-efficient products in -- you know,
7 perhaps started because of codes and programs, but at
8 this point, they -- they're making a lot of commitment
9 to -- to these efficient products. And so the
10 specific impact of the code may be less. It's for the
11 evaluator to decide, but I view it as a risk.

12 And the reason -- and, well, as does
13 Efficiency Manitoba. We know that they say that
14 they're going to rely on the third-party evaluator.
15 And I also saw in transcript that -- and in the
16 rebuttal testimony that Efficiency Manitoba laid out
17 some reasons for why they feel they're conservative in
18 the savings that they've estimated for codes and
19 standards.

20 And that's fine, but personally, I
21 would be more comfortable if there was an independent
22 assessment of whether they're conservative or not.
23 You know, I know that if I'm making a judgement for
24 myself on something that I'm doing, I may not see all
25 of the pieces.

1 And -- and the main reason that this
2 concerns me has to do with the available budget for
3 the total portfolio, because codes and standards are
4 very-low-cost savings, and Mr. Harper talked some
5 about there's a disconnect between when the
6 expenditures that are in Efficiency Manitoba's plan
7 and the savings that they're proposing to claim from
8 codes and standards -- a different issue, important --
9 but in general, low-cost savings, and they're a huge
10 part of the total portfolio savings here.

11 They're -- I've seen discussion in the
12 transcript about -- about the ability to shift funds,
13 if some programs overperform and some underperform, in
14 order to meet the goal. But because when we look at
15 this chart -- I'll explain in a second -- the -- the
16 point I'm trying to make is if codes and standards
17 savings don't materialize, there won't be enough money
18 to shift into other programs to reach the targets.
19 And that's a risk in my view.

20 So in this chart, I've added the green,
21 but the other was from a memo from Dunsky Associates,
22 and it was comparing the proposed Efficiency Manitoba
23 cost -- in this case, the levelized cost in US dollars
24 -- how much does it cost -- and that's -- probably
25 should be kilowatt hours, but it says ten (10) cents

1 per megawatt hour on one (1) of them. Yeah, that
2 would be really cheap. So sorry about that. We'll --
3 we'll fix that. I don't think that was my -- I think
4 I just copied that right from the plan, though, so.

5 But in the green -- so --

6 THE CHAIRPERSON: The charts -- the
7 chart -- the same chart has been used before --

8 MR. JIM GREVATT: Yes.

9 THE CHAIRPERSON: -- and we noticed
10 the --

11 MR. JIM GREVATT: Yeah.

12 THE CHAIRPERSON: -- the problem.

13 MR. JIM GREVATT: Thank you. So 10
14 cents, kilowatt hour. So if US average in 2017 was 26
15 cents per kilowatt hour saved, Efficiency Manitoba is
16 suggesting that they are coming in at a lower cost
17 than these other thirty (30) portfolios, and that's as
18 a start-up, and that's in 2021 as opposed to 2017.

19 In 2017, these portfolios were claiming
20 a lot of savings from residential lighting, which the
21 amount of savings they can claim now from residential
22 lighting because the standards is much lower. It's --
23 I don't see how they can do that, and if they can,
24 that's wonderful, but it certainly causes me some
25 concern.

1 And when we -- and again, and my first
2 thought was, well, it's because of the codes and
3 standards, so in discovery we asked if Efficiency
4 Manitoba could reproduce the chart, but taking out the
5 codes and standards savings so that the Efficiency
6 Manitoba cost per kilowatt hour saved would be more
7 comparable to these other portfolios, and they weren't
8 able to do that but they did say it'd be 15 to 17
9 cents, and again I understand from the transcript this
10 was discussed and there's some question about
11 conversion.

12 I assumed that the 15 to 17 cents was U
13 -- in US dollars because the chart was in US dollars.
14 It may or may not have been. But even regardless of
15 that, it's still less than the 2017 average, without
16 the codes and standards. So my concern is, if they
17 don't get the codes and standards savings, there's no
18 budget to -- to meet the savings goals.

19 So from my evidence the primary
20 recommendations were that Efficiency Manitoba should
21 provide a project management plan and risk assessment
22 and mitigation strategies to the Board.

23 And I want to be clear that, from my
24 point of view, it's less important that parties have
25 an opportunity to review this plan than that

1 Efficiency Manitoba has it, because again from my
2 experience, to try to do this kind of launch, you need
3 to have a really clear idea of everything that needs
4 to happen, when it needs to happen, what needs to
5 happen first, what you're going to do if one of those
6 things doesn't happen, and if that's not laid out, it
7 really decreases the likelihood that the things that
8 need to happen are going to happen.

9 So that's just -- to me that's just
10 sound project management and I would hope that they
11 are developing such a plan. I suggest an independent
12 review of codes and standards savings.

13 As noted, I think the residential
14 income eligible savings in particular, but the budgets
15 and participation targets have to increase in order to
16 reach a higher savings target from programs. I think
17 that that adjustment should be made in the plan and,
18 you know, in future filings I would suggest that the
19 level of detail it's provided is -- is much more
20 robust.

21 And with those in mind, I have some
22 options that the Board might want to consider in
23 looking at this plan, because certainly to say the
24 data that were provided in the plan are not
25 sufficient, you should not approve the plan, you

1 should make them go back and do it again, that's going
2 to hold up a lot of important work for Manitobans, so
3 I would be very reluctant to suggest that.

4 However, another option might be to let
5 Efficiency Manitoba get started, approve the first
6 year, do all this work on the CRM and the other tools,
7 the online home -- online home energy audit tool, the
8 staffing, the contractor procurement, get all those
9 things going and get started on the first year of the
10 plan.

11 Perhaps require Efficiency Manitoba to
12 file its project man plan -- project management plan
13 with the Board and risk mitigation strategy so that
14 you have the confidence that it's done, and then for
15 the second two (2) years of the plan, perhaps require
16 them to file an amended plan that has independent
17 vetting of the codes and standards savings, the
18 estimates.

19 It's different than an evaluation,
20 evaluation after the fact, but let's at least look at
21 the methodology and the reasonableness of the
22 assumptions.

23 If the codes -- and if the independent
24 evaluator or assessor suggests that the codes and
25 standards estimates are too high, then Efficiency

1 Manitoba should adjust the other program budgets and
2 savings targets so that they meet the targets and
3 provide more detail for the second two (2) years.

4 And importantly, I would suggest that
5 we'd like to see more residential savings across all
6 of the residential subsectors, more par --
7 participation, and especially in the area of long-
8 lived measures, shell improvements, insulation, air
9 sealing, and electric heating and cooling efficiency
10 measures such as ductless heat pumps.

11 I think the note that I want to close
12 on is when we talk about accessibility, I think it's
13 easy to focus on the 5 percent of the budget to
14 LIC0125 and Indigenous, but that neglects the fact
15 that there are hundreds of thousands potentially of
16 households who are above that LIC0125 threshold who
17 are off reserve, who do not have the kind of
18 disposable income that's required to go out and make
19 these investments on their own, and potentially
20 hundreds of thousands of people, and that's a big gap
21 in the programming that I see and that would fail to
22 meet the bar of accessibility and where there's a lot
23 of need.

24 So with that, I'm happy to try -- do my
25 best to answer any of your questions, and thank you

1 for your time.

2 THE VICE-CHAIRPERSON: Mr. Grevatt, on
3 page 31 of your presentation you presented a number of
4 cost-effective bundles.

5 Did you have the measure information to
6 assess these bundles at a measure level?

7 MR. JIM GREVATT: Not at a measure
8 level. There was some information that was provided
9 in an IRR from Efficiency Manitoba. It was in a
10 couple of different spreadsheets. It was -- it was
11 hard to assess.

12 So I don't have the specific measures
13 and the quantities, at least -- some of that
14 information might be available in discovery, but I
15 haven't done any analysis on it.

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

18 BOARD MEMBER GRANT: I'm going to
19 skirt the cost-effectiveness question because I think
20 we have a different definition, but I would say to
21 address the issue in a somewhat different way, and I
22 draw upon anyone in the Panel from their experience.

23 To -- Mr. Harper raised the issue about
24 the consumer impact, the consumer bill impact. To see
25 the cost side measured only in terms of PACT and then

1 to have the benefit side not include -- not monetize
2 the non-economic benefits, is that unusual in your
3 experience?

4 MR. JIM GREVATT: Mr. Neme might be
5 able to respond to this better, but, I mean, with
6 different jurisdictions we see a wide range of
7 approaches to cost-effectiveness, but I yield.

8 MR. CHRIS NEME: Sure. I'll maybe
9 elaborate a little bit on Jim's answer because I -- I
10 do a lot of work on the issue of cost-effectiveness
11 and was, in fact, one (1) of the co-authors of a
12 national manual on how to conduct cost-effectiveness
13 assessment that was published a couple of years ago.

14 There are, in fact, many different
15 tests that are used in different jurisdictions to
16 assess cost-effectiveness.

17 Most commonly, people -- different
18 states and provinces talk about one (1) of three (3)
19 tests, Societal Cost Test, the Total Resource Cost
20 Test, and the Program Administrator Cost Test,
21 sometimes alternatively called the Utility Cost Test,
22 and they use those terms because they were developed
23 originally back in the '80s in California through a
24 manual that the California Commission put out.

25 But the reality is, even within those

1 tests, the most common probably used by name is the
2 Total Resource Cost Test, but of the maybe twenty (20)
3 or twenty-five (25) jurisdictions that use that test,
4 I'm not sure any of them actually computed exactly the
5 same, and one (1) of the reasons for that is that
6 those tests were kind of developed in abstract and not
7 developed to reflect the real policy concerns that
8 different states and provinces have.

9 And so different states and provinces
10 have then taken the -- the test -- the conceptual
11 test, and then modified it so that it reflects their
12 own jurisdictional policies. And if that's done well
13 and -- and right, then that's -- that's a perfectly
14 good thing to do.

15 Unfortunately, it's rarely done right.
16 In many jurisdictions that use the TRC Test, all they
17 do is they take the program administrator costs, add
18 on the participant costs, and do nothing on the
19 benefit side.

20 Conceptually, the TRC Test is supposed
21 to address the combined impact to the utility system
22 and program participants. That means if you're going
23 to add the program participants' contribution to the
24 cost of an efficiency measure, you need to add all the
25 program participants' benefits, including things like

1 improved health and safety, improved comfort, improved
2 building durability, improved business productivity,
3 et cetera. And that's sometimes a challenging thing to
4 do.

5 And so there are, I would say, somewhat
6 growing interests in the program administrator cost
7 test as an alternative to just reflect. And so there
8 -- and there are a number of jurisdictions that now
9 use that test as their primary test to reflect the
10 perspective of the impacts just to the utility system,
11 and in a sense, indirectly assuming that the -- that
12 if the customers are putting any of their dollars on
13 the table themselves, they're doing it in part because
14 they have these other benefits that are also part of
15 their consideration.

16 And in fact, most good efficiency
17 programs recognize that there are lots of nonenergy
18 benefits, and market those as the basis to get
19 customers to try to participate in the first place.

20 BOARD MEMBER GRANT: Or -- or you have
21 entirely naive consumers. So I guess my question
22 would be: What -- where is the harm in providing some
23 of the additional total resource cost measures or
24 participant cost measures as an -- as an additional
25 sort of screen for some of these programs?

1 And the other question I would have is
2 that -- and you think especially in today's climate,
3 where presumably, you want to monetize greenhouse gas
4 savings and water savings?

5 MR. CHRIS NEME: So I'll answer the
6 question this way. I wrestled with this question a
7 lot, as have a lot of other practitioners in the -- in
8 the field. The conclusion I and most others that I'm
9 familiar with have come to is that it's important for
10 each jurisdiction to define a primary test that they
11 focus on for yes/no decisions.

12 Does this make sense, given our policy
13 objectives? And if reducing greenhouse gas emissions
14 is one (1) of your policy objectives, than you should
15 add -- if -- if you start with the program
16 administrator cost test as your core, because you
17 always have to include that, and then you look at what
18 other policy interests do I have? If reducing
19 greenhouse gas emissions is one (1) of them, then we
20 could add the cost -- any costs and benefits that are
21 related to -- to those.

22 If a -- a truly broader societal
23 perspective is -- is important across kind of the --
24 the whole range of potential impacts, then you broaden
25 your test to include those. So it's important to have

1 a primary test, but I think it's also perfect --
2 perfectly reasonable to suggest that it's appropriate
3 to assess cost effectiveness through several secondary
4 tests.

5 I wouldn't suggest the participant test
6 be one (1) of them. I think that that could be useful
7 for program design purposes only, but not -- for a
8 whole host of reasons, not kind of go/no go decisions.
9 But secondary tests can tell you some useful things
10 sometimes. And so I would support that as a potential
11 direction.

12 BOARD MEMBER GRANT: Thank you.

13 MR. JIM GREVATT: Just to add to that,
14 again, I mentioned the Carolinas. I was in
15 conversation in North Carolina where they are looking
16 at moving to the program administrator cost test from
17 the TRC, partly because the TRC as it's been
18 implemented there doesn't include a lot of the
19 benefits, just as Mr. Neme said.

20 And so the program administrator
21 actually wants to be able to do more energy efficiency
22 programs, especially for residential. They're really
23 struggling to pass the TRC, because it doesn't include
24 all those benefits.

25 And this is actually an issue that I

1 ran into when I was at Vermont Gas fifteen (15) or
2 more years ago, that with the residential retrofit --
3 comprehensive retrofit program, where we were doing
4 insulation, and air sealing, and sometimes changing
5 out heating systems, it passed the program
6 administrator cost test. Customers were happy. They
7 wanted to make these investments. But it was right on
8 the margin of whether it was going to pass a TRC, or
9 even in Vermont, it was the societal test.

10 So -- so I just want to echo that I
11 think it can be very useful to have multiple
12 perspectives to inform decision-making, provided that,
13 you know, that they're -- the full complement of costs
14 and benefits are included in the analysis.

15 BOARD MEMBER HAMILTON: Thank you, Mr.
16 Grevatt. With regard to your recommendation number 4
17 in relation to the amended Efficiency Plan, there's
18 reference to increased promotion of cold climate heat
19 pumps.

20 We heard from Efficiency Manitoba that
21 they are looking at doing pilot projects on a very
22 limited scale because they're concerned that those
23 heat pumps will not function well in a severe winter
24 climate like ours that you're going to experience
25 tomorrow.

1 Are you aware of any research or -- or
2 pilots that have been conducted that would provide an
3 answer to whether they will work in this kind of
4 climate?

5 MR. JIM GREVATT: If I may, I think
6 that Mr. Neme's presentation will address that point.
7 So if I can defer until after that, and then we can
8 discuss more if -- if appropriate.

9 BOARD MEMBER HAMILTON: Sure. Thank
10 you.

11 THE CHAIRPERSON: Mr. Grevatt, you
12 refer to Efficiency Manitoba as a startup, so I'll use
13 that term.

14 And -- and before, quite frankly,
15 before I -- I was appointed to the Board, I worked
16 with startup companies in the technology field. So
17 you have a startup company on an accelerated
18 timeframe, with a limited budget, limited staff,
19 starting out in this area.

20 From your experience in the area, if
21 you looked at jurisdictions where you've worked in
22 with smaller jurisdictions, if they wanted to talk or
23 look at other jurisdictions, what jurisdictions would
24 -- should they be looking at?

25 Because quite frankly -- and -- and I,

1 you know, we -- we've heard this before in other
2 hearings where people start presenting us with studies
3 on companies that are a hundred times bigger, or
4 whatever.

5 What are the relevant jurisdictions
6 they should be looking at of a comparable size where,
7 quite frankly, your producer is a monopoly, not you
8 have twenty (20) or thirty (30) different companies
9 that are going to do their own communications with the
10 public.

11 Any recommendations on -- on the
12 jurisdictions they should look that have got programs
13 that are positive for accessibility, positive for
14 residential programs?

15 MR. JIM GREVATT: I could probably
16 give you a -- a more fulsome answer if I thought about
17 that a little bit. I mean, because every jurisdiction
18 is different. There are many similarities, but
19 different.

20 I think of Vermont, which has six
21 hundred thousand (600,000) households, but virtually
22 no industry. But if we looked at the residential
23 sector, perhaps that would be a good comparison.

24 And off the top of my head right now, I
25 can't tell you what the -- what the numbers of -- and

1 to -- performance with Energy Star in Vermont. They
2 do ductless heat pump promotions. They certainly have
3 done a lot of efficient products over the years,
4 midstream promotion of heat pump water heaters.

5 I would view that as probably a -- an
6 aggressive portfolio on the residential side. Rhode
7 Island is a small state. It's a much more
8 concentrated population. They do a lot on the
9 residential side.

10 But it -- it might be something that we
11 could think about and respond.

12 THE CHAIRPERSON: Certainly. Thank
13 you. Well...

14

15 (BRIEF PAUSE)

16

17 MS. KATRINE DILAY: So if it would be
18 acceptable to the Board, we could take that as an
19 undertaking and provide an answer in writing tomorrow.

20 THE CHAIRPERSON: Okay. Would you --
21 tomorrow or whenever. Would you like to read an
22 undertaking into the record?

23 MS. KATRINE DILAY: Sure. So my
24 understanding is to -- for the Consumers' Coalition
25 witnesses to look into -- or provide any

1 recommendations they may have for other juris --
2 comparable jurisdictions to Manitoba in terms of
3 accessibility and residential programming.

4 THE CHAIRPERSON: Okay. Thank you.

5

6 --- UNDERTAKING NO. 15: Consumers' Coalition
7 witnesses to provide any
8 recommendations they may
9 have for other comparable
10 jurisdictions to Manitoba
11 in terms of accessibility
12 and residential
13 programming

14

15 MR. CHRIS NEME: Very good. Thank
16 you, Chairman Gabor, Vice Chair Kapitany, Board
17 members Hamilton and Grant. And I want to echo what
18 my colleague, Mr. Grevatt, said about appreciation for
19 the obvious amount of hard work that the folks at
20 Efficiency Manitoba put into their Plan under trying
21 time and resource constraints. A lot of work has
22 clearly gone into that.

23

24 And I want to thank you for the
25 opportunity to present my review of their -- of their
plan, focused on in particular, electrification

1 considerations associated with their Plan.

2 So I'm going to touch on four (4)
3 different -- at a high level, four (4) different
4 topics that I addressed in my testimony, my written
5 evidence.

6 The first is that electrification of --
7 of buildings, homes and -- and businesses, is
8 essential to addressing climate change in the long
9 run.

10 The second is that Efficiency --
11 Efficiency Manitoba's plan could advance
12 electrification by -- by promoting heat pumps while
13 both meeting the savings targets that have been set
14 for it at lower cost than Manitoba Hydro's historic
15 programs, and, also, whi -- while better serving low-
16 income customers than their current plan would --
17 would serve them.

18 Third, Efficiency Manitoba's plan does,
19 unfortunately, relatively little to support efficient
20 heat pumps and almost nothing to support new cold
21 climate air source heat pumps.

22 And finally, I have some suggestions
23 regarding a concern that Efficiency Manitoba's
24 proposal for how to count the impacts of any fuel
25 switching towards its gas and electric savings goals

1 could create potentially perverse disincentives to
2 pursue electrification at least in the long-run.

3 So, let me start with the importance of
4 building electrification to addressing the -- the
5 global climate crisis. A number of years ago,
6 scientists across the world reached the conclusion
7 that we would collectively -- the grand we, need to
8 reduce our carbon dioxide emissions, our greenhouse
9 gas emissions by 80 percent by 2050 in order to
10 stabilize global warming at about 2 degrees Celsius.

11 More recently, scientists have
12 suggested that that may not be aggressive enough; that
13 if we're going to avoid the worst effects of -- of
14 climate change, we probably need to stabilize the
15 climate at about 1.5 degrees of warming and that that
16 would likely require potentially something close to a
17 hundred percent reduction in net carbon emissions by
18 2015.

19 There have been a number of studies in
20 Europe and North America, including in Canada, around
21 what is it -- what it actually takes to get to those
22 kind of levels of deep decarbonization. And all of
23 them suggest that one (1) of the outcomes needs to be
24 decarbonizing buildings, homes and businesses.

25 That is that we need to dramatically

1 reduce, if not eliminate, the consumption of fossil
2 fuels, natural gas, oil, propane, et cetera, for space
3 heating, water heating, and -- and other end uses.

4 And those studies also suggest that the
5 only realistic option for getting to that scale of
6 decarbonization of buildings is electrification.

7 Finally, one (1) last point that
8 doesn't come from those studies, per se, but is my own
9 perspective on this having spent decades working in
10 the energy efficiency world and seeing what it takes
11 to actually get residential customers, in particular,
12 to engage in efficiency investments in their homes is
13 probably going to take decades to transform our
14 building stock to one that is electrified and -- and
15 efficient.

16 And, as a result, given the -- the
17 scale of the challenge in front of us, we -- we can't
18 wait to get started.

19 So, what does that all have to do with
20 Efficiency Manitoba's efficiency plan? At a high
21 level, electrification -- or the -- the long-term
22 objective of electrifying buildings can be supported
23 by efficiency programs in -- in at least three (3)
24 different ways.

25 First is directly by electrifying

1 buildings. If some -- some efficiency measures --
2 some electric efficiency measures, like heat pumps or
3 heat pump water heaters, can be more efficient than
4 gas, propane, or oil heating equipment, so you get
5 efficiency at the same time that you're electrifying.

6 But that's not the only way and, in the
7 short-run, perhaps not even the most important way
8 that Efficiency Manitoba's plan or the plans of other
9 program administrators in other jurisdictions could
10 advance long-term electrification of the building
11 stock.

12 It's particularly important to -- to
13 understand that -- that one (1) way that they could
14 advance that objective, that longer term objective, is
15 to promote electrification measures, like heat pumps,
16 as electric efficiency measures where -- where they're
17 displacing less efficient electric resistance heating,
18 much less efficient electric resistance heating, and
19 developing the market for that technology in the
20 process such that it's more ready, the capacity has
21 been increased, hopefully the costs have come down, et
22 cetera, for a future -- a more serious look at
23 actually promoting fuel switching.

24 And lastly, on -- on the gas efficiency
25 side of things, some gas efficiency measures, namely,

1 measures that are designed to reduce the heating load
2 of a home or an office building or a commer -- other
3 commercial building, can support future
4 electrification by reducing the heat pump capacity
5 and, therefore, the heat pump cost that would be
6 needed in the future to electrify that building.

7 Now, as it relates to Efficiency
8 Manitoba's goals, it's -- it seems clear to me that --
9 that -- and for very good reasons, that asseving --
10 achieving their savings targets is kind of job 1; it's
11 paramount.

12 But as I think both of my colleagues
13 have suggested, there are many different combinations
14 of efficiency measures, efficiency programs, and even
15 different designs of different efficiency programs
16 that could be put together in a package to meet those
17 goals.

18 So, then you were faced with the
19 question of, well, if I have hundreds or thousands of
20 permutations of measures and programs that can get me
21 to these savings goals, how do I decide which one of
22 those is best.

23 And Mr. Harper addressed this at some
24 length in his testimony. I think ultimately you need
25 to go to answer that question to an understanding of

1 what the secondary objectives might be for those --
2 for those programs, and there are many of them.

3 Minimizing costs is certainly one (1)
4 of them. We've talked a little bit about that.
5 Maintaining cost effectiveness, which, again, I agree
6 with -- Mr. Grevatt's characterization is different
7 than minimizing costs is another one.

8 Ensuring that all Manitobans have equal
9 access, as Mr. Grevatt has defined it, and can
10 participate, or likely to be able to participate is
11 another one.

12 Serving low income customers in
13 Indigenous communities, reducing greenhouse gas
14 emissions, promoting new technology so that the focus
15 is not just on what we're going to accomplish in the
16 next three (3) years, but we're also building the
17 pipeline to enable our subsequent three (3) year plans
18 to meet savings goals and a variety of others.

19 And it's -- it's obvious that several
20 of these objectives can be in tension with each other.
21 They can pull you in different directions and,
22 therefore, it requires some level of -- or some form
23 of balancing of those different objectives.

24 I want to speak very briefly to the
25 point that's come up both in interrogatories and in

1 some of the discussion in the proceeding to this point
2 around the Minister of Crown Services directive to
3 Efficiency Manitoba to achieve equal or better levels
4 of savings to what Manitoba Hydro achieved in the past
5 at lower -- you know, lower cost.

6 This -- what this table endeavours to
7 do is to show in real 2019 dollars, because I think
8 the numbers -- the cost numbers that are presented in
9 Efficiency Manitoba's plan are in nominal dollars.

10 So, to compare them on an apples-to-
11 apples basis, the average total budget for Efficiency
12 Manitoba in its plan is about \$15 million a year,
13 about 18 percent less expensive than Manitoba Hydro's
14 2015/2016 programs, and that's just in absolute
15 dollars.

16 But because Efficiency Manitoba's
17 getting a lot more savings, if you look at the
18 question, are we reducing cost to comply with the
19 minister's directive on a per unit basis, they're
20 proposed savings are almost half -- or about half of
21 what dollars per -- per unit of -- of electricity
22 savings anyway, I haven't looked at this on the gas
23 side, or about half of what Manitoba Hydro achieved in
24 2015/2016.

25 And what that suggests in a -- in a

1 somewhat different way than the cost-effectiveness
2 point that Mr. Grevatt made is that, from a budgetary
3 perspective, there appears to be some headroom to
4 increase spending on some measures that could better
5 balance the portfolio with -- and particularly with
6 respect to heat pumps to not only address some more
7 opportunities for serving residential customers,
8 including lower income customers, but advancing
9 objectives of developing new technology for future
10 plans and addressing long-term climate considerations.

11 So, why am I talking so much about heat
12 pumps as an electric efficiency measure? As this
13 table shows on the far right, about 40 percent of
14 Manitoban households currently heat with electricity,
15 and if you look at the second row, the overwhelming
16 majority of it, 94 percent, is very inefficient
17 electric resistance heating.

18 I think it's also really important to
19 take from this chart the point that lower-income
20 customers are disproportionately electrically heated.
21 Households with income of less than twenty-five
22 thousand (25,000) per year are more than twice as
23 likely to heat with electricity as households with
24 incomes of over a hundred thousand (100,000). And
25 those home -- those low-income -- lower-income

1 households are also more likely to heat with
2 inefficient electric resistance heating than with heat
3 pumps, to this point.

4 So there's some really important
5 opportunities. I think I also noted in my testimony
6 that if you -- if you take all of these data, they
7 suggest that even though only 40 percent of Manitoban
8 homes heat with electricity, that electric heating
9 accounts for something like 30 percent of all
10 residential electricity use in Manitoba. It -- it
11 probably makes it -- undoubtedly makes it by far the
12 largest efficiency end use, and as I'll discuss a
13 little bit more in a moment, heat pumps offer the
14 largest single opportunity for substantial reductions
15 in that consumption.

16 Now, historically in Manitoba's climate
17 -- and this gets to Board Member Hamilton's question
18 to -- to Mr. Grevatt a few moments ago -- ground
19 source heat pumps were probably the only option, at
20 least in terms of heating systems, to address that
21 opportunity for inefficient electric resistance
22 heating and -- and -- and reducing cost to consumers.
23 Ground source heat pumps can be very efficient, but
24 they're also quite costly.

25 Historically, air source heat pumps

1 were not an option. They just didn't function -- the
2 heat pumps of ten (10), fifteen (15), twenty (20)
3 years ago just didn't function at a low enough
4 temperature to make them a worthwhile investment in --
5 never mind in Manitoba's climate, in my own home state
6 of Vermont's climate, or Minnesota's climate or even,
7 you know, any of the northern US states. Probably if
8 you went down -- you'd have to go down below the
9 Mason-Dixon line in the US to -- for heat pumps to
10 have been a viable alternative for -- for space
11 heating.

12 However, that has -- that has changed
13 in -- at least in the last decade. To be sure, the
14 technology and our understanding of its performance is
15 -- is still evolving, and it's also undoubtedly true
16 that the Manitoba market for air source heat pumps
17 will require effort and focus to grow. However,
18 there's certainly enough experience with this
19 technology to this point to know that for many homes,
20 they will be a much less expensive alternative than
21 ground source heat pumps.

22 We also know from lots of testing that
23 the technology is capable of producing heat as low as
24 minus 25 Celsius. My -- one (1) of my other
25 colleagues from our firm has one (1) in his home where

1 he's measured heat coming out of it at about minus
2 twenty-seven (27).

3 Now, that said, the lower the
4 temperature, the less efficient the systems become,
5 and although when they're still producing heat in heat
6 pump mode, it's still more efficient than electric
7 resistance heat. And certainly, when you get down to
8 temperatures like minus twenty-five (25), they're not
9 producing nearly as much heat.

10 And as a result, in your climate, you
11 would undoubtedly need some sort of backup heating
12 system for the really cold hours of the winter. And
13 electric resistance heating is probably going to be
14 required for any homes, you know, that are currently
15 electrically heated. You're not going to displace all
16 of that electric resistance heat. Nevertheless,
17 there's some pot -- potentially quite substantial
18 savings potential, perhaps on the order of -- of 50
19 percent.

20 Now, as I noted before, one (1) of the
21 problems with air source heat pumps in northern
22 climates has been that the way they've been rated --
23 the way their heating system efficiency has been rated
24 -- did -- did not represent the way they actually
25 operated in -- in climates other than kind of in the

1 mid and southern parts of the US.

2 And that's a concern for some time now
3 in -- in northern states and provinces, to the point
4 where, a few years ago, an effort was launched -- I
5 believe Natural Resources Canada is -- is partially
6 funding it -- the Canadian Standards Association
7 launched this effort to -- to draft kind of new
8 specifications and testing standards for heat pumps
9 where there would be requirements to test and -- and
10 rate them, so to speak, rate their efficiency across
11 eight (8) different climates.

12 And if you look at this map, you can
13 see kind of a representation of where -- where -- what
14 those climates are. Most of the population in
15 Manitoba would appear to live in the kind of very cold
16 -- the second coldest of these, the very cold. The
17 very northern parts of the province are in the coldest
18 one, the sub-arctic.

19 And we have begun to get testing
20 results for what are commonly called cold-climate heat
21 pumps, cold-climate air source heat pumps, in
22 accordance with the -- the Canadian Standards
23 Association draft protocols. This -- this graph kind
24 of depicts the results of testing for thirteen (13)
25 so-called cold-climate air source heat pumps.

1 One (1) of the interesting aspects of
2 this testing is that they've discovered, not
3 surprisingly, that heat pumps that -- several of
4 these, which had the identical efficiency rating,
5 turned out to perform quite differently from each
6 other in different climates, again, because the
7 historic way of testing and rating those systems has
8 not been very good.

9 But you can see, with the exception of
10 one (1) outlier, twelve (12) of the thirteen (13)
11 cold-climate air source heat pumps, in the very cold
12 climate, had seasonal coefficients of performance, S-
13 C-O-Ps, of between one point eight (1.8) and two point
14 six (2.6). The average is somewhere in the two point
15 two (2.2), two point three (2.3) range.

16 And that's about a 55 percent
17 improvement in efficiency per unit of heat produced
18 relative to an electric resistance heating system,
19 which is that horizontal red line at the bottom. So
20 this gets to -- to your question, Board Memb -- Board
21 Member Hamilton, about, you know, how do these things
22 function in -- in -- in your very challenging winter
23 climate.

24 Now, I want to be careful to say that,
25 you know, this is a set of tests -- the first set of

1 test that we're -- that we're seeing across this kind
2 of broad range of climates for these products, and
3 there's undoubtedly more to come, but it's a pretty
4 strong indicator that there's potentially substantial
5 savings to be acquired from this technology.

6 Unfortunately, as I noted in my written evidence,
7 Efficiency Manitoba's plan, in my view, is unlikely to
8 materially advance our understanding of that
9 technology or its deployment.

10 With respect to direct electrification,
11 there's very little of that in Efficiency Manitoba's
12 plan. At -- at a high level, that doesn't trouble me.
13 I -- I -- I think, given current natural gas prices
14 and the -- the desire to -- to develop the heat pump
15 market, I wouldn't expect large amounts of
16 electrification in their plan.

17 The -- the one (1) opportunity I did
18 want to flag and I did address in my testimony as a
19 potentially missed one (1) is the opportunity to help
20 low-income customers that currently heat with fuel oil
21 or propane to switch to cold-climate heat pumps.
22 There's about thirty-two hundred (3,200) such
23 customers, and I'll show you a graphic from Manitoba
24 Hydro in a second that suggests that they might be
25 able to save on the -- on the order of two-thirds

1 (2/3) of their heating use with -- with some form of
2 heat pump. But that's not currently allowed under the
3 draft of Efficiency Manitoba's plan.

4 This is the graphic I was referring to.
5 This is where Manitoba Hydro has estimated the annual
6 heating consumption for several different heating
7 fuels and for several different efficiencies of the
8 heating systems for those fuels. So you can see on
9 the far right, those are propane-heated homes, with
10 annual heating costs of between about nineteen hundred
11 (1,900) and twenty-seven hundred dollars (\$2,700),
12 depending on the efficiency of their furnace.

13 The next two (2) bars, as you're moving
14 from the right to the left, the kind of -- I don't
15 know what kind of blue you want to call that -- sky
16 blue -- are the fuel oil bars, nineteen hundred
17 (1,900) to twenty-eight hundred dollars (\$2,800),
18 roughly.

19 And then if you look all the way to the
20 far left, ground source heat pumps, the cheapest one
21 being a ground source the pump with a seasonal COP of
22 three (3), and then the one -- the second one over
23 with a seasonal COP of two (2), in the five (5) to
24 seven hundred dollar (\$700) a year of -- of costs.

25 So clearly, ground source heat pumps

1 are much less expensive to operate relative to propane
2 and fuel oil systems. I would expect air source heat
3 pumps, given the graphic I just showed you, to be a
4 little bit closer to the -- the second -- in between,
5 but perhaps a little closer to the second of those
6 ground source heat pump examples, but also potentially
7 providing substantial savings relative to propane or
8 fuel oil.

9 But that's a limited market segment, a
10 relatively modest number of lower income households
11 that heat with fuel oil or propane that could be
12 considered for electrification with an enhancement to
13 Efficiency Manitoba's Plan.

14 More importantly, from my perspective -
15 - I shouldn't say more importantly -- big -- because
16 serving -- anything we can do to help any low-income
17 customer is really important. But in terms of the
18 volume of potential heat pump opportunities, the --
19 the bigger missed opportunity is in promoting heat
20 pumps as a residential electric efficiency measure.

21 Efficiency Manitoba has forecast that
22 it will help a little more than a hundred homes a year
23 on average over the next three (3) years, to trend --
24 to transition to heating with ground source heat
25 pumps, most of those through their community

1 geothermal program. And that's great, but it's, you
2 know, it's just a few hundred homes out of a hundred
3 and eighty (180), a hundred and ninety thousand
4 (190,000) that are currently heating with electric
5 resistance heat.

6 And there are virtually no air source
7 heat pumps at all for residential homes in their plan.
8 I know there's been some discussion of this, but I'll
9 just -- I think it bears repeating that in their Home
10 Renovation Program, which is the only program that had
11 residential air source heat pumps it in, they're
12 forecasting zero participants in the first year, three
13 (3) in the second year, and four (4) the third year
14 for a -- for a grand total of seven (7).

15 I will also say that it's not clear
16 from reading their plan that ductless air source heat
17 pumps were even considered as part of the plan. And
18 that's really important, because most of the cold
19 climate air source heat pumps on the market today are
20 ductless mini-splits, and they are likely to be the
21 best option for a -- a number of -- of homes,
22 particularly homes with electric baseboard heat.

23 Efficiency Manitoba's rationale for
24 what they called limited promotion of air source heat
25 pumps are centred around a couple of things that they

1 raised in their rebuttal testimony. One (1) is that
2 they raised a concern that Manitoba's network of
3 installers of HVAC contractors that are capable of
4 installing and maintaining these systems does not yet
5 exist, and they didn't want to cause a bunch of heat
6 pumps to be installed and then not have anybody
7 available to service them if problems were to arise.

8 They also expressed a concern about the
9 long-term reliability of the pumps in Manitoba's
10 extreme climate not yet being established. And then
11 they suggested that their limited program was more
12 appropriate in order to test the technology and inform
13 future plans.

14 I'm going to start by saying that
15 Efficiency Mani -- Manitoba's actually correct that
16 there is uncertainty about some of the performance
17 attributes of cold climate air source heat pumps in
18 Manitoba's climate. As I've noted both in my written
19 evidence and earlier in this presentation, this is a
20 technology that has been introduced to North America
21 relatively recently. It is continuing to evolve, and
22 it is continuing to be tested in a variety of -- of
23 different climates. We don't have all the answers
24 yet.

25 Maybe more importantly, or at least as

1 importantly, we're learning where it is being
2 significantly supported, and aggressive -- and
3 promoted through other efficiency programs in other
4 jurisdictions, that the ways customers use them may be
5 more important in terms of the savings you ultimately
6 get than concerns about the performance of the
7 technology itself.

8 That said, I bel -- I have a concern
9 about Efficiency Manitoba's expressed concern about
10 inadequate contractor capacity being speculative.
11 They did not provide any documentation of the number
12 of qualified contractors. It's not clear that they
13 actually tried to quantify how much is out in the
14 industry.

15 When I reread the rebuttal evidence
16 last week, a little light bulb went off in my head, an
17 LED, of course. And I thought, Well, I'm going to
18 call somebody. So I -- I called one (1) of the major
19 manufacturers of cold climate air source heat pumps,
20 and got a person who could tell me that they have
21 thirty-five (35) -- about thirty (30) certified
22 residential contractors in Manitoba. That's one (1)
23 manufacturer.

24 What that tells me is that adequate
25 contractor capacity may not be a concern. This may be

1 capacity waiting for a market to develop.

2 But even if you didn't accept that,
3 even if that wasn't the case, we would have a chicken-
4 and-the-egg problem. You can't grow -- the capacity's
5 not going to grow if the technology is -- if the -- if
6 the market for acquiring the technology is not grown,
7 and that's not going to happen unless Efficiency
8 Manitoba promotes it.

9 I think I'm -- I think it's also
10 important to emphasize that Efficiency Manitoba's
11 limited program is not going to do what they said it
12 would do, which is to provide information to inform
13 their next plan. Their next plan needs to be filed
14 roughly, as I understand it, in the summer of 2022.
15 At best, according to their own forecast, by then,
16 they would have three (3) air source heat pumps
17 installed, and maybe not even a full winter's worth of
18 data for those three (3), and it's not even clear
19 whether any of those would be the ductless mini-split
20 systems that are currently dominating the cold climate
21 heat pump market.

22 I fail to see how that level of
23 deployment could actually provide any in -- useful
24 information -- well, I shouldn't say any useful
25 information -- enough useful information to fully

1 inform the next three (3) year plan that they would
2 have to develop and submit.

3 And the last point I'd want to make on
4 this -- on this issue is that other jurisdictions have
5 faced performance uncertainty with respect to cold
6 climate heat pumps too. While it is certainly true
7 that Manitoba has a -- a very challenging climate,
8 five (5), six (6) years ago, jurisdictions in the
9 northern part of the US were not sure that this
10 product would work the way some thought it might in
11 their jurisdictions either, but they determined, I
12 think appropriately, that one (1) way to try to get a
13 better handle on whether that is -- whether it is
14 going to work on is to actually deploy it, at least at
15 some level, so they can better understand the market.
16 They can get performance data on the systems, and then
17 they could refine their programs as they go.

18 And as I noted earlier, one (1) of the
19 things that -- that seems to be a common theme, from
20 what we've discovered in the early years of some of
21 those programs, is that the technology in most cases
22 seemed to work fairly well, maybe not quite as good as
23 the manufacturer's suggested it might, but not far off
24 in most cases, but customer behaviour in the way they
25 operated the systems, and in the way they managed

1 their backup systems relative to the heat pumps had
2 more of an impact on how much savings the customers
3 realized than the technology itself.

4 You can't learn that by, you know, just
5 waiting and studying one (1) or two (2) systems.
6 There -- there needs to be some level of deployment,
7 and then you need to refine your programs so that
8 there's better customer education and other elements
9 that are necessary to optimize the performance of
10 these systems.

11 So I'm going to switch gears now and
12 talk a little bit about how you account for
13 electrification impacts and savings goals.

14 In a nutshell, Efficiency Manitoba's
15 proposal on -- on this issue is that if we fuel some --
16 switch somebody from, let's say, propane to an
17 electric heating system, we would treat a hundred
18 percent of the reduction in the propane use -- you can
19 substitute oil, or gas, or any other fossil fuel for
20 the -- for this example -- we would count that a
21 hundred per -- all of that reduction in propane use
22 towards the gas savings goal, and all of the increased
23 electricity consumption that was necessary to provide
24 the heating that used to be provided by propane would
25 be treated as negative electricity savings relative to

1 their electric savings goal. In other words, it would
2 make -- it would be a penalty. It would make their
3 electric savings goal more difficult to reach.

4 The concern I have about that is that
5 it could create some perverse incentives or
6 disincentives. So consider, for example, if
7 Efficiency Manitoba was behind meeting its electric
8 goal but on target for meeting its gas savings goal.

9 In that context, if it ran into an
10 electrification project -- and remember this doesn't
11 necessarily have to be in an individual home. It
12 could -- it could be electrifying industrial customers
13 too. They would have a disincentive to pursue the
14 electrification project because it would only add to
15 the gas savings that they already are kind of meeting
16 easily, in this hypothetical, and make an electric
17 savings target that they're having a challenge meeting
18 even more difficult. And of course the obverse could
19 also be true.

20 So what can we do about that? I note
21 in my written evidence that there are potentially four
22 (4) different ways to address that -- that problem.
23 One (1) is to restate savings goals in fuel neutral
24 terms, you know, gigajoules or whatever other metric
25 you'd want to use, but that would presumably require

1 some sort of statutory change.

2 Another option would be to completely
3 separate efficiency savings targets from
4 electrification targets, but that would also
5 presumably require a statutory change.

6 The other two (2) presumably could be
7 implemented without statutory changes. The first is
8 to treat elect -- each electrification project as,
9 essentially, having two (2) steps to it.

10 The first step would be, I am getting
11 rid of my propane furnace and moving -- and fuel
12 switching to a standard electric heating system, like
13 an electric resistance heating system, and then the
14 second step is and now I'm upgrading -- I'm upgrading
15 -- instead of actually installing that electric
16 resistance kind of baseline heating system, I'm
17 installing a much more efficient heat pump.

18 Obviously, the first step is kind of a
19 hypothetical and it's not really happening, but it's
20 thinking about an electrification project as having
21 those two (2) components.

22 And then in that particular example,
23 the -- the first step would produce little to no
24 savings because you'd be going from, let's say, a 90
25 percent efficient propane furnace to a hundred percent

1 efficient electric resistance heating system, so you'd
2 have a modest amount of savings that you could convert
3 into -- to gas cubic metres, but then you would count
4 the savings from a -- for that same home for an
5 electric resistance heating system to a heat pump as
6 electricity savings.

7 That kind of approach is used in both
8 Illinois and Vermont and is consistent conceptually
9 with one (1) of the cost allocation methodologies that
10 Dunsky Energy Consulting recommended to Efficiency
11 Manitoba in a memo that was filed as part of
12 Efficiency Manitoba's plan. It's also the approach
13 that's used currently in -- in some fashion or another
14 in both of the states of Illinois and Vermont.

15 The fourth option is an approach being
16 used in California where you would count all of the
17 site gigajoule reductions in -- in energy consumption
18 for space heating and convert them into kilowatt hour
19 equivalents and just treat the entire project -- the
20 entire electrification project as contributing in that
21 way towards an electric savings target.

22 So let me close with some kind of
23 wrapping up of or summar -- summarizing of my
24 recommendations. The first is, I think it's
25 appropriate to suggest that long-term climate and

1 electrification needs should be considered as a
2 secondary objective when designing and implementing
3 programs. That would apply to -- presumably to
4 implementation of the next -- in the next three (3)
5 years, but also to planning for future plans.

6 Secondly, with respect to this current
7 three (3) year plan, I suggest an increased emphasis,
8 which probably, at least in part, means an increased
9 rebate level for cold climate air source heat pumps in
10 Efficiency Manitoba's home renovation program.

11 Third, I suggest that heat pumps should
12 be offered as an electric efficiency measure to income
13 qualified customers in the income qualified program.

14 Fourth, I suggest that heat pump
15 incentives for those low income customers who are
16 eligible who qualify for the affordable energy fund
17 and heat with oil and -- or propane, should -- should
18 be available to them.

19 Fifth, I suggest that the impacts of
20 electrification relative to savings goal should be
21 counted in a way that is different than Efficiency
22 Manitoba has suggested and instead consistent with the
23 third approach that I just walked through, what I
24 would otherwise call the Illinois and Vermont
25 approach.

1 And lastly, I'd suggest that the Board
2 consider providing feedback to legislators on possibly
3 establishing savings goals in a fuel neutral way or it
4 may be better having separate savings and
5 electrification goals.

6 Last slide. In -- in looking at the
7 various interrogatories I got and -- and -- and seeing
8 some of the discussion in the transcript in recent
9 days, I thought it might be also important to say a
10 few things about what I'm not recommending for this
11 plan.

12 I want to be clear that I am not
13 suggesting that supporting electrification become the
14 primary goal of Efficiency Manitoba's work. I'm only
15 suggesting that it be considered one of several
16 secondary objectives.

17 Second, I am not suggesting that
18 Efficiency Manitoba invest in fuel switching and
19 promote fuel switching away from gas in this current
20 three (3) year cycle. In fact, as it relates to
21 promoting fuel switching or electrification of fossil
22 fuel heated customers, my only recommendation is with
23 respect to low income customers who currently heat
24 with oil and propane.

25 Third, I am not suggesting that

1 Efficiency Manitoba make air source heat pumps the
2 central focus of its plan, or even the central focus
3 of the residential component of its plan, but I think
4 it deserves a bigger place than they've currently made
5 it in their plan, and I would just suggest that if
6 they even dedicated 3 to 5 percent, for example, of
7 their portfolio budget to air source heat pumps
8 primarily as an electric efficiency measure; that
9 would go a long way to advancing the market in ways
10 that would not only support long-term building
11 electrification, but also build the foundation that
12 they will likely need in future years to meet future
13 years savings targets.

14 And I -- I'd observed that that
15 proposal is, at least at a high level -- my proposals
16 in this area, at least at a high level, are
17 conceptually consistent with the recommendation that -
18 - that Dunsy Energy Consulting made to the government
19 a couple of years ago when they suggested there are a
20 few quick launch -- quick hit programs, I think they
21 called them, that Efficiency Manitoba may want to try
22 to get out the gates, one (1) of which was an advanced
23 cold climate air source heat pump initiative.

24 And with that, I will stop and gladly
25 take any questions you may have.

1 THE VICE-CHAIRPERSON: So on your page
2 25, item 2, where you're saying that you would only
3 focus on low income customers. Prior you said you
4 thought that it would be helpful to build this market.

5 So I'm curious as to why you would say
6 that. Is it a cost issue that the PACT measures would
7 just not support doing it at this time?

8 MR. CHRIS NEME: I'm only suggesting
9 focusing on low income customers with oil and propane
10 as a -- as a fuel switching measure in -- in the short
11 run, because I think the -- the bill reduction
12 opportunities for a very vulnerable set of customers
13 are substantial enough that they deserve
14 consideration.

15 At the current moment, given current
16 gas prices, it's not clear what the trade-offs would
17 be on a cost basis for switching from gas to cold
18 climate heat pumps. And given that there are other
19 ways that the market can be developed, i.e., by
20 promoting it as an electric efficiency measure to
21 displace inefficient electric resistance heat, I'm
22 suggesting that's where more of the focus ought to be
23 placed.

24 BOARD MEMBER GRANT: I just have a
25 quick question. Whether it would be heat pumps or

1 other things -- I'm looking at page 9, where you said
2 that there's more room -- there's room to do more.

3 MR. CHRIS NEME: Yeah.

4 BOARD MEMBER GRANT: So this could be
5 more heat pumps, something else. But just so I
6 understand this, because the numbers kind of, on first
7 glance, alarm me.

8 Acquisition cost is the kilowatt hours
9 saved in the first year?

10 MR. CHRIS NEME: I believe that's
11 correct.

12 BOARD MEMBER GRANT: So -- so as a
13 metric, you -- you could be comparing programs with
14 different life?

15 MR. CHRIS NEME: Yes. It's a very --
16 it's a very fair point. A much -- a much better
17 comparator would be dollars per lifetime kilowatt
18 hours saved or levelized costs -- program cost per
19 kilowatt hour saved. I didn't have those numbers for
20 -- to compare to the historic of Manitoba Hydro, so I
21 took the numbers that Efficiency Manitoba presented in
22 its plan as first year savings.

23 You're -- you're absolutely right
24 though. Long-lived measures have greater value than
25 short-lived measures.

1 BOARD MEMBER GRANT: But it's picking
2 up, I think, on the same thing in that earlier graph
3 we saw where Efficiency Manitoba's --

4 MR. CHRIS NEME: M-hm.

5 BOARD MEMBER GRANT: -- coming in way
6 at the bottom --

7 MR. CHRIS NEME: Yes.

8 BOARD MEMBER GRANT: -- in gigawatts
9 or megawatts --

10 MR. CHRIS NEME: Yeah.

11 BOARD MEMBER GRANT: -- whatever it
12 was, because that's the same -- it's -- I think it was
13 an acquisition cost measure, right, so it may be --

14 MR. CHRIS NEME: Yes, it's an
15 acquisition cost per first year. The -- I --
16 consistent with, I think, the point you're making, I'm
17 -- I'm not a huge fan of that number of those -- of --
18 of -- of that metric because it doesn't control for --
19 for measure life.

20 Unfortunately, it's a very commonly
21 used metric in the industry because everybody reports
22 what their first year savings and what their costs
23 are, and it's much more difficult to get data across
24 jurisdictions for comparison purposes on the longevity
25 of the savings.

1 And even when you can get them, the
2 underlying assumptions are -- tend to be, in my
3 experience, much more variable than -- than some of
4 the underlying assumptions for first savings are.

5 And -- and, as a result, it's --
6 unfortunately, I -- I wish more jurisdictions would
7 report it this way. Unfortunately, it's not as easy
8 to make those kind of comparisons on a life -- you
9 know, life cycle basis.

10 BOARD MEMBER GRANT: On the other
11 hand, if you're sceptical about some of the
12 persistence effects or the -- you know, the -- how
13 long out into the future some of the benefits, it's
14 also -- it's a -- it's an interesting measure.

15 MR. CHRIS NEME: It -- it's an
16 interesting measure, but I -- I guess, in -- in my
17 experience, having looked at assumptions about measure
18 lives and where they come from, for most things, I --
19 I don't think there's a lot of reason to think that
20 there's problems with the persistence of savings
21 relative to what the baseline otherwise would have
22 been.

23 The -- the possible exception are on --
24 less on technology measures and more on operational
25 efficiency measures. So, you do, you know, retro

1 commissioning of a commercial building and kind of fix
2 a lot of the operating characteristics of it, how long
3 is that going to last. I think that -- that's
4 probably less certain.

5 But for things like heat pumps or
6 furnaces or even light fixtures, I think there's some
7 pretty good basis for the measure life assumptions
8 that are currently used for those things in the
9 industry.

10 THE CHAIRPERSON: Mr. Neme, I have a
11 question on page 19 of your presentation.

12 MR. CHRIS NEME: Whoops, I'm going the
13 wrong direction.

14 THE CHAIRPERSON: And your last
15 bullet:

16 "Other jurisdictions facing
17 performance uncertainty launch
18 programs."

19 Can you tell me what those other
20 jurisdictions are?

21 MR. CHRIS NEME: Sure. I'll just
22 start with an example of my own home state of -- of
23 Vermont. I believe in around the 2014/2015 time frame
24 they started promoting ductless mini-split cold
25 climate heat pumps.

1 I think in 2015 they probably -- the
2 first full year they probably rebated, if memory
3 serves -- well, it was in excess of a thousand of
4 them.

5 And to address maybe a question that
6 was asked to Mr. Grevatt at the end there, Vermont is
7 a state with about three hundred thousand (300,000),
8 so it's actually smaller than -- than Manitoba, about
9 40 percent smaller.

10 And in its first full year, over a
11 thousand cold climate heat pumps -- that was about
12 five (5) years ago. Efficiency Main, the entity
13 serving -- or delivery efficiency programs in the
14 state of Main, similarly has, I think over the last
15 seven (7) years, and I think I said this in my
16 testimony, rebated about forty-six thousand (46,000)
17 cold climate air source heat pumps in a state that's
18 maybe 10 percent bigger than -- than Manitoba.

19 Those are the first -- first two (2)
20 that come to mind. I know the other New England
21 states have also been promoting this technology, and
22 certainly the Pacific northwest that has also been the
23 case.

24 THE CHAIRPERSON: And do you know what
25 the average winter temperature would be in Vermont?

1 MR. CHRIS NEME: I -- I don't think
2 about things in terms of average temperature, but I --
3 but for basis of comparison to -- to Winnipeg, I beli
4 -- I think of -- as an efficiency practitioner, I
5 think of things in terms of heating degree days.

6 Is that a term that's familiar to you?

7 THE CHAIRPERSON: M-hm.

8 MR. CHRIS NEME: Okay. So, I believe
9 that -- and, folks, correct me if I don't get these
10 numbers exactly right, but I believe that Winnipeg has
11 something like fifty-five hundred (5,500) heating
12 degree days relative to 18 degrees Celsius baseline
13 temperature.

14 And I think if you looked at
15 Burlington, Vermont, it's -- in a similar way, it's --
16 it would be on the order of four thousand (4,000).

17 THE CHAIRPERSON: Okay. On the chart
18 that you looked at where they breakdown the continent
19 and you have very cold and subarctic, do you know how
20 they determine those?

21 Because if -- quite frankly, if you
22 talk to people in Canada, Winnipeg is viewed as -- I
23 don't even know if it's subarctic or arctic, but it's
24 -- but it -- but it has the reputation of being --

25 MR. CHRIS NEME: Sure.

1 THE CHAIRPERSON: The nickname of
2 Winnipeg is Winterpeg. And it -- we can go for quite
3 a bit of the winter where it is very cold.

4 MR. CHRIS NEME: Yes, I'm -- I'm well
5 aware of that. I -- I don't know how they came to
6 this differentiation of these exactly, of these eight
7 (8) climate regions.

8 I -- I think that there's probably a
9 balancing act in terms of -- well, we -- ultimately,
10 if they're going to rate the performance of heating
11 equipment and ask manufacturers to test thousands of
12 different models, you can't ask them to test it for --
13 I -- I already know that there's been some push-back
14 from the manufacturing industry about testing to eight
15 (8) different climates being a burden for them, so
16 there's -- there's a balancing act that -- that needs
17 to -- to go there.

18 And so, certainly, within each one (1)
19 of these climate zones there's going to be some
20 variability. That said, if you -- if you look at the
21 next graph, you can see, if you go to the subarctic,
22 the performance definitely goes down.

23 But if you look at the average of those
24 twelve (12), as I noted in my written evidence, it's
25 probably in the 1.8 range, which is still in the 40 to

1 45 percent savings relative to a seasonal COP of 1 for
2 an electric resistance heating system.

3 THE CHAIRPERSON: Certainly.

4 BOARD MEMBER HAMILTON: Thank you.

5 Just one (1) -- one (1) further question with regard
6 to the contractors who are able to provide service in
7 Manitoba.

8 I -- I don't know what the facts are
9 specifically with regard to where people are heating
10 with oil or propane, but I would expect that, for the
11 most part, it's not in southern Manitoba.

12 So, do you know what the distribution
13 of contractors in Manitoba is in terms of providing
14 services other than in the major areas in the south?

15 MR. CHRIS NEME: No. And I -- just to
16 be clear, I -- I'm not claiming to have an
17 understanding of the scope of the contractor industry
18 in -- in Manitoba by any means.

19 All I know is what one (1) manufacturer
20 told me about the total number of certified
21 contractors or residential products that they have in
22 Manitoba. Where those are located, how that's
23 different for manufacturers, I -- I don't know.

24 BOARD MEMBER HAMILTON: Thank you.

25 THE CHAIRPERSON: Thank you, panel.

1 We will adjourn now and resume at nine o'clock
2 tomorrow morning.

3

4 --- Upon adjourning at 4:28 p.m.

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6 Certified Correct,

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11 Donna Whitehouse, Ms.

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