



# ONTARIO ENERGY BOARD

**FILE NO.:** EB-2012-0433  
EB-2012-0451  
EB-2013-0074

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**VOLUME:** 5

**DATE:** September 24, 2013

**BEFORE:** Cynthia Chaplin                      Presiding Member and Vice-Chair  
Marika Hare                                      Member  
Peter Noonan                                      Member

EB-2012-0433  
EB-2012-0451  
EB-2013-0074

**THE ONTARIO ENERGY BOARD**

**IN THE MATTER OF** an application by Enbridge Gas Distribution Inc. for: an order or orders granting leave to construct a natural gas pipeline and ancillary facilities in the Town of Milton, City of Markham, Town of Richmond Hill, City of Brampton, City of Toronto, City of Vaughan and the Region of Halton, the Region of Peel and the Region of York; and an order or orders approving the methodology to establish a rate for transportation services for TransCanada Pipelines Limited;

**AND IN THE MATTER OF** an application by Union Gas Limited for: an order or orders for pre-approval of recovery of the cost consequences of all facilities associated with the development of the proposed Parkway West site; an order or orders granting leave to construct natural gas pipelines and ancillary facilities in the Town of Milton; an order or orders for pre-approval of recovery of the cost consequences of all facilities associated with the development of the proposed Brantford-Kirkwall/Parkway D Compressor Station project; an order or orders for preapproval of the cost consequences of two long term short haul transportation contracts; and an order or orders granting leave to construct natural gas pipelines and ancillary facilities in the City of Cambridge and City of Hamilton.

Hearing held at 2300 Yonge Street,  
25<sup>th</sup> Floor, Toronto, Ontario,  
on Tuesday, September 24th, 2013,  
commencing at 9:12 a.m.

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VOLUME 5  
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BEFORE:

CYNTHIA CHAPLIN	Presiding Member and Vice-Chair
MARIKA HARE	Member
PETER NOONAN	Member

A P P E A R A N C E S

MICHAEL MILLAR	Board Counsel
JOSH WASYLYK	Board Staff
ZORA CRNOJACKI	
FRED CASS	Enbridge Gas Distribution Ltd.
CRAWFORD SMITH	Union Gas
MYRIAM SEERS	
ELISABETH DeMARCO	Association of Power Producers of
JOHN WOLNIK	Ontario (APPrO)
TOM BRETT	Building Owners and Managers
	Association (BOMA)
VINCE DeROSE	Canadian Manufacturers & Exporters
KIM DULLET	(CME)
JULIE GIRVAN	Consumers Council of Canada (CCC)
STEVEN SHRYBMAN	Council of Canadians
ROGER HIGGIN	Energy Probe Research Foundation
KENT ELSON	Environmental Defence
DWAYNE QUINN	Federation of Rental-housing
	Providers of Ontario (FRPO)
MARK CRANE	Industrial Gas Users' Association
	(IGUA)
DAVID POCH	Green Energy Coalition (GEC)
JAMES GRUENBAUER	City of Kitchener
RANDY AIKEN	London Property Management
	Association (LPMA)

A P P E A R A N C E S

DAVID GERMAIN	Markham Gateway
MARK RUBENSTEIN	School Energy Coalition (SEC)
GORDON CAMERON	TransCanada Pipelines Ltd.
MICHAEL JANIGAN	Vulnerable Energy Consumers' Coalition (VECC)
ALSO PRESENT:	
MARION FRASER	BOMA
SHELLEY GRICE	Association of Major Power Consumers of Ontario (AMPCO)
KAREN HOCKIN	Union Gas
MARK KITCHEN	

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U N D E R T A K I N G S

Description

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NO UNDERTAKINGS WERE FILED IN THIS PROCEEDING

1 Tuesday, September 24, 2013

2 --- On commencing at 9:12 a.m.

3 MS. CHAPLIN: Please be seated. Good morning,  
4 everyone. I understand there's been -- because we were  
5 able to add the day, there's been a modification to the  
6 schedule and we're going to have Enbridge's panel 2 today;  
7 is that correct?

8 MR. STOLL: Madam Chair, that is correct. This is  
9 panel 2, the alternatives panel.

10 MS. CHAPLIN: Are there any preliminary matters before  
11 we have them sworn?

12 MR. STOLL: Not that I'm aware of. So I'll just ask  
13 the panel be sworn.

14 MS. CHAPLIN: Right. Mr. Fernandes does not need to  
15 be sworn.

16 MR. POCH: Madam Chair, I should just advise you, for  
17 your planning, in talking with counsel for Enbridge this  
18 morning, it's apparent that a lot of the questions thought  
19 were for --

20 MS. CHAPLIN: Sorry, I don't think we can do the two  
21 things at once.

22 MR. POCH: All right. I'll wait.

23 **ENBRIDGE GAS DISTRIBUTION INC. - PANEL 2**

24 **Craig Fernandes, Previously Sworn**

25 **Erik Naczynski, Sworn**

26 **Fiona Oliver-Glasford, Sworn**

27 **Judith Ramsay, Sworn**

28 MR. POCH: Madam Chair, I was just about to give you

1 fair warning. A lot of the questions I assumed were for  
2 the other Enbridge panel, and I'm advised by counsel today  
3 are really for this panel. So I would just like to advise  
4 the hearing Panel that I would expect my cross will be  
5 longer, significantly longer with this panel but  
6 significantly shorter with the other Enbridge panel.

7 MS. CHAPLIN: All right. So I --

8 MR. POCH: I hope to keep to my totals.

9 MS. CHAPLIN: You will keep to your totals. Thank  
10 you.

11 MR. POCH: Thank you.

12 MS. CHAPLIN: Mr. Stoll?

13 MR. STOLL: Thank you. Mr. Cass handed out a list of  
14 the witness panels.

15 And so just to introduce the panel, from the far end I  
16 have Mr. Erik Naczynski, manager, system analysis and  
17 design.

18 Mr. Fernandes you've met in the panel 1. He's the  
19 senior manager, regulatory GTA project.

20 Next to him is Ms. Fiona Oliver-Glasford, senior  
21 manager, market policy, research, DSM.

22 And Ms. Judith Ramsay, senior adviser, DSM.

23 And I just have a couple questions in examination-in-  
24 chief.

25 MS. CHAPLIN: Please proceed.

26 **EXAMINATION-IN-CHIEF BY MR. STOLL:**

27 MR. STOLL: Thank you. Mr. Fernandes, can you just  
28 provide a very brief overview of what Enbridge considers in

1 developing alternatives?

2 MR. FERNANDES: I would like to reference Exhibit A,  
3 tab 3, schedule 3, table No. 1, which I think is important.  
4 It's a summary of the limitations of our existing system.

5 The project evaluated alternative based on how they  
6 address the current system in terms of limitations across  
7 the entire supply chain. The table shows the current  
8 system limitations in terms of diversity, flexibility,  
9 operational risk limitations, and also outlines some of the  
10 potential consequences. These are all important  
11 considerations for any potential alternative.

12 MR. STOLL: Thank you. And, Mr. Naczynski, if we can  
13 move to you, can you just summarize for the Board what flow  
14 parameters Enbridge uses to design its distribution system?

15 MR. NACZYNSKI: Enbridge designs our system using peak  
16 hour on a design day, to ensure that our customers receive  
17 supply of gas under these conditions.

18 MR. STOLL: And does the annual demand have any role  
19 in the design of this system?

20 MR. NACZYNSKI: No, it doesn't. The annual demand is  
21 not used, because we use peak hour flows at a design day  
22 for system design purposes, and peak hour is the  
23 anticipated highest consumption in any given hour of a  
24 forecast year.

25 MR. STOLL: And in developing that peak hour for  
26 design, does Enbridge consider the trends in customer  
27 usage?

28 MR. NACZYNSKI: Yes, we do. We look at actual

1 customer data to derive that peak hour demand and the  
2 overall, and what we found is that overall system peak is  
3 increasing but the contribution on a per-customer basis is  
4 declining. And this has been captured in the load  
5 forecast.

6 MR. STOLL: Thank you. And, Ms. Oliver-Glasford, just  
7 one question for you. You've heard Mr. Naczynski. What  
8 role does DSM play in its relationship to peak hour design?

9 MS. OLIVER-GLASFORD: Our DSM framework provides - my  
10 apologies.

11 Our DSM framework provides a broad-based annual  
12 savings. That's how it's measured and tracked. Currently  
13 there is no verified relationship between DSM efforts and  
14 peak load reductions. In fact, it's quite different than  
15 the electric side, where they have the data enabling in the  
16 programs that do target peak load reduction in the form of  
17 demand response and the like.

18 MR. STOLL: Thank you.

19 Those are my questions, and I'll offer them up for  
20 cross-examination.

21 MS. CHAPLIN: Thank you.

22 Mr. Elson, I believe you are first?

23 MR. ELSON: Thank you. Yes.

24 MS. CHAPLIN: And we have you for two hours. We would  
25 probably take a break no later than 11:00 o'clock, though,  
26 but perhaps earlier.

27 **CROSS-EXAMINATION BY MR. ELSON:**

28 MR. ELSON: Thank you. Again, panel, my name is Kent

1 Elson. I represent Environmental Defence, and I might as  
2 well just jump into it. I'm going to start off asking you  
3 some questions further to some load growth questions I was  
4 asking panel 1.

5 And if I could ask you to start by referring to the  
6 Environmental Defence cross-examination document book  
7 number 1; that's the large document book with tabs. That's  
8 Exhibit K4.5. Is that the correct exhibit number?

9 If you could please turn to tab 9?

10 MR. NACZYNSKI: Mr. Elson, were you going to  
11 redistribute those books with all the tabs? I do have a  
12 paper copy in front of me here, but if we're going to  
13 reference all the various tabs that you've got...

14 MR. ELSON: I'm afraid that panel 1 has those copies,  
15 but perhaps Mr. Stoll can speak to that.

16 MR. STOLL: Can you just provide the page reference as  
17 opposed to the tab reference, then?

18 MR. ELSON: Yes. So this is page 16 in the document  
19 book. This is the response to Environmental Defence  
20 Interrogatory No. 5, and if you turn over a page you'll see  
21 table 1, which lists the peak load derived historic and  
22 forecast.

23 So my understanding is that table 1 is showing  
24 Enbridge's weather-normalized peak hour demand estimates  
25 for apartment, commercial, industrial and residential  
26 customers, and historically it's only for six years; is  
27 that correct?

28 MR. NACZYNSKI: That's correct.

1 MR. ELSON: According to this table, the industrial  
2 weather-normalized peak hour demand declined by  
3 approximately 48 percent, subject to check? That's between  
4 2006 and 2012.

5 MR. NACZYNSKI: That is correct.

6 MR. ELSON: And according to this table, the  
7 residential weather-normalized peak hour demand declined by  
8 three percent over that same period, 2006 to 2012; is that  
9 right?

10 MR. NACZYNSKI: That's correct as well, subject to  
11 check.

12 MR. ELSON: Given those weather-normalized trends, why  
13 is Enbridge forecasting that residential and industrial  
14 peak hour demands will rise continuously in every winter  
15 from 2012-13 to 2024-25?

16 MR. NACZYNSKI: So the load information and how it's  
17 projected -- again, as I've mentioned, we use actual  
18 metered consumption from the billing, from our billing  
19 system that is weather-normalized, and that is certainly  
20 one of the factors that we use.

21 Also look at our peak day system growth. If we were  
22 to pull up schedule A, tab 3, schedule 5, and if we look at  
23 the supply numbers that are referenced in that document as  
24 well, looking at the weather-normalized peak day  
25 information as well, we do observe from -- so that's  
26 Exhibit A, tab 3 schedule 5, page 7 of 26.

27 So the peak hourly information that we incorporate is  
28 certainly one of the factors that we're considering, as

1 well as other longer term trends that we're observing on  
2 our system.

3 Based on that information, during the supply or during  
4 the system planning process, we held the loads in our model  
5 relatively constant, and then applied the growth to the  
6 system knowing that we do anticipate and observe growth in  
7 peak hour on our system and peak day, normalized peak day  
8 flows.

9 MR. ELSON: Going back to ED 5, I'm not sure if you  
10 answered my question. The question specifically related to  
11 the industrial numbers and the residential numbers. And if  
12 you look at ED 5, we've done this so that we can put the  
13 historic right next to the forecast, and if we're both --  
14 maybe I'll leave it at this, which is to say you would  
15 acknowledge that for both residential and industrial, for  
16 the historic numbers that you've provided, you are showing  
17 a decline, whereas in the forecast you are showing a year-  
18 over-year increase; is that right?

19 MR. NACZYNSKI: So I would also like to point out  
20 that --

21 MR. ELSON: Are you saying yes, and then adding more  
22 information? You just said "so", and then I didn't hear  
23 what your answer was.

24 MR. NACZYNSKI: My answer is yes, based on the derived  
25 historic numbers.

26 However, I also realized there were some economic  
27 changes that occurred over that time, specifically in the  
28 industrial areas, that would have certainly resulted in an

1 overall growth in those customers -- or sorry, an overall  
2 reduction in the number of those customers. My apologies.

3 MR. ELSON: Has Enbridge produced any load growth  
4 forecasts that consider and compare a number of different  
5 growth scenarios, including the possibility of zero load  
6 growth?

7 [Witness panel confers]

8 MR. FERNANDES: The company has done its best to  
9 produce the best forecast available, based on the customer  
10 adds that we believe will happen over time.

11 Mr. Naczynski has talked about how that is converted  
12 into peak hour load growth. We have included a reduction  
13 factor that attempts to account for potential efficiency  
14 gains in new building construction, and all sorts of items.

15 In terms of producing hypothetical forecasts, we have  
16 provided sensitivity, in terms of the project. But the  
17 most important thing to point out is that load growth is  
18 not the primary driver of the project, as we stated at the  
19 outset.

20 There's a multi-faceted project that has a number of  
21 items that we're trying to achieve, in terms of objectives.  
22 So focussing in solely on load growth is not something that  
23 I think we can do nor should do.

24 MR. ELSON: That may be information which you wish to  
25 convey to the Board, but it doesn't in any way answer my  
26 question, which was whether Enbridge has produced any load  
27 growth forecast that consider and compare a number of  
28 different growth scenarios, including the possibility of a

1 zero load growth scenario. Has that been done?

2 MR. FERNANDES: We've done economic sensitivity with  
3 no load growth on the system.

4 MR. ELSON: My question is whether you have -- maybe  
5 I'll ask a different question.

6 Do you have any studies or analyses that estimate the  
7 probability of different growth scenarios, including a no  
8 volume growth scenario?

9 MR. NACZYNSKI: We have not completed the analysis  
10 assuming no load growth. However, as Craig mentioned, we  
11 have considered it for -- as Mr. Fernandes has mentioned,  
12 we have considered it for economic purposes.

13 MR. ELSON: I hate to continue on this very, very  
14 small point, but you still haven't answered my question,  
15 which is a very, very simple question, which is: Has  
16 Enbridge done any studies estimating the probability of  
17 different growth scenarios, for example the probability of  
18 this scenario that you have presented and another scenario  
19 that would show no volume growth?

20 Have you looked at the probability as between  
21 different possible growth scenarios? I believe the answer  
22 is no, but I would just like to confirm that that's the  
23 case.

24 MR. FERNANDES: We do not have a probabilistic load  
25 forecast, no.

26 MR. ELSON: Thank you. If I can ask you to refer to  
27 tab 11, which is -- I'll give you a page reference. The  
28 particular page I'm looking for, which is page 23 of the

1 Environmental Defence cross-examination document book,  
2 which is Exhibit K4.5. That's page 23 of the document  
3 book.

4 This tab contains the Enerlife report that  
5 Environmental Defence has put forward as evidence in this  
6 proceeding, and I would like to bring your attention to  
7 figure 13, which contains peak demand trends.

8 So what Enerlife has charted here is that the derived  
9 historic peak demand from 2007 to 2012, and if you look at  
10 footnote 11, this data comes from Enbridge Exhibit  
11 A4.EGD.ED 3, which is the response from Environmental  
12 Defence, Interrogatory No. 3.

13 Do you have any concerns with the way that they have  
14 charted that historical data here?

15 MR. NACZYNSKI: With respect to the chart?

16 MR. ELSON: Yes.

17 MR. NACZYNSKI: And how the information is presented  
18 on that chart? That is consistent and a representation of  
19 what was in our response to Environmental Defence No. 3.

20 MR. ELSON: Thank you. And looking in particular at  
21 the dotted line that is flat or declining slightly, this  
22 shows the historic peak demand from 2007 to 2012, and that  
23 shows a peak demand that is flat or declining; is that  
24 right?

25 MR. NACZYNSKI: Based on that limited data set, that  
26 is a -- would appear to be linear trend of those data  
27 points.

28 MR. ELSON: And those were the data points that you

1 provided to Environmental Defence in response to that  
2 interrogatory; isn't that correct?

3 MR. NACZYNSKI: That's correct.

4 MR. FERNANDES: It's a very short time frame to be  
5 extrapolating, from six years' worth of data to over a  
6 decade longer into the future.

7 MR. ELSON: So are you suggesting that the further  
8 distant past is more -- gives a more accurate picture than  
9 the more recent five or six years that you've provided?

10 MR. FERNANDES: As Mr. Naczynski has already brought  
11 up, we did provide trend data in our submission in Exhibit  
12 A, tab 3, schedule 5.

13 MR. ELSON: Now, I guess the issue that I take with  
14 some of your earlier data is that in response to  
15 Environmental Defence 3, you said, quote:

16 "The data has only been provided for 2006 onward  
17 as EGD implemented a new load gathering system.  
18 Prior to 2004, load gathering was completed on a  
19 legacy mainframe system and the archived data is  
20 not readily accessible."

21 So that's my understanding of why you provided only  
22 those six years of data; is that correct?

23 MR. FERNANDES: For the purposes of this response, we  
24 provided six years of data based on peak hour. The Exhibit  
25 A, tab 3, schedule 5 provides a much longer time frame for  
26 peak day.

27 MR. ELSON: Using the data that you provided for ED 3  
28 and looking at this chart, the line with the squares is

1 what you're forecasting, which is up at the top, and the  
2 dotted line that's linear from 2007 to 2012 is the linear  
3 trend line from the historic numbers; is that right?

4 MR. FERNANDES: The green dashed line appears to be  
5 linear historical from the 2007 to 2012 time frame.

6 MR. ELSON: And the red line at the top with squares  
7 as data markers is your forecast?

8 MR. FERNANDES: That's what it appears to be. You've  
9 taken the data that Enbridge provided and put it on a  
10 graph.

11 MR. ELSON: Okay. I will move on, and I would like to  
12 discuss with you the reduction factor used in your load  
13 growth analysis. But before getting into that, I would  
14 like to confirm that I have correctly understood how your  
15 growth forecast works.

16 So first of all, your load forecast is centred on a  
17 forecast of customer additions; is that right?

18 MR. NACZYNSKI: That's correct.

19 MR. ELSON: And, Mr. Naczynski, you were the main  
20 person creating this load forecast; is that correct?

21 MR. NACZYNSKI: I developed the load forecast based on  
22 the customer additions forecast that was provided to me,  
23 yes.

24 MR. ELSON: Thank you. So I understand that the basic  
25 steps that you took in developing your forecast were as  
26 follows.

27 First, you estimated the number of new customers for  
28 each customer type, or your colleague made that estimation;

1 is that correct?

2 MR. NACZYNSKI: That's correct.

3 MR. ELSON: And then you multiplied the number of new  
4 customers by an estimated average demand per customer?

5 MR. NACZYNSKI: That's correct, based on a peak hour  
6 anticipated consumption at a design day.

7 MR. ELSON: Then you added up the forecast demand  
8 growth for each customer type to generate what I will call  
9 a preliminary forecast of the demand growth from new  
10 customers? From the customer additions?

11 MR. NACZYNSKI: That's correct.

12 MR. ELSON: And then you reduced that preliminary  
13 growth forecast from new customers -- i.e., customer  
14 additions -- by a reduction factor?

15 MR. NACZYNSKI: That's correct, yes.

16 MR. ELSON: That was the 35 percent reduction factor?

17 MR. NACZYNSKI: That's correct.

18 MR. ELSON: And finally, once you had applied that  
19 reduction factor to the growth from new customers, you  
20 added that to the base, which would be the load from  
21 existing customers?

22 MR. NACZYNSKI: That's correct, yes.

23 MR. ELSON: So mathematically, the load from existing  
24 customers stays constant in the model and the load growth  
25 from new customers is just added on top?

26 MR. FERNANDES: The --

27 MR. ELSON: Mr. Naczynski, is that correct?

28 MR. NACZYNSKI: So that is correct. However, note

1 that that 35 percent reduction factor includes more -- at  
2 the end of the day is to make sure that we have a forecast  
3 we believe is consistent with the historical observed  
4 trends in peak day load.

5 MR. FERNANDES: And I think we provided that response  
6 in JT2.29, an undertaking for yourself, Mr. Elson, I  
7 believe, where we stated that the reduction factor captures  
8 the impact of all of the factors across the existing and  
9 incremental loads.

10 MR. ELSON: So the reduction factor is applied, the  
11 35 percent reduction is applied only to the growth of new  
12 customers, but it is intended to capture all of the  
13 variables affecting both new customers and existing  
14 customers, such as DSM and the like; is that accurate?

15 MR. FERNANDES: That is correct. We took a total  
16 forecast and we netted it down. Mathematically it was  
17 taken off of the incremental growth from new customers, but  
18 it was intended to cover all the factors that influence our  
19 peak load growth across both the existing and new  
20 customers.

21 MR. ELSON: The people at Enerlife took issue with  
22 this process, and I would like to refer that to you. This  
23 is, again, page 23 of the Environmental Defence cross-  
24 examination document book. That's tab 11, Exhibit K4.5.  
25 My apologies, that's page 24 of the document book.

26 And under point C, I'll read you to what their  
27 response was. They say:

1           "The application of the discount factor in the  
2           Enbridge load growth forecast model appears to be  
3           misleading. The DSM forecast of 12,000 cubic  
4           metres per hour reduction each year is  
5           0.4 percent of the peak hourly load in the GTA.  
6           The 35 percent discount factor is applied on the  
7           incremental new customer growth rate of  
8           1.2 percent each year to account for the DSM load  
9           reduction over the entire existing building  
10          stock. This leads to the misunderstanding that  
11          no amount of DSM could offset growth, since even  
12          if a 99 percent discount factor is applied, there  
13          will still be a positive growth trend."

14          Is Enerlife correct in saying that even if there is a  
15          99 percent reduction factor, your model would still show  
16          some positive growth? Mr. Naczynski?

17          MR. NACZYNSKI: If there was absolutely no growth on  
18          the system and we believed that there was no growth on the  
19          system, we would not have added the load to the system in  
20          the manner that we've done.

21          The reality is that we do believe there is growth on  
22          the system, and thereby we reduce the load that was simply  
23          being added to our modelling for network simulation  
24          purposes, to the load that was being added.

25          MR. FERNANDES: If the argument is with the mechanics  
26          of how we applied our judgment to our forecast, we believe  
27          the net forecast is correct.

28          MR. ELSON: The question is whether if the reduction

1 factor was 99 percent, your model would still show some  
2 positive growth; is that correct?

3 MR. FERNANDES: You're taking the modelling literally.  
4 We looked at longer-term trends, and we reduced our growth  
5 forecast.

6 MR. ELSON: I'm going to ask you some questions about  
7 what underlies this 35 percent and how you came up with it  
8 and what it is supposed to include.

9 But for now, just mechanically, would you agree that  
10 if it was a 99 percent reduction factor, your model would  
11 still show some positive growth? Is that correct?

12 MR. FERNANDES: If we believed there was no load  
13 growth on the system, Mr. Naczynski has already stated that  
14 we would have had that in our forecast.

15 The exact mechanics of how we applied it, you are  
16 correct. That's a mathematical certainty.

17 MR. ELSON: I think the answer was yes, with some  
18 other information; is that correct?

19 MR. FERNANDES: Yes.

20 MR. ELSON: Thank you.

21 So now getting into the details of what the reduction  
22 factor is intended to include, one of the things it's  
23 intended to capture is the impact of DSM on demand growth;  
24 is that right?

25 MR. FERNANDES: I think if we can go back to JT2.29,  
26 which was, again, an undertaking, we fully articulated that  
27 there are a number of factors that influence peak load  
28 growth on the distribution system, one of which is the

1 effects of energy efficiency. And there are a multitude of  
2 others, and our load growth forecast captures them all.

3 MR. ELSON: So the reduction factor would include --  
4 I'm trying to separate some of those out. One of the  
5 things it would include is the impact of your, of  
6 Enbridge's, DSM programs; is that right?

7 MR. FERNANDES: We believe we've captured all of those  
8 factors in our load growth forecast.

9 MR. ELSON: So another one would be the impact of  
10 customer losses through building demolition? That's  
11 another factor that's intended to be accounted for in this  
12 reduction factor; is that right?

13 MR. FERNANDES: Along with other items, such as a  
14 trend towards much larger and taller buildings.

15 MR. ELSON: It's also intended to capture improved  
16 efficiencies occurring outside of Enbridge's DSM programs?

17 MR. FERNANDES: That's correct.

18 MR. ELSON: And it's intended to capture the impact of  
19 more stringent building codes on new and existing  
20 buildings; is that correct?

21 MR. FERNANDES: Building codes on new buildings and  
22 renovations.

23 MR. ELSON: Yes.

24 MR. FERNANDES: On existing buildings. Correct.

25 MR. ELSON: So basically it's supposed to account for  
26 everything except for your customer additions?

27 MR. FERNANDES: Based on the customer additions that  
28 we forecast over this particular forecast horizon, we

1 intentionally wanted to ensure we had a conservative load  
2 growth forecast. So we applied an additional factor to  
3 bring our load growth down, and it and was intended over  
4 the entire forecast horizon specifically for this project.

5 MR. ELSON: So in other words, the reduction factor  
6 captures all of the factors, except for the incremental  
7 customer load from new additions.

8 It's supposed to capture everything; it's an overall  
9 number that is supposed to capture everything?

10 MR. FERNANDES: We tried to capture everything in our  
11 load growth forecast. We applied a reduction factor; I  
12 think you've heard how we applied it, and you may have some  
13 issues with the mechanics.

14 But it is intended to capture everything, all of the  
15 forces that are impacting our load growth. And it is  
16 specific to the GTA. It is specific to this particular  
17 forecast horizon.

18 So one of the items that Mr. Naczynski could describe  
19 better is the fact when we do our system design and  
20 planning, we need to geographically distribute that load in  
21 order to size the system.

22 So this was kind of a marriage of a top-down forecast  
23 of other known factors, and it was the way that we applied  
24 it to geographically distribute it.

25 MR. ELSON: Could you turn to page 3 of the  
26 Environmental Defence document book, which is tab 3 as  
27 well?

28 To assist in this cross-examination, we've prepared a

1 table summarizing Enbridge's peak load forecast. This was  
2 based on the numbers provided to us by Enbridge in response  
3 to ED 3 - that is Environmental Defence Interrogatory  
4 No. 3.

5 We sent the Excel file to you, so you could confirm  
6 that we prepared the table correctly, and I believe that  
7 your counsel has confirmed that you don't have any issues  
8 with the way we have reproduced this data; is that correct?

9 MR. NACZYNSKI: That's correct.

10 MR. ELSON: I would like to refer you to the column  
11 showing the 35 percent reduction factor amount, and that's  
12 the second column.

13 Looking at this column, the reduction factor reduces  
14 the demand growth forecast by approximately 12,000 cubic  
15 metres per year. Is that number correct?

16 MR. NACZYNSKI: It reduces the overall net system load  
17 that we'd be modelling by the amount indicated here, the  
18 approximately 12,000.

19 MR. ELSON: So overall, your load growth forecast is  
20 reduced by 12,000 cubic metres per year as a result of this  
21 reduction factor?

22 MR. FERNANDES: I think the way I would describe it is  
23 we had current existing load. There are some additions and  
24 there are some subtractions, and we have a net load.

25 So the subtractions were approximately 12,000, as  
26 you've stated.

27 MR. ELSON: So that's what the -- I'm just trying to  
28 get a number what the 35 percent reduction factor amounts

1 to, and I believe that number is 12,000 cubic metres. Is  
2 that right?

3 MR. NACZYNSKI: That's correct, and we would be  
4 forecasting to add between 22,000 or 23,000 cubes to our  
5 system at a peak hour.

6 MR. ELSON: Thank you. Now, in response to  
7 Environmental Defence Interrogatory No. 14, Enbridge  
8 estimated that the peak demand reduction from its DSM  
9 programs would be roughly 12,000 cubic metres per year --  
10 and I'll direct this question to the DSM folks on the  
11 panel. Is that the right number in ED 14?

12 MS. OLIVER-GLASFORD: Can we bring it up? Is that  
13 your page 4 in this book?

14 MR. ELSON: No, ED 14 is at page -- well, I guess it  
15 is also on our page 4. But if you would like to see where  
16 -- your response to ED 14 is at page 25 of our document  
17 book.

18 MS. OLIVER-GLASFORD: Yes, that is accurate, based on  
19 an illustrative example that we prepared to fulfill your  
20 request.

21 MR. ELSON: In other words, the 35 percent reduction  
22 factory applied to your load forecast is roughly equal to  
23 the forecast demand reduction that you're expecting from  
24 your DSM programs. They are both 12,000 cubic metres, is  
25 that right?

26 MS. OLIVER-GLASFORD: They are roughly the same. This  
27 one is twelve, and I think yours is closer to thirteen.  
28 But as I said, it was for illustrative purposes and we

1 don't have any verified link between annual and peak and  
2 DSM.

3 MR. ELSON: It seems to me that the reduction factor  
4 only accounts for your DSM programs, and therefore doesn't  
5 factor in other factors that would result in lower growth,  
6 such as building demolition, changes to the building code,  
7 and customer-driven improvements and the like, because it  
8 happens that your reduction factor comes out to the same  
9 amount as what you are expecting from your DSM programs.  
10 Would you agree with that?

11 MR. FERNANDES: No.

12 MR. ELSON: So can you explain how your reduction  
13 factor accounts for other factors, even though it happens  
14 to be the same as the anticipated reduction from your DSM  
15 programs?

16 MR. FERNANDES: First of all, it's not the same.

17 MR. ELSON: Well, it's roughly the same.

18 MR. FERNANDES: So now you are talking roughly. So  
19 it's roughly in the same order of magnitude. But your  
20 focusing exclusively on certain factors and you're  
21 excluding others.

22 So there are changes in economic growth that drive  
23 usage patterns and peak load requirements, and there's also  
24 a trend towards larger buildings being built. And we do  
25 have that on the record in our Exhibit A, tab 3,  
26 schedule 4.

27 Toronto has a very large number of tall buildings  
28 being built, so taking the total number in isolation

1 without looking at the finer details about what types of  
2 customers are being added is important, in terms of our  
3 overall load forecasts, and the company believes that we  
4 have an appropriate forecast.

5 MR. ELSON: Regardless of what the reduction factor  
6 includes or doesn't include -- and I'll have to leave that  
7 to argument about whether they are roughly accurate,  
8 because I believe the numbers show that they are -- sorry,  
9 roughly equivalent, which I believe they are.

10 Maybe I should get a better grasp about how you derive  
11 this reduction factor. Is it correct to say that Enbridge  
12 estimated the 35 percent reduction amount to account for a  
13 number of factors that were not accounted for in its  
14 existing customer additions model, such as DSM, building  
15 demolitions, larger buildings and the like?

16 MR. FERNANDES: That's correct. Given the scale of  
17 the project, we took extra diligence in looking at our load  
18 forecast.

19 MR. ELSON: So in other words, after coming up with  
20 your preliminary customer additions demand forecast, you  
21 thought the numbers were too high and needed to be reduced  
22 to account for other factors; is that about right?

23 MR. FERNANDES: The way I would describe it is  
24 compared to smaller reinforcements, we had additional data  
25 available to us, and we utilized that appropriately to  
26 ensure that we had the most accurate load growth forecast  
27 available.

28 MR. ELSON: Who decided on the figure of 35 percent?

1 Was that you, Mr. Naczynski?

2 MR. NACZYNSKI: The 35 percent was done in conjunction  
3 with the project team, including Mr. Fernandes.

4 MR. ELSON: Can you provide any additional information  
5 on how it was derived? For example, can you explain that  
6 X percent of the reduction factor is attributable to DSM,  
7 Y percent is attributable to building demolitions, and  
8 Z percent is attributable to there being larger buildings?

9 Can you provide that sort of detail with respect to  
10 the reduction factor?

11 MR. FERNANDES: If we can go back to JT 2.29, I think  
12 we've provided the response.

13 MR. ELSON: I think answer is no; is that correct?  
14 You can't provide that additional detail?

15 MR. FERNANDES: Well, it's important to understand how  
16 the company does its load forecasting, and the different  
17 types of forecasts that it produces for various purposes.

18 For system design, the data availability is not the  
19 same as what you would typically see on the electric  
20 system. And I think it would be helpful for parties to  
21 take a look at interrogatory A3.EGD.Staff.15.

22 We have a fairly lengthy preamble that describes the  
23 different types of forecasts. And it describes how we  
24 forecast annual demand, for instance, and what its useful  
25 purposes are. It describes how we forecast peak day demand  
26 and how we use it to -- in our supply plan. And it also  
27 describes how we forecast peak hour, which is used for  
28 system planning.

1           So I think, to your response, it's very difficult to  
2 disaggregate that, because it was a top-down adjustment.  
3 And there's simply no data to support or understand at the  
4 micro level, and it's a consequence of how we meter in our  
5 particular system. Most of our customers have meter  
6 readings only occurring six times a year.

7           So the data that you're looking for is simply not  
8 available.

9           MR. ELSON: So you're not able to -- I'm sorry, I'm  
10 going to have to repeat the question because that was a  
11 long answer, and I'm not sure where to find the specific  
12 answer to my question. You are not able to break apart  
13 this reduction factor and explain what percent is  
14 attributable to DSM or what percent is attributable to  
15 building demolitions and the like; is that correct?

16          MR. FERNANDES: No, we're not able to.

17          MR. ELSON: Thank you. I guess it would be fair to  
18 say Enbridge developed a broad-brush estimate without an  
19 underlying model or detailed calculations, like we were  
20 just discussing?

21          MR. FERNANDES: I think those are almost the exact  
22 words that I used in the technical conference when we had  
23 this discussion.

24          MR. ELSON: So yes is the answer?

25          MR. FERNANDES: Correct.

26          MR. ELSON: I'm going to move to some questions about  
27 greenhouse gas reduction policies and their potential  
28 impact on the load growth forecast. Could you turn to

1 tab 15 of the Environmental Defence document book, please?  
2 That's page 31. I'm actually going to ask you to refer to  
3 the end of that document, which is page 36 in the document  
4 book.

5 This document is the government of Ontario's Action  
6 Plan on Climate Change. It's from 2007. And according to  
7 this tab:

8 "The government of Ontario's greenhouse gas  
9 reductions goals are as follows: a six percent  
10 reduction in our greenhouse gas emissions by 2014  
11 relative to 1990 levels, a 15 percent reduction  
12 in our GHG emissions by 2020 relative to 1990,  
13 levels, and an 80 percent reductions in our GHG  
14 emissions by 2050 relative to 1990 levels."

15 Are you aware of these targets?

16 MR. FERNANDES: Yes. You have provided them to us.

17 MR. ELSON: Were you aware of these targets before I  
18 have provided them to you?

19 MR. FERNANDES: Yes.

20 MR. ELSON: Now, your DSM people were aware; were you  
21 aware of them, Mr. Fernandes?

22 MR. FERNANDES: I was aware that the Ontario  
23 government has a greenhouse gas policy. I have to admit  
24 I'm not well versed in the details of it.

25 MR. ELSON: And, Mr. Naczynski, were you aware of  
26 these targets?

27 MR. NACZYNSKI: Similar to Mr. Fernandes, I was aware  
28 of a policy by the provincial government, but not of the

1 specific targets.

2 MR. ELSON: If you could turn over the tab in our  
3 document book to -- which is tab 16 which is page 37,  
4 according to this tab, in 2010 natural gas consumption was  
5 responsible for 34.5 percent of Ontario's total energy-  
6 related GHG emissions. And that comes from a table that's  
7 at page 40 of the document book.

8 I believe you confirmed this number in the recent DSM  
9 proceedings, but I would just like to ask you to confirm it  
10 again. Do you agree that that is an accurate estimate?

11 Again, that's 34 percent of Ontario's total energy-  
12 related GHG emission being related to natural gas.

13 MS. OLIVER-GLASFORD: We certainly don't have  
14 information on the energy mix, but all other things being  
15 equal, yes, they seem reasonable.

16 MR. ELSON: Ms. Oliver-Glasford, is it reasonable to  
17 assume that, in order to achieve the 2050 GHG emission  
18 reduction goals, that Ontario's total natural gas  
19 consumption would need to be significantly reduced?

20 MS. OLIVER-GLASFORD: I think mathematically that  
21 concept sounds reasonable, but since this document was done  
22 in 2007 and -- even 1990 energy mix, I'm not an expert in  
23 what the energy mix was at that time.

24 MR. ELSON: I take it, though, that you don't have any  
25 studies or analysis to show that Ontario can achieve its  
26 2050 GHG reduction targets without total natural gas  
27 consumption declines; is that right? You don't have any  
28 studies that would show that?

1 MR. FERNANDES: Our studies would typically focus on  
2 our franchise, not on the entire province of Ontario. So  
3 we do not.

4 MS. OLIVER-GLASFORD: I would like to add to that that  
5 we do have a climate change policy that has two components,  
6 where we're addressing our own GHG emission reductions at  
7 the facilities and taking a leadership role in that, and  
8 also working with others to help them reduce their GHG  
9 emission reductions.

10 MR. ELSON: That's reducing GHGs in your operations;  
11 is that right? That's not talking about the GHGs that are  
12 produced from using gas that you sell to your customers?

13 MR. FERNANDES: You mean our customers' production of  
14 greenhouse gases?

15 MR. ELSON: Yes. Is that correct?

16 MR. FERNANDES: We have to focus on our own  
17 operations.

18 MR. ELSON: Of course. If you could turn to the next  
19 tab in our document book, that starts at page 43. This is  
20 an excerpt from the government of Ontario's 2012 climate  
21 change progress report. And if you could turn to page 12  
22 of the document, which is page 55 of the document book, I'm  
23 afraid I didn't manage to sidebar these numbers, but on  
24 page 55 of the document book you'll see table 6. Do you  
25 all have that table in front of you?

26 It's also up on the screen. Does the Board Panel and  
27 the witness panel both have the table in front of you?

28 MS. CHAPLIN: Yes.

1 MR. ELSON: If you could move down to the "Industry  
2 Sector," there's an initiative listed, which is the natural  
3 gas demand side management programs.

4 And you'll see that the government of Ontario is  
5 projecting reductions of 0.6 megatonnes for 2014 and one  
6 megatonne for 2020.

7 Are you aware of those numbers, Mr. Naczynski?

8 MR. NACZYNSKI: I was not aware of these numbers until  
9 receiving this document.

10 MR. ELSON: And moving down a line to "Buildings,"  
11 "Buildings" include three initiatives including natural gas  
12 demand side management programs, and the government of  
13 Ontario is projecting a reduction of 1.6 megatonnes by 2014  
14 and 2.9 megatonnes by 2020.

15 And again, were you aware of these forecasts by the  
16 government of Ontario?

17 MR. NACZYNSKI: Similar to above, I was not aware of  
18 these until now.

19 MR. ELSON: These would be net reductions from 1990  
20 greenhouse gas emission levels; is that right, Ms. Oliver-  
21 Glasford?

22 MS. OLIVER-GLASFORD: Sorry, can you repeat the  
23 question?

24 MR. ELSON: These reductions would be net reductions  
25 from 1990 levels?

26 MS. OLIVER-GLASFORD: It's not clear to me from  
27 looking at that, this one table. My apologies. Maybe it  
28 is listed as an assumption somewhere.

1           MR. FERNANDES: I think also net reductions for the  
2 entire province that the Enbridge franchise is only a part  
3 of.

4           MR. ELSON: Yes, of course. This document, I should  
5 maybe discuss the background with you a little bit. This  
6 is the climate change progress report from the government  
7 of Ontario. This is a document produced pursuant to its  
8 climate change action plan, and its action plan is -- has  
9 created targets based on 1990 GHG emission levels.

10          So perhaps, subject to check, you could agree that  
11 these would be net reductions from 1990 levels.

12          MR. FERNANDES: Subject to check, I think we can agree  
13 with that.

14          MR. ELSON: Thank you. Mr. Naczynski, when you  
15 created your load forecast, did you expressly consider and  
16 incorporate these projections?

17          MR. NACZYNSKI: As I've already mentioned, my load  
18 forecast is based on peak hour consumption, or on a design  
19 day condition in the City of Toronto. It's not based on  
20 annual forecast number.

21          So specifics about GJ -- greenhouse gas emissions to  
22 be reduced over -- annual basis was not considered.

23          MR. ELSON: I guess what I'm asking is whether you  
24 considered the fact the government of Ontario is planning  
25 on making net, or achieving net GHG emission reductions  
26 with respect to industry and buildings that are fairly  
27 significant.

28          Did you consider that as part of your load forecasting

1 process?

2 I don't think you could have, because you weren't  
3 aware of these numbers prior. But I'd just like to confirm  
4 that that wasn't part of the forecasting model.

5 MR. NACZYNSKI: I think that certainly would be  
6 obvious that, no, that was not included in it.

7 MR. ELSON: Could you turn back to page 10 of this  
8 report? That's page 53 of the document book, Environmental  
9 Defence's cross-examination document book.

10 This table, table 5, indicates the current gap between  
11 the projected GHG reductions that we were looking at just  
12 now, and the targets. Do you see that there? Are you with  
13 me with this table?

14 MR. NACZYNSKI: On the screen, yes.

15 MR. ELSON: Thanks. You can see that the gap for 2020  
16 is 28 megatonnes; that's four rows down, I think, in the  
17 last column.

18 MR. NACZYNSKI: We see that.

19 MR. ELSON: And so even if the projected natural gas  
20 GHG reductions we just discussed are attained -- in other  
21 words, even if the industrial- and the buildings-based  
22 initiatives are achieved -- there would still be a very  
23 large gap, is that right?

24 Perhaps the DSM experts might be the best people to  
25 answer that question.

26 MS. OLIVER-GLASFORD: I haven't reviewed this document  
27 in detail to verify it, and I would also say I'm not sure  
28 how the projections have been developed. You know,

1 certainly GTA area, if we're talking about this particular  
2 project, it's a completely different growth profile, I  
3 would imagine, than this rest of the province.

4 So I just don't know how to be able to credibly verify  
5 these numbers and the gaps.

6 MR. ELSON: Perhaps I'll show tell you numbers. If  
7 you look at the column for 2020, it says that the projected  
8 reductions are 42 megatonnes. And if you move down, it  
9 says that the gap is 28 megatonnes.

10 Do you see those numbers there? So we have projected  
11 42, and gap of 28?

12 MS. OLIVER-GLASFORD: Yes, I do.

13 MR. ELSON: And over on page 12, which is what we were  
14 just looking at, which is page 55 of the document book, all  
15 of these initiatives for 2020, at the bottom right-hand  
16 corner of that table, they amount to 41.3 megatonnes in  
17 reductions. So those are the projected.

18 So in addition to that 41.3, there will still be a  
19 significant gap. That's what the document is predicting,  
20 subject to check?

21 MR. FERNANDES: Subject to check, that's correct for  
22 the province as a whole.

23 MR. ELSON: Thank you. When Enbridge created it's  
24 load forecast, did it expressly consider the possibility  
25 that the government of Ontario would look to the natural  
26 gas sector for even further greenhouse gas reductions than  
27 it is currently forecasting, in order to meet its projected  
28 gap of 28 megatonnes?

1 MR. FERNANDES: I don't believe we speculated on  
2 future policy by the Ontario government.

3 MR. ELSON: Thank you. I would like to move on to  
4 some other topics.

5 I have some other load-growth-related questions, but  
6 perhaps I'll save those to the end.

7 I would like to move more into a discussion of DSM,  
8 and just to give you a bit of a road map, I'm going to ask  
9 you about the DSM potential if Enbridge continues with its  
10 same, what I will call a technology-based approach. I'm  
11 going to ask you some questions about a different approach,  
12 set out in the Enerlife model, which you could call a  
13 performance-based approach, or a benchmarking approach.

14 I'm going to ask you about some of the benefits of  
15 DSM, and some of the analysis that Enbridge has done of DSM  
16 as an alternative.

17 So starting with the first topic, which is the DSM  
18 potential based on a technology model, could you turn to  
19 tab 4 of the ED cross-examination reference book, which is  
20 page 4?

21 This table is entitled "Summary of Enbridge's DSM  
22 Evidence", and again I believe your counsel has confirmed  
23 that we've accurately reproduced this data; is that  
24 correct?

25 MS. OLIVER-GLASFORD: Yes.

26 MR. ELSON: I'm going to go through some of these  
27 numbers with you.

28 The first column of data is the peak demand reduction

1 from forecast DSM, and this is Enbridge's rough estimate of  
2 the peak demand reduction in the GTA area that would result  
3 if its existing 2014 DSM budget is forward continued  
4 forward into the future; is that correct?

5 MS. OLIVER-GLASFORD: Okay. I'm just going to refer  
6 to Exhibit I.54.EGD.ED.14, please, yes. So does everybody  
7 have that in front of them?

8 MR. ELSON: That's at page 25 of our document book, if  
9 that makes it easier to turn up.

10 MS. OLIVER-GLASFORD: I'm just going to reference the  
11 caveat that we've put forward in developing those numbers,  
12 which you had asked us for. So we wanted to be helpful.

13 But just as a reminder, they are illustrative and the  
14 assumptions, and we used a linear conversion from peak day  
15 - sorry, peak hour to peak day, and then peak day to annual  
16 figures -- or vice versa, rather. But in practice, that  
17 conversion factor will not be linear.

18 So there is kind of one caveat that I want to pull  
19 out, and we also assumed a static cost effectiveness when  
20 we did our assumptions on the costs.

21 MR. ELSON: Thank you. And you provided -- you made  
22 your best-efforts estimate. This is the best estimate you  
23 could come up with; is that right?

24 MS. OLIVER-GLASFORD: That's correct.

25 MR. ELSON: Just for your reference, in our table here  
26 back at page 4, I have noted in the source that someone  
27 looking at this chart should note the assumptions and the  
28 data caveats listed on page 2 of ED 14. So there is a

1 reference in there, because we do acknowledge that some  
2 assumptions had to be made.

3 So the amount -- I guess what I'm trying to get is  
4 these numbers right here are Enbridge's rough estimate of  
5 the peak demand reduction that would result if your 2014  
6 DSM programs were continued on into the future; is that  
7 right?

8 MR. FERNANDES: I believe the question asked us to  
9 use, and we did use best efforts to try and convert what  
10 our 2014 DSM program, what impact it would have on peak  
11 load.

12 MR. ELSON: Yes.

13 MR. FERNANDES: So if you want to take that, because  
14 it was provided on a best-efforts basis to show the  
15 relative magnitude and use it as a future projection, you  
16 should note the caveats.

17 MR. ELSON: Okay. Thank you. The next column over is  
18 Enbridge's best-efforts rough estimate of the incremental  
19 peak demand reduction that would be necessary to avoid load  
20 growth in the GTA area; is that correct?

21 MR. FERNANDES: That is correct.

22 MR. ELSON: And that amount is 25,000 cubic metres per  
23 hour?

24 MR. FERNANDES: Correct, as per that table.

25 MR. ELSON: Moving to the next table down, the first  
26 column is the forecast DSM budget for the GTA area. Now,  
27 this is Enbridge's rough estimate of the portion of  
28 Enbridge's DSM budget that is allocated to the GTA area; is

1 that right?

2 MS. OLIVER-GLASFORD: Yes, that's correct, based on  
3 consistent dollars from today.

4 MR. ELSON: And that's approximately \$15.5 million in  
5 2014, and then rising incrementally from there?

6 MS. OLIVER-GLASFORD: Correct.

7 MR. ELSON: What's the reason for the numbers  
8 increasing year over year? Even though the anticipated  
9 demand reduction stays constant?

10 MS. OLIVER-GLASFORD: The numbers increase based on  
11 the inflation factor that we use in our DSM framework.

12 MR. ELSON: Thank you.

13 And the next column over is Enbridge's rough estimate  
14 of the incremental DSM budget that would be necessary to  
15 avoid load growth; is that right? That's incremental  
16 budget?

17 MS. OLIVER-GLASFORD: Yes, that's correct, again with  
18 the caveat of linear cost-effectiveness.

19 MR. ELSON: And in 2014 that's approximately  
20 \$33.7 million?

21 MS. OLIVER-GLASFORD: Correct.

22 MR. ELSON: So the next column to the right is a rough  
23 estimate of the incremental net TRC benefits that would  
24 result from just the incremental programs, and that would  
25 be approximately \$140 million per year; is that right?

26 MS. OLIVER-GLASFORD: Yes, that would be correct as  
27 well, noting that when we project out in DSM there are a  
28 lot of caveats in terms of net-to-gross ratios, you know,

1 costs, all those sorts of things that we have to consider  
2 adjustment factors on programs that are factored into these  
3 numbers, as well.

4 MR. ELSON: Of course. And these are net benefits,  
5 meaning that from an overall perspective, the present value  
6 of the savings from the incremental DSM measures such as  
7 avoided gas, water, and electricity costs would be over  
8 \$140 million higher than the present value of the cost of  
9 the measures; is that right, Ms. Oliver-Glasford?

10 MS. OLIVER-GLASFORD: Yes, that is correct, but it  
11 should be noted that that TRC calculation does not include  
12 the cost of incentives to get that avoided cost benefit.

13 MR. ELSON: But that's the TRC societal benefit  
14 analysis; is that correct? It's the TRC analysis that  
15 would be done under the DSM guidelines?

16 MS. OLIVER-GLASFORD: Correct.

17 MR. ELSON: And the intent of that is to determine the  
18 net benefits to society as a whole?

19 MS. OLIVER-GLASFORD: Correct.

20 MR. ELSON: Now, why doesn't this number increase by  
21 inflation? Is that -- why would you have applied inflation  
22 to the DSM budget but not the incremental TRC benefits?

23 MS. RAMSAY: We didn't apply an inflation factor  
24 because the estimation of incremental net TRC benefits  
25 going forward had so many assumptions behind it. And we  
26 don't necessarily think that there's a linear relationship  
27 as we go forward and get deeper and deeper savings in a  
28 very targeted area, that it would be a linear relationship.

1 MR. ELSON: So perhaps your -- if you're getting  
2 declining returns, it would offset the inflation; is that  
3 about right? So you didn't include inflation there?

4 MS. RAMSAY: You could put it that way.

5 MR. ELSON: The next column over provides the  
6 cumulative TRC benefits. So over the 12 years, the net  
7 benefits -- that is, the savings minus the costs -- would  
8 equal about \$1.6 billion, and that's in the bottom right-  
9 hand corner of the table; is that correct?

10 MS. RAMSAY: Yes, but just to remind us that that does  
11 not include the cost of the incentive. The incentive is  
12 paid to the customers, to encourage those societal  
13 benefits.

14 MR. ELSON: It does include total cost of the  
15 measures, of the efficiency measure; is that right?

16 MS. RAMSAY: No. It includes the incremental cost of  
17 the measure over and above a standard piece of equipment.

18 MR. ELSON: I guess maybe I'll ask you: Has this been  
19 calculated in accordance with the DSM guidelines?

20 MS. RAMSAY: Yes.

21 MR. ELSON: Could you turn to tab 20, please, which is  
22 page 61 of the document book? This tab contains a report  
23 by Marbek, excerpts of a report by Marbek entitled,  
24 "Natural Gas Energy Efficiency Potential: Update, 2008."  
25 And it provides an estimate of the DSM potential for  
26 Enbridge's residential, commercial and industrial sectors.

27 Does Enbridge believe that the overall conclusions in  
28 this report are generally sound and accurate?

1 MS. OLIVER-GLASFORD: Overall, we support this study.  
2 They do have, as well, in the study and I -- subject to  
3 check. I can't recall the page, but they also have put  
4 caveats, as well, on some of the analysis.

5 MR. ELSON: If you can turn to page 74 of the document  
6 book, that's -- actually, my apologies, 72 of the document  
7 book. That's page 10 of the report. I'm going to ask you  
8 some questions about the chart in Exhibit 2.1.

9 This chart shows forecast of natural gas consumption  
10 in the Enbridge service area over time for a number of  
11 different DSM scenarios; is that right?

12 MR. FERNANDES: That is correct. It should be noted,  
13 however, that that is annualized demand, and this is a  
14 facilities application that's dependent on peak hour.

15 MR. ELSON: Thank you. And the top line is the  
16 reference case. That is, the forecast growth with no DSM;  
17 is that right, Ms. Oliver-Glasford?

18 MS. OLIVER-GLASFORD: That's my understanding, yes.

19 MR. ELSON: Now, I'm directing my questions to you not  
20 as any derision to you, Mr. Fernandes, but just asking your  
21 DSM experts, of course.

22 And the next line down is a scenario with a DSM budget  
23 of \$20 million; is that correct?

24 MS. OLIVER-GLASFORD: Yes, that's correct.

25 MR. ELSON: Now, it's a bit hard to read, but the next  
26 two lines down are almost touching and next to each other,  
27 very close to the third line. And they are the scenarios  
28 with 40- and \$60 million DSM budgets?

1 MS. OLIVER-GLASFORD: That looks to be right.

2 MR. ELSON: And in these last two scenarios with 40-  
3 and \$60 million budgets, Marbek forecasts overall declining  
4 annual growth; is that correct?

5 MS. RAMSAY: The potential study considered the period  
6 from 2007 to 2017. It was not intended to forecast beyond  
7 2017. It was intended to assess what the technical,  
8 economic, and achievable potential for DSM programs would  
9 be in the franchise area up to 2017.

10 MR. ELSON: Yes, of course. It's not projecting up to  
11 2025, but the trend from 2002 to 2017. In the reference  
12 case, you have significant increasing demand, and then in  
13 the \$40 million budget and \$50 million budget scenarios,  
14 you have a decreasing trend in demand.

15 And I just want to confirm with you that I'm reading  
16 this chart correctly.

17 MS. OLIVER-GLASFORD: Yes, you are reading it  
18 correctly and those numbers are for the whole franchise.  
19 So not just this area.

20 MR. ELSON: Thank you. Could you turn to tab 11,  
21 which is the Enerlife report?

22 MS. OLIVER-GLASFORD: Could you provide a page  
23 reference?

24 MR. ELSON: My apologies, it's page 19. In specific,  
25 I would like to refer you to the next page, which is page  
26 20, and I'm going to read this paragraph to you and just  
27 ask you a basic question.

28 The authors of this report say, and I'm quoting from

1 the bottom of page 20, the sidebarred paragraph:

2 "The performance-based model presented in this  
3 evidence for calculating commercial and apartment  
4 DSM potential is derived from Enerlife's  
5 substantial and growing database of actual energy  
6 performance data for buildings. The approach is  
7 consistent with the growing number of provincial  
8 and national programs. It takes a different  
9 approach from the DSM potential study conducted  
10 for Enbridge in 2009 by Marbek Resources  
11 Consulting Inc.

12 "Rather than relying on technologies, assumed  
13 penetration levels, and engineering calculations,  
14 the performance-based model analyzes actual  
15 benchmarked energy use of different building  
16 types, and establishes the potential savings due  
17 to all buildings reaching intensity levels  
18 already achieved by one-half", which is the  
19 median, "or one-quarter", which is the top  
20 quartile, "of the peer group."

21 My question is this: Do you agree that Enerlife has  
22 taken a different approach to assessing DSM potential as  
23 compared to Marbek?

24 MS. OLIVER-GLASFORD: Yes, I would agree very much  
25 that they have taken a different approach to a potential  
26 study than is typical for utilities across North America.

27 MR. ELSON: Would it be fair to call Marbek's approach  
28 a technology-based approach, whereas Enerlife's is a

1 performing or a benchmarking-based approach?

2 MS. OLIVER-GLASFORD: No, I would actually disagree  
3 with that characterization. Enbridge is doing benchmarking  
4 and performance-based programming already in its portfolio.  
5 Our approach to DSM is savings-based. We focus on M-cubed  
6 savings for our customers.

7 And Judith, don't know if you wanted to add anything  
8 here?

9 MS. RAMSAY: Yes, rather than characterizing the  
10 difference in the two approaches that way, I would say that  
11 the Enerlife is approach is very top-down. It takes  
12 results from 638 buildings and extrapolates those results  
13 -- buildings taken from across the country, applies those  
14 results to the Enbridge franchise area, in particular the  
15 GTA, whereas the Marbek approach is bottom-up, and takes  
16 the total usage in the franchise area, the reference case,  
17 develops archetypal building types, industry types, housing  
18 types, models the current use by those reference types, and  
19 then looks to see what is achievable in the technical  
20 sense, a TRC-positive economic sense, and achievable in  
21 terms of what can actually achieved on the street with  
22 customers.

23 MR. ELSON: So I understand that Enbridge is doing  
24 some performance- or benchmarking-based DSM currently.

25 But my understanding is that the Marbek report is not  
26 a performance- or a benchmarking-based analysis of DSM  
27 potential. Is that -- would you agree with that statement?

28 MS. OLIVER-GLASFORD: Sorry, , I'm not sure what you

1 are getting at with that question. Would you mind  
2 rephrasing, or asking that again?

3 MR. ELSON: Would it be fair to say that Enerlife's  
4 report is performance-based or benchmarking-based, and  
5 Marbek's report is not?

6 I'm trying to provide a distinction between their two  
7 reports.

8 MS. OLIVER-GLASFORD: I would disagree with that in  
9 that in that -- you know, with the Marbek, the robust and  
10 comprehensive Marbek potential study that we did, we did  
11 add in pieces where we talked to different sectors and  
12 understand what is happening in those sectors, in order to  
13 develop those achievable potential numbers.

14 So there's many aspects folded into that potential  
15 study that would have aspects of benchmarking implicit in  
16 the outcomes.

17 MR. ELSON: I guess what I'm saying is that Enerlife  
18 estimates the results based on benchmarking, whereas Marbek  
19 does a bottom-up technology-based approach; is that fair?

20 MS. OLIVER-GLASFORD: That would be an accurate  
21 representation, although as I said there are components.

22 MR. ELSON: Has Enbridge conducted a study of the DSM  
23 potential from the perspective of a benchmarking-based  
24 approach, as is in the Enerlife report?

25 MS. OLIVER-GLASFORD: As we've mentioned, we have  
26 added performance-based benchmarking-type initiatives into  
27 our portfolio, and are learning from other jurisdictions  
28 and gradually improving and increasing those programs.

1           However, that said, I'm not sure benchmarking isn't a  
2 fair way to understand what's achievable in a market. If  
3 we look at, you know, folks that want to be healthy, you  
4 can't assume that the top quartile that are running  
5 marathons and doing triathlons, that everybody can get to  
6 that level.

7           And I think they are some similarities there with  
8 energy efficiency in buildings. Sometimes the design --  
9 Enerlife mentions it in their own report that sometimes the  
10 design, the construction, or the use of the building simply  
11 will not allow them to get to the same levels as others.

12           MR. ELSON: Thank you. Now further down the page in  
13 the Enerlife report -- again I'm at page 21 of the  
14 Environmental Defence document book -- I would like to ask  
15 you some questions in relation to the sidebarred paragraph,  
16 which I'll read to you. Enerlife says that:

17                   "Measures to improve efficiency in high gas  
18                   intensity buildings go beyond those included in  
19                   Marbek's DSM potential study and are typically  
20                   site-specific equipment repairs, upgraded control  
21                   of buildings systems, and testing, tuning and  
22                   rebalancing of heating plant and systems. Such  
23                   projects show generally good Total Resource Cost  
24                   test values, can be implemented quite quickly,  
25                   and serve to improve building performance as well  
26                   as energy efficiency. They require a systematic  
27                   approach to identify target buildings, engage  
28                   owners, isolate the efficiencies (sic), implement

1           the necessary improvements and verify the  
2           results."

3           Now, I'm not asking you to agree with Enerlife's  
4 overall conclusions, but would you agree that there is some  
5 merit in targeting buildings with the highest gas usage per  
6 square foot for DSM focus?

7           MS. OLIVER-GLASFORD: We actually wholeheartedly  
8 agree, and in our filed 2012 to 2014 DSM plan on page 18,  
9 it actually outlines that that is our approach to our  
10 commercial customers.

11          MR. ELSON: And would you agree that significant gas  
12 savings can be found these in inefficient buildings through  
13 often relatively low-cost measures, such as equipment  
14 repairs and upgraded controls?

15          MS. OLIVER-GLASFORD: Perhaps there is, and a couple  
16 of things to note: one, that these assumptions and these  
17 programs are already folded into the Marbek potential  
18 study. It may not have been clear, but that is really what  
19 is meant by recommissioning in the industry of DSM.

20          And also, you know, those are things that we're doing  
21 already with our customers. I think it's roughly 70 or  
22 80 percent, subject to check, of our results are from our  
23 custom programs in the commercial sector, and just by the  
24 definition of it, custom is anything that our customers  
25 need that will provide a positive TRC value.

26          MR. ELSON: I would like to ask you some questions in  
27 a different area and move on, which is some of the other  
28 benefits of DSM, and I guess I could describe those as

1 public interest benefits of DSM.

2 How many years has Enbridge been running its DSM  
3 programs?

4 MS. OLIVER-GLASFORD: Subject to check, but we've been  
5 doing it since 1995.

6 MR. ELSON: Each year, the results of those programs  
7 are audited; is that right?

8 MS. OLIVER-GLASFORD: That is correct. They go  
9 through an extensive third-party audit.

10 MR. ELSON: And you described that as "extensive";  
11 would you also describe it as a rigorous process?

12 MS. OLIVER-GLASFORD: Yes. That's a good  
13 characterization.

14 MR. ELSON: So the results from Enbridge's DSM  
15 programs are being consistently verified through that  
16 process; is that correct?

17 MS. OLIVER-GLASFORD: My apologies. Would you repeat  
18 the question?

19 MR. ELSON: Are the results of Enbridge's DSM programs  
20 being consistently verified through that auditing process?

21 MS. OLIVER-GLASFORD: Our annual loads are being  
22 verified. Yes.

23 MR. ELSON: My understanding is that Enbridge's DSM  
24 programs generally meet or exceed their targets in terms of  
25 gas savings?

26 MS. OLIVER-GLASFORD: Yes. Most years we come close  
27 to or surpass our targets. However, there have been years  
28 we have not made our targets.

1 MR. ELSON: But only by very small amounts?

2 MS. OLIVER-GLASFORD: No. And perhaps Judith might be  
3 able to add in here, but my understanding is that there has  
4 been a few years where we've -- we know we have not  
5 achieved the target and have not received an incentive for  
6 the company.

7 MR. ELSON: Would it be fair to say, though, overall  
8 that DSM programs are a low-risk investment because the  
9 magnitude of the benefits are fairly certain?

10 MS. OLIVER-GLASFORD: You know, I'm passionate about  
11 DSM and I hugely support DSM. I really think it's  
12 positive.

13 That said, I'm not sure I would always characterize it  
14 as certain. I think we just need to be careful with, you  
15 know, the rigor on different pieces.

16 Certainly, we have a high degree of confidence in  
17 those results and what DSM can achieve.

18 MR. ELSON: I guess if I was to categorize it as high-  
19 or low-risk, I believe it would be fair to categorize it as  
20 low-risk in terms of receiving the savings that you  
21 anticipate; would that be fair to say?

22 MS. RAMSAY: We need to make the distinction between  
23 the type of broad-based DSM programs that's we've been  
24 delivering since 1995, which are aimed at annual results,  
25 and your characterization of low-risk could be said to  
26 apply to DSM in that sense.

27 If we're looking at targeted DSM with the intent of  
28 outcomes that result in deferral of distribution

1 infrastructure, there's an entirely different risk  
2 situation there.

3 MR. ELSON: I guess my question was the -- well, I'll  
4 move on. I think that's a sufficient answer.

5 I'll ask you about some of the other benefits of DSM  
6 in addition to those that are accounted for in your TRC  
7 test. Could you please turn to tab 21 of the Environmental  
8 Defence document book, which is page 75? This is an  
9 interrogatory. It's IR No. 6 from Enbridge's most recent  
10 DSM case.

11 And in this interrogatory, we put to Enbridge a report  
12 from the Canadian Council of Chief Executives, and in that  
13 report there was a conclusion that:

14 "Fundamentally, however, Canada needs to begin  
15 with a renewed commitment to energy conservation.  
16 We must use existing and future energy supplies  
17 as efficiently as possible, embracing the maxim  
18 that the cheapest form of energy is the unit that  
19 is not used. Better conservation practices will  
20 help insulate Canadians from volatile energy  
21 prices, reduce costs for public institutions such  
22 as hospitals, and improve the international  
23 competitiveness of Canadian companies."

24 In response to that, Enbridge said that Enbridge  
25 generally agrees, and I'm reading from page 76:

26 "Enbridge generally accepts that a sustained  
27 focus on energy efficiency assists with the long-  
28 term environmental sustainability and economic

1           competitiveness of the province."

2           And it also concludes that:

3           "Energy efficiency helps customers lower their  
4           overall energy usage, which in turn reduces one  
5           input cost for businesses."

6           Would Enbridge stand by its response to this  
7           interrogatory in this proceeding as well?

8           MR. FERNANDES: The company does believe in  
9           sustainability, so yes.

10          MR. ELSON: In particular, would you agree that a  
11          sustained focus on energy efficiency assists with the  
12          economic competitiveness of the province?

13          MR. FERNANDES: We would agree with that, and say that  
14          efficiency in general helps with competitiveness of the  
15          province.

16          MR. ELSON: And that's in part because it reduces one  
17          input cost for businesses.

18          If you could turn over to tab 22, which is page 82 of  
19          the Environmental Defence cross-examination document book,  
20          this is Interrogatory No. 7 from the DSM case.

21          And we asked Enbridge about Canadian companies needing  
22          to increase productivity and investment, and about a report  
23          by Dr. Ernie Stokes quantifying the economic benefits of  
24          natural gas DSM in terms of increased GDP, increased  
25          employment, decreased deficits and the like.

26          And I'm going to read the response that Enbridge  
27          provided. Enbridge said:

28          "Mark Carney's remarks that increased investment

1 results in increased productivity appear  
2 reasonable. It is the understanding of the  
3 company that pervasive economic theory does  
4 suggest that higher productivity may lead to  
5 higher wages, profits and government revenues.  
6 Enbridge believes that when a business  
7 participates in DSM programs and invests in  
8 energy efficiency upgrades, all other things  
9 being equal, it may see increases in  
10 productivity. While Enbridge cannot specifically  
11 predict the future impacts of DSM on overall  
12 productivity and GDP, it believes that DSM  
13 initiatives can be a factor in elevated  
14 productivity and thus, GDP."

15 Does Enbridge still believe in those statements?

16 MS. OLIVER-GLASFORD: Yes, I do.

17 MR. ELSON: Thank you. Would Enbridge agree, or would  
18 you agree, Ms. Oliver-Glasford, that Enbridge's DSM  
19 programs create jobs in Ontario, including energy  
20 contractors and the like?

21 MS. OLIVER-GLASFORD: That's certainly something  
22 that's been discussed. And I would agree that there's  
23 probably jobs created through DSM, yes.

24 MR. ELSON: Most of the dollars spent through  
25 Enbridge's DSM programs would be spent in Ontario; is that  
26 right?

27 MS. OLIVER-GLASFORD: We wish there were more DSM  
28 evaluation companies in Ontario, but that said, most of the

1 DSM dollars would stay in the province.

2 MR. ELSON: Most would be spent in Ontario; is that --  
3 thank you.

4 And much of the savings from DSM programs come from  
5 avoided gas costs, which is money that would have largely  
6 gone to natural gas producers and places outside the  
7 province, such as the US northeast; is that a fair  
8 statement?

9 MR. FERNANDES: I believe it's fair to say that the  
10 commodity portion would by and large come from outside of  
11 the province, not specifically the US northeast.

12 MR. ELSON: That was just an example; but yes?

13 MR. FERNANDES: Yes.

14 MR. ELSON: On the other hand, most of the savings  
15 from this proposed pipeline come from gas supply benefits  
16 which would require a shift of dollars away from TCPL and  
17 gas producers in western Canada, towards gas producers in  
18 the US northeast; is that correct?

19 MR. FERNANDES: The economic benefits presented in the  
20 project, one of the benefit streams has to do with changes  
21 in our transportation contracts that shift from long-haul  
22 discretionary services to short-haul firm contracting.

23 MR. ELSON: I would like to move onto a different  
24 area, which is, you know, again, a no-growth scenario. I  
25 have just a couple brief questions on this point.

26 I believe on Thursday, Mr. Fernandes, you stated that  
27 Enbridge allocated approximately 800 tJs per day of segment  
28 A to Enbridge's distribution needs in the GTA area; is that

1 correct?

2 MR. FERNANDES: That is correct.

3 MR. ELSON: Is that the amount that would be needed to  
4 address forecast load growth?

5 MR. FERNANDES: The 800 terajoules a day the project  
6 proposes to bring in on segment A, the distribution system  
7 at Albion station, is made up of 600 terajoules a day that  
8 would be shifted from long-haul discretionary transport  
9 contracts to short-haul firm.

10 The other 200 terajoules a day is existing gas flows  
11 that's come into Parkway from upstream providers that is  
12 being shifted from the suction side to the discharge side,  
13 in order to move it further into the distribution system at  
14 Albion, and that would allow - you know, the distribution  
15 system capacity is available for future load growth of  
16 additional 200. But the gas supply plan as presented  
17 doesn't have that future growth included in it.

18 MR. ELSON: So would you say that 200 tJs is the  
19 amount that is needed to address load growth? I'm trying  
20 to figure out an amount of this pipe that is allocated, or  
21 that we can think of as being necessary for load growth.  
22 Would 200 tJs be a fair estimate?

23 MR. FERNANDES: I believe the number that's presented  
24 in our market forecast section is 190 terajoules per day  
25 over the forecast period.

26 MR. ELSON: And the current proposal is a 42-inch pipe  
27 for segment A?

28 MR. FERNANDES: That is correct.

1 MR. ELSON: So let's say that there wasn't any load  
2 growth from today forward, and the 200 tJs per day was not  
3 needed for load growth. What size would the pipe need to  
4 be to address the remaining purposes of the project, but  
5 not load growth?

6 MR. FERNANDES: We believe the 42-inch pipe size is  
7 appropriate.

8 MR. ELSON: I know you do. I'm asking how much you  
9 could decrease that if you weren't accounting for load  
10 growth.

11 I understand it's probably not going to be a large  
12 amount, but it would be helpful to have that estimate, if  
13 we were to take growth out of the scenario.

14 MR. FERNANDES: If you were to leave off 190  
15 terajoules per day in requirements over that forecast  
16 period, the company would still be proposing 42-inch  
17 pipeline.

18 We believe that it's required for building out the  
19 capacity for market access from Parkway through to Maple.  
20 We have the results on the record of our open season of  
21 over 932 terajoules a day, plus the company's requirements.

22 We don't believe an NPS 36, which would be the next  
23 standard pipe size lower, is in the interests of either  
24 distribution or transmission ratepayers in the long run.

25 MR. ELSON: So you think that the 42 could be used  
26 completely just for transmission purposes and for shifting  
27 your supply input, so you that can achieve the gas supply  
28 savings? You don't need it for demand growth; is that

1 right?

2 MR. FERNANDES: No, you said in a no-load-growth  
3 scenario. We have load growth, and that is what we're  
4 projecting.

5 MR. ELSON: I'll ask the question from the other side.  
6 If the only thing that you were attempting to address was  
7 load growth, how large would that pipe need to be?

8 Now, I am not including gas supply benefits, or  
9 shifting from Victoria Square to Parkway. If you just  
10 needed it for load growth, how big would the pipe need to  
11 be?

12 MR. FERNANDES: I think it's already on the record  
13 that if we were looking at a load-growth-only scenario,  
14 with none of the other limitations of the system being  
15 addressed, that we would be looking at expanding the north-  
16 south section of segment B only.

17 However, that is not what the company is proposing,  
18 because of the other important limitations on our system.

19 MR. ELSON: In other words, if it was load growth  
20 only, you wouldn't need segment A, and you wouldn't need  
21 the east-west portion of segment B; you would just need the  
22 north-south portion of segment B; is that right?

23 MR. FERNANDES: Under the hypothetical situation where  
24 we were looking to only address load growth, that is  
25 correct.

26 MR. ELSON: Thank you. And now with respect to the  
27 north-south portion, is that size -- could that be  
28 decreased, if you were only addressing load growth and

1 weren't addressing other issues such as the SMYS pressure  
2 issue?

3 MR. FERNANDES: I think Mr. Naczynski will be able to  
4 fill in a little bit more. It's theoretically possible,  
5 but under the consideration where it is intended to tie  
6 into an existing NPS 36, that would create all sorts of  
7 operational issues for us.

8 NPS 36 has been the most common pipe size for us to  
9 expand the backbone of our extra high pressure grid over  
10 the last two decades, and the reasons are is that is that's  
11 the most economic size for capacity for a distribution  
12 system.

13 MR. ELSON: Thank you. I would like to ask some  
14 questions in relation to Environmental Defence document  
15 book number 2 -- which isn't actually much of a document  
16 book; it's actually just one document.

17 I believe that copies were provided to Panel members  
18 and Mr. West, I think, has copies there. So if you could  
19 turn them up, that would be much appreciated.

20 MR. MILLAR: We'll give that an exhibit number. K5.1.

21 **EXHIBIT NO. K5.1: ENVIRONMENTAL DEFENCE CROSS-**  
22 **EXAMINATION MATERIALS, BOOK 2**

23 MR. ELSON: As you can see, this document was recently  
24 released by the Ministry of Energy, and it relates, of  
25 course, to electricity. But I would like to ask you some  
26 questions based on it, in relation to natural gas, of  
27 course.

28 And this is the document entitled "Conservation First,

1 a Renewed Vision for Energy Conservation in Ontario".

2 Two pages in, you have Minister's message, and  
3 Minister says:

4 "Conservation is the cleanest and least costly  
5 energy resource and offers consumers a mean to  
6 reduce their electricity bills."

7 My question is simple, which is: Do you believe that  
8 that statement would apply also to natural gas?

9 MS. OLIVER-GLASFORD: Yes, we would agree with that  
10 statement for natural gas.

11 MR. ELSON: Thank you. On the next page over, in the  
12 underlined portion, it says:

13 "Reducing or shifting electricity use avoids the  
14 need for new generation as well as transmission,  
15 reduces strain on the electricity system, and  
16 improves the efficiency of the power grid."

17 Would you agree that the same is true with respect to  
18 natural gas -- of course acknowledging that instead of new  
19 generation, it's new supply, and instead of the electricity  
20 system, it would be the Enbridge pipeline system as well as  
21 the transmission system?

22 MR. FERNANDES: We do agree that energy efficiency is  
23 important; it's for our customers. However, I don't think  
24 we can agree with that analogy, in particular with respect  
25 to the limitations that we described at the beginning of  
26 our testimony.

27 So I don't think there's a role in efficiency in terms  
28 of providing diversity of path, or operational flexibility

1 within our system in addressing some of the supply  
2 consequences that we currently face within our system.

3 So I'm not saying that energy efficiency is not a  
4 social good. Enbridge is strongly supportive of that. But  
5 I don't think you can draw the conclusion across the board  
6 from an electrical for a natural gas system.

7 MR. ELSON: Now your specific application before the  
8 Board today has some unique aspects to it, and I'm not  
9 asking any questions about those unique aspects. I'm  
10 asking a question on a general level and perhaps I can  
11 break it down, which is to say: Would you agree that  
12 conservation can reduce the need for new pipelines by  
13 reducing demand?

14 MR. FERNANDES: Conservation can certainly help in  
15 reducing annual demand. We're not as certain about what  
16 it's direct impact on peak hour, and therefore on  
17 facilities.

18 But we believe it does have an impact, it's just not  
19 as certain.

20 MR. ELSON: If you could turn to the last page? This  
21 talks about the vision outlined in this paper with respect  
22 to electricity, and it says:

23 "Ontario's vision is to invest in conservation  
24 first before new generation, where cost-  
25 effective."

26 And further down, the underlined portion:

27 "Conservation should be the first resource  
28 considered in meeting Ontario's electricity

1 needs. Cost-effective conservation brings  
2 environmental, economic, and system benefits."

3 Would you agree that gas conservation also brings  
4 environmental, economic, and system benefits?

5 MR. FERNANDES: We do agree with that, and we do agree  
6 that it should be used where cost-effective.

7 MR. ELSON: Do you agree that gas conservation should  
8 be the first option considered before supply-side  
9 transmission and distribution investments?

10 MR. FERNANDES: It depends on the objective. As we  
11 stated, we have some very important system limitations in  
12 this particular case. We're looking for diversity.

13 Some of the items, such as providing a second feed  
14 into the downtown core, I don't see how energy efficiency  
15 could possibly do that. We also have considerations of  
16 reducing the pressure on our oldest, highest-stress lines,  
17 which is dealing with aging infrastructure. And I don't  
18 believe that energy efficiency can have a significant  
19 impact on those requirements.

20 MR. ELSON: Perhaps I'll revise my question. Would  
21 you agree that gas conservation should be the first option  
22 considered before supply-side transmission and distribution  
23 investments that are intended to address load growth?

24 MS. OLIVER-GLASFORD: Yes, they should be considered.  
25 However, I would note in Exhibit M, GEC.EGD.6, attachment  
26 A, the RAP report that outlines the US experience with  
27 efficiency as a transmission and distribution system  
28 resource, first of all, again, I think it's very important

1 to point out that these are electricity-centric documents.

2 Electricity and gas are fundamentally different with  
3 how we can impact those peak demands, and also the impacts,  
4 if there is some sort of outage event, with getting people  
5 up and running again.

6 But that said, in that report, in the executive  
7 summary, (iii), you know, even National Grid, Rhode Island  
8 would agree that when you are doing these kind of focused  
9 geo-targeted offsets, you want to make sure that you don't  
10 have any other drivers other than load growth. And, you  
11 know, as I've heard Mr. Fernandes say, there is other  
12 drivers for this project other than load growth.

13 MR. ELSON: Ms. Oliver-Glasford, would you agree that  
14 Enbridge should pursue all feasible and cost-effective DSM  
15 -- i.e., with a TRC greater of one -- before seeking  
16 permission for new supply infrastructure intended to meet  
17 growing demand?

18 MS. OLIVER-GLASFORD: We have a responsibility to our  
19 customers to balance out various stakeholder input into  
20 what is an appropriate budget and approach to our DSM  
21 planning. And over a number of years through a very  
22 transparent and inclusive process, I believe we're at that  
23 appropriate point.

24 MR. ELSON: Going forward, would Enbridge agree to  
25 strive to eliminate load growth through DSM if it could do  
26 so with cost-effective programs with a positive TRC  
27 benefit-cost ratio?

28 MS. OLIVER-GLASFORD: I believe we would certainly

1 like to if that was what worked for all of the various  
2 intervenor groups, providing it's cost-effective.

3 MR. ELSON: Would Enbridge agree to do so as a  
4 condition of approval for this project?

5 MR. FERNANDES: Could you repeat that question?  
6 Because I'm not sure what that condition would have to do  
7 with the proposed facilities.

8 MR. ELSON: The question is whether Enbridge would  
9 agree to strive to eliminate load growth through DSM if it  
10 could do so with cost-effective programs with a positive  
11 TRC benefit-cost ratio. So the question is whether  
12 Enbridge would agree to do that as a condition of approval  
13 for this project.

14 And that would be so that, going forward, we wouldn't  
15 have to be investing in further supply-side improvements in  
16 order to meet load growth.

17 MR. FERNANDES: I can't draw the connections between  
18 that condition and the proposed facilities. So I don't  
19 think we can commit to that.

20 MR. ELSON: Okay.

21 MS. RAMSAY: Just to add to that, I think what the  
22 discussion is bringing out is that there are a number of  
23 issues and concerns that would have to be addressed  
24 relating to use of DSM and targeted DSM for deferral of any  
25 distribution infrastructure.

26 And those issues and concerns have not been addressed  
27 by the Board and by stakeholders. So it would be premature  
28 to enter into any kind of agreement of that nature.

1           Secondly, as Ms. Oliver-Glasford pointed out, we have  
2    been working in an environment relating to broad-based DSM  
3    activities, with a goal to reduce annual throughput. And  
4    over the years, we have known all along that there are  
5    considerable economic benefits, based on the TRC test, to  
6    be achieved, that are out there to be achieved.

7           But how much the utility is doing has been the result  
8    -- as Ms. Oliver-Glasford pointed out -- has been the  
9    result of discussions taking into account the needs and  
10   concerns of all of the stakeholders, all of the ratepayer  
11   groups, and that is how we have arrived at the current  
12   level of DSM activity.

13          MR. ELSON: Thank you. Madam Chair, it's 11:58. I  
14   can probably finish in about 10 minutes. And I'm happy to  
15   continue or to take a break, subject to the Board's...

16          MS. CHAPLIN: We'll continue for 10 minutes. That's  
17   fine.

18          MR. ELSON: Thank you. So I have some questions that  
19   are a bit of an aside, which goes back to some of the load  
20   forecasting that we were looking at.

21          Mr. Naczynski, as part of your load forecasting  
22   process, you calculated an average peak hourly demand per  
23   customer; is that correct?

24          MR. NACZYNSKI: That's correct.

25          MR. ELSON: But you didn't have direct data on peak  
26   hour demands per customer type, so that had to be derived  
27   from annual demand figures per customer type; is that  
28   correct?

1 MR. NACZYNSKI: That's not correct. So to -- we  
2 started to discuss at the technical conference. However,  
3 at a very high level for the purposes here today, the  
4 derived peak hour consumption by a -- not only by  
5 particular customer type but also by geographical area was  
6 determined by looking at individual customer consumption,  
7 monthly consumption from the billing, from the billing  
8 process, from the billing meters. That was then regressed  
9 against the number or the amount of heating degree days  
10 that you would experience in that given month.

11 And using -- through that process, a maximum peak hour  
12 at a design day was determined.

13 MR. ELSON: So did your forecasting involve a  
14 conversion between annual and peak demands at all?

15 MR. NACZYNSKI: The conversion was between a monthly  
16 consumption and the amount of heat that would have, or the  
17 amount of heating degree days that would have occurred in  
18 that month.

19 MR. ELSON: Do you expect that annual demand will  
20 increase between now and 2025?

21 MR. NACZYNSKI: I would expect that, based on the  
22 trending that we have seen, that an individual -- a typical  
23 customer's consumption on an annual basis would decrease on  
24 an annual basis.

25 MR. ELSON: Now, overall in the GTA area, do you  
26 anticipate that annual demand will increase between now and  
27 2025?

28 [Witness panel confers]

1 MR. NACZYNSKI: Sorry, could you clarify that  
2 question?

3 MR. ELSON: Do you anticipate that the annual demand  
4 for the GTA area will increase between now and 2025? What  
5 will the trend be between now and 2025 for annual demand?

6 MR. NACZYNSKI: For that, I would want to put that  
7 over to our -- either our economic or our other group to  
8 discuss that.

9 Again, from a system design perspective, I'm not  
10 looking at the overall annual demand on my system. I'm  
11 looking at the ability to meet peak deliverable at a design  
12 day condition.

13 MR. FERNANDES: I have to add I think we provided that  
14 information on the record as part of the interrogatories to  
15 Environmental Defence, but I don't have the reference in  
16 front of me.

17 MR. ELSON: I don't either and I'm not aware of that,  
18 but I will take a look.

19 Perhaps I could ask another question, which is: Do  
20 you, Mr. Naczynski -- are you aware of a factor that  
21 Enbridge uses to convert peak demand to annual demand?  
22 It's going to, of course, be a rough factor, but through  
23 your forecasting process, do you have something like that?

24 MR. NACZYNSKI: There is a -- certainly characterized  
25 as a rough factor that is often used to convert from  
26 annual, or anticipated annual demand, to a peak hour for  
27 system modelling for specific customers when they come to  
28 our system.

1 MR. ELSON: Could you use that factor -- let me take a  
2 step back.

3 Table 1 in the response to Environmental Defence 5  
4 contains Enbridge's estimated peak demand from 2012 to 2025  
5 -- and I'm not asking that you turn it up. But I'm  
6 wondering if you could undertake to convert the forecast  
7 numbers in table 1 from peak hourly to annual demand, using  
8 the factor that we just talked about.

9 MR. NACZYNSKI: I wouldn't propose that that would be  
10 a very good analogy. The number that you are referring to  
11 -- and I speak to it certainly at a very, very high level.  
12 If I'm looking at a specific customer who is wishing to  
13 come onto my distribution system, as a rule of thumb we  
14 would divide their annual consumption by a factor of about  
15 a thousand, as a very rough or loose estimate.

16 If I was to take all those peak demands and multiply  
17 by a thousand, the loads that we would have would be  
18 absolutely huge, and I don't think that would give you a  
19 fair representation for the purposes here.

20 So I could undertake to do that, but I'm not sure that  
21 it will provide a lot of value, because our load forecast  
22 that we've done right now is far, far more conservative  
23 than that as we look at aggregated load over the whole  
24 system.

25 MR. ELSON: Could you undertake to convert those  
26 forecast numbers in table 1 from peak hourly to annual  
27 demand, using a factor that you feel is appropriate, and  
28 explaining what factor you are using?

1           MR. NACZYNSKI: The challenge I have there is that the  
2 system is designed on a peak hour/peak day, and we have  
3 provided some calculations as a part of the work that Ms.  
4 Oliver-Glasford had done, and I think there is a number out  
5 there, but again, listed with all those caveats that were  
6 on there that converted the total annual DSM.

7           I know a number was used, which, I believe, you  
8 referenced also as well here.

9           MR. ELSON: It would assist us in assessing your peak  
10 demand forecast to see what that would be implying, in  
11 terms of annual demand. And that I believe would assist  
12 the Board as well.

13           So I would appreciate an undertaking that would do  
14 that conversion, so that we could understand what your  
15 forecast implies for annual demand.

16           MS. CHAPLIN: Just a minute, please. What I hear the  
17 witness saying is that they don't have - sorry, were you --  
18 it's implying in terms of annual demand, and I thought  
19 their answer was it wouldn't be an accurate assessment of  
20 what was implied in terms of annual demand, because they  
21 don't have that conversion, was that correct -- and that  
22 the only conversion factor they have is actually going the  
23 other direction, to take an individual customer's annual  
24 demand and derive a rough estimate of peak demand.

25           Am I understanding the testimony correctly?

26           MR. FERNANDES: I think you are correct. We have some  
27 rules of thumb that would allow for quick sizing of  
28 facilities at a more localized area. So you could say this

1 is the approximate of a residential, and you can aggregate  
2 a subdivision to quickly come to a sizing for the pipe that  
3 is feeding that.

4 But as Mr. Naczynski has said, for facilities, annual  
5 demand is not a factor.

6 MS. CHAPLIN: So if you could perhaps help me  
7 understand, Mr. Elson, how asking him to do something that  
8 they don't do and have no -- it doesn't appear have any  
9 reasonable way of doing, is going to help us.

10 MR. ELSON: If it's impossible to do, then of course I  
11 can't ask for the undertaking. But I would like to have  
12 some sort of understanding about what these peak numbers  
13 would entail in terms of annual numbers, so that we can  
14 compare them with some of the historic annual numbers.

15 I could perhaps ask it in a different way, and I'm  
16 going to move on to that right now.

17 MS. CHAPLIN: Okay.

18 MR. ELSON: To summarize what I think we've gone  
19 through, Mr. Naczynski, you are not predicting an increase  
20 or a decrease in annual demand; is that right?

21 MR. NACZYNSKI: Again as I've mentioned, from a system  
22 design -- from a system management perspective, I'm looking  
23 at the peak hour demands from a design perspective, not  
24 annual.

25 MR. ELSON: I know that is your target, but would your  
26 model imply an increase or a decrease in annual demand?

27 MR. NACZYNSKI: The model would not imply an increase  
28 or decrease in annual demand. It is simply not based on

1 that.

2 MR. ELSON: So on page 15 of the cross-examination  
3 reference book, there's a chart here which is a summary of  
4 inputs into economic analysis.

5 Mr. Naczynski, did you come up with these numbers here  
6 that are the total cumulative volumes for forecast to 2025?

7 MR. FERNANDES: I think I could answer for Mr.  
8 Naczynski that he did not. I think --

9 MR. ELSON: So I should be asking the other panel how  
10 these were derived; is that correct?

11 MR. FERNANDES: Well, at a high level, I can state --  
12 I think we went through it before, that these are economic  
13 feasibility summaries, and if we want to get into detail,  
14 we can ask the economics panel.

15 But as per the guidelines, we're simply assessing  
16 these factors at the most recently approved rates, and  
17 holding them constant for the forecast period.

18 So again, I think we've stated that this is not a  
19 forecast. It's utilizing the standard and it's a  
20 mathematical certainty, based on the fact that we are  
21 required to hold usage by customer constant for the  
22 forecast period. So it is simply multiplying the number of  
23 customers by customer type, by their current usage. That  
24 is not a forecast.

25 MR. ELSON: So this is -- you have your customer  
26 additions, and then you multiply them by average use, and  
27 that is how you come up with these numbers. Is that --?

28 MR. FERNANDES: Current average use.

1 MR. ELSON: Current average use.

2 MR. FERNANDES: Just like we hold dollars constant  
3 into the future for the economic feasibility, we hold the  
4 other rates and inputs constant as well. And that ensures  
5 that you have consistency in terms of calculations for  
6 comparability.

7 MR. ELSON: Thank you, and my final few questions are  
8 in relation to Enbridge's examination of DSM.

9 Does Enbridge believe it is required, as part of this  
10 application, to provide evidence that is sufficient to  
11 establish whether DSM is a feasible or preferable  
12 alternative to the project?

13 MR. FERNANDES: I believe we already have.

14 MR. ELSON: And you believe that's a requirement of  
15 this application?

16 MR. FERNANDES: We included it because we thought it  
17 was relevant.

18 MR. ELSON: I would like to ask you a few questions  
19 about the studies in the examination that Enbridge did to  
20 assess DSM as an alternative.

21 I believe I had the answers from you, Mr. Fernandes,  
22 at the technical conference, but I want to just confirm  
23 that my understanding is correct.

24 I believe, Mr. Fernandes, you said at the technical  
25 conference that DSM was screened out in 2011; is that  
26 correct?

27 MR. FERNANDES: That is correct.

28 MR. ELSON: And that was done at a meeting?

1 MR. FERNANDES: That was done over a course of  
2 several.

3 MR. ELSON: And no documentation was created?

4 MR. FERNANDES: I believe we have documentation.

5 MR. ELSON: I believe that at the technical  
6 conference, I asked for documentation and you said that  
7 none existed.

8 So perhaps I'll ask for the documentation that was  
9 created when DSM was screened out as an alternative. Could  
10 you provide that?

11 MR. FERNANDES: The screening process involved a  
12 number of parties internal to the company, across a wide  
13 variety of functional areas, and they went through a series  
14 of workshops in order to screen through potential  
15 alternatives, looking at all of the limitations.

16 So there is a large body of work. Some of it is not  
17 easily producible, but I think we can provide some  
18 presentation material on check points and approvals, if  
19 that would be --

20 MR. ELSON: I do not want all of your screening  
21 analysis of all your alternatives.

22 What I'm looking for is a document that was created in  
23 2011 at one of these meetings that describes why DSM was  
24 screened out.

25 My understanding from the technical conference -- you  
26 said there was nothing to provide. So if there is  
27 something to provide, if you could provide it by way of  
28 undertaking it would be appreciated.

1 MR. FERNANDES: So specific to DSM, those were working  
2 meetings. There is mention in discussion on looking at  
3 DSM, but I -- I could look at the documentation. I don't  
4 think there's a lot of detail.

5 As we described in the technical conference, when we  
6 looked at the limitations that we're looking to address, or  
7 the objectives of the project, it was an order of magnitude  
8 that we looked at with respect to DSM.

9 When we look at what we -- you know, our DSM group has  
10 provided some desktop assumptions stating that we can get  
11 approximately 12  $10^3\text{m}^3$  reduction in peak load hour based on  
12 our present DSM programs. And we look at the order of  
13 magnitude of the things that are trying to be achieved,  
14 such as the 600-terajoule shift, it's orders of magnitude,  
15 factors of 30 or 60 times, in order to achieve something  
16 like that at DSM. And in terms of those working meeting  
17 discussions with a broader group, we screened it out as  
18 being something that can't possibly be achieved.

19 MR. ELSON: So I think what you are referring to there  
20 is the 30 percent SMYS criteria. And what you would need  
21 is 20-fold increase in DSM to meet the 30 percent SMYS  
22 criteria. So you decided in a meeting: We shouldn't even  
23 bother looking at DSM. Is that an accurate description?

24 MR. FERNANDES: We looked at it. We understood the  
25 rough order of magnitude. It's not just the pressure  
26 reduction. The pressure reduction would give you -- I  
27 believe it's about a 20X order of magnitude, but the supply  
28 shift in order to get the discretionary services over to

1 short-haul firm is 3X that.

2 So there's multiple objectives that would state that  
3 you can't possibly do this with energy efficiency measures.  
4 So it was screened out.

5 MR. ELSON: So you screened it out because it couldn't  
6 achieve your gas supply benefits and it couldn't achieve  
7 your pressure reduction --

8 MR. FERNANDES: And it couldn't achieve the second  
9 feed into downtown Toronto, or the flexibility or diversity  
10 within the extra high-pressure system.

11 So there's multiple objectives that, while energy  
12 efficiency is good and we recognize it can have an impact  
13 on load growth, it can't possibly achieve those other  
14 objectives.

15 And what we tried to articulate in the technical  
16 conference, that one of the reasons why Enbridge wanted to  
17 look at all these together is because several of those  
18 objectives dealing with those limitations on our current  
19 system are coincident. So it's much better for us to look  
20 at them in aggregate, to ensure that we can bring out any  
21 economies that are available to address them all.

22 MR. ELSON: So you didn't undertake any studies or  
23 reports of DSM or a detailed analysis, because you were  
24 able to rule it out as an option to address all of the  
25 purposes early on in the process; is that right?

26 MR. FERNANDES: That's correct.

27 MR. ELSON: And Enbridge didn't produce any studies or  
28 reports to analyze whether DSM might satisfy only one or

1 two of the project purposes? It was just screened out  
2 because it couldn't address all of them; is that right?

3 MR. FERNANDES: It's a much more detailed discussion  
4 than that. I wouldn't portray it that way.

5 Effectively -- I think we've already gone through this  
6 -- when we looked at the solutions, DSM was screened out  
7 fairly early in the process, but in terms of having an  
8 impact on the facilities, the load growth portion, as we  
9 stated, is dependent -- if we were to do it alone, is  
10 dependent on the north-south piece of our segment B.

11 And our segment B is connecting a 36-inch pipeline to  
12 a 36-inch pipeline within our system. The operational  
13 limitations that that would place in things like our  
14 integrity management programs for in-line inspection, among  
15 other things, the economies of scale of using larger  
16 parameter pipe meant that there would be no capability to  
17 downsize the facilities, either.

18 So it's not quite as simplistic. But we basically  
19 screened it out because it does not have an impact on the  
20 facilities in order to meet the objectives of the project.

21 MR. ELSON: Thank you. I have no further questions.

22 MS. CHAPLIN: Thank you. We will rise now for our  
23 break for 30 minutes.

24 --- Recess taken at 11:16 a.m.

25 --- On resuming at 11:48 a.m.

26 MS. CHAPLIN: Please be seated. So next on my list is  
27 CME and CCC. Ms. Dullet, I believe you're -- and the  
28 estimate we were given, the commitment we were given was

1 thirty minutes.

2 **CROSS-EXAMINATION BY MS. DULLET:**

3 MS. DULLET: I won't be longer than that.

4 Good morning, I am Kim Dullet, here on behalf of the  
5 CME, and I also have some questions to ask on behalf of the  
6 CCC this morning.

7 The majority of my questions relate to DSM. More  
8 specifically, we are interested in EGD's perspective on the  
9 evidence that has been filed in these proceedings by GEC  
10 and ED.

11 To that end, I would first turn to Exhibit  
12 L.EDG.GEC.2, which is the evidence of Chris Neme and Jim  
13 Grevatt.

14 So my first question. At page 4 of the evidence, the  
15 report states that EGD has never really considered DSM as a  
16 potential peak capacity resource. Is this something that  
17 EGD could do, essentially use DSM to avoid or defer capital  
18 investments required for peak demand?

19 MS. OLIVER-GLASFORD: We would have to do extensive  
20 studying in order to understand the relationship between  
21 peak and annual for all of the technologies and for DSM  
22 overall.

23 MS. DULLET: Is that why it hasn't been done to date?

24 MS. OLIVER-GLASFORD: Certainly up to this point, our  
25 DSM framework and discussions have emphasized broad-based  
26 equal access programs, DSM programs for our customers.

27 MS. DULLET: Okay. If we look at page 7 of the same  
28 report, at the very bottom of the page -- and I'll read out

1 what it states here, and then turning on to page 8.

2 "Despite Enbridge's failure to examine  
3 construction alternatives for over a decade, it  
4 is still not unreasonable to think that,  
5 approached with the real urgency at hand,  
6 Enbridge could derive greater near-term results,  
7 even those currently being attained by industry  
8 leaders elsewhere, and that these results could  
9 mitigate at least a significant part of the need  
10 for the proposed segment B."

11 In your view, is it possible to mitigate a significant  
12 part of the need for segment B through DSM?

13 [Witness panel confers]

14 MS. OLIVER-GLASFORD: Yes, I'll open the discussion  
15 and let my colleagues, Mr. Fernandes or Mr. Naczynski, jump  
16 in. But I would say no, it's not reasonable, based on what  
17 we've been able to see from this evidence, that we could  
18 offset the project.

19 You know, as starting point, for example with Vermont  
20 Gas Systems, they've indicated that they've got a ramp-up  
21 and they're achieving .91 percent of their sales. If it  
22 fails to outline that those are actually gross numbers, and  
23 if you were to gross-up our net results, we would be right  
24 in line -- in fact, above that level.

25 So there are some flaws when you start to get into the  
26 details between comparing, and assuming that these are  
27 apples-to-apples comparisons.

28 Anything more, Mr. Fernandes?

1 MR. FERNANDES: In terms of -- I think just before the  
2 break I stated the suggestion has been that we could defer  
3 some of the facilities, specifically around segment B. The  
4 company has noted, though, that the segment links an  
5 existing 36-inch pipeline to an existing 36-inch pipeline.

6 So to have another pipe size in between, while  
7 technically feasible, would create other issues for the  
8 company with respect to their integrity programs. And we  
9 don't think in the long term it makes sense for the company  
10 to invest in infrastructure in that way.

11 Even if the load growth is lower than what the company  
12 is forecasting, there are important reasons for that  
13 infrastructure.

14 MS. OLIVER-GLASFORD: And just adding to that, GC  
15 recognizes themselves, on page 12 of that same exhibit,  
16 that -- and I will quote:

17 "We use the term 'illustrative' to underscore  
18 that we have not developed a detailed plan from  
19 the bottom up to achieve these savings, nor have  
20 we developed a new detailed efficiency potential  
21 study."

22 MS. DULLET: Thank you. I would ask that we next turn  
23 to GEC 2; that is the evidence of Paul Chernick. My  
24 apologies, GEC 1.

25 At pages 8 and 9 of this Mr. Chernick's evidence, he  
26 summarizes his major conclusions with respect to his  
27 evidence. So if we turn to page 8 to begin, I would like  
28 to better understand EGD's positions regarding these

1 conclusions. So I'll put them to you and then ask what  
2 your position is with respect to them.

3 The first major conclusion at page 8 states:

4 "Enbridge's planning process for this set of  
5 projects has been severely deficient,  
6 particularly in the failure to adequately assess  
7 the alternative of maximizing DSM and other load  
8 reductions to reduce costs."

9 How would you address that?

10 MS. OLIVER-GLASFORD: We've heard Mr. Fernandes say  
11 that they did do an analysis and because of the magnitude  
12 of it, it was discounted, and also because it didn't reach  
13 all of the objectives.

14 In addition, these DSM plans that we're speaking about  
15 have been very inclusive, including all of our stakeholders  
16 around developing the plans, around developing the  
17 guidelines.

18 So this is - you know, all of us have been driving the  
19 DSM processes over the past number of years.

20 MS. DULLET: Thank you. The next major conclusion is  
21 that Enbridge has not provided any reason for the sudden  
22 urgency in reducing pressure on the existing pipelines, and  
23 certainly no explanations sufficient to justify spending  
24 hundreds of millions of dollars.

25 How would you respond to that conclusion?

26 MR. FERNANDES: I would disagree with it completely in  
27 its entirety. Enbridge has provided evidence on the record  
28 regarding the reasons why we would look to lower the

1 pressure in our oldest high-stress lines.

2 We can have panel 1 -- I believe we have Nick  
3 Thalassinos, our chief engineer, speaking to go that.

4 But on the record is the fact that this is ageing  
5 infrastructure. We're looking to do this based on a  
6 fundamental change in the risk tolerance for society, and  
7 that's embodied in code changes, FS-196-12, and we're  
8 taking an opportunity to look at a number of limitations on  
9 our system and address them in a holistic fashion that  
10 allows us to plan for aging infrastructure. Lowering the  
11 pressure on it has a significant impact on the capacity.  
12 And one of the features of the proposed facility is it does  
13 help to replace that capacity which we're losing due to the  
14 aging infrastructure.

15 MS. DULLET: Thank you. Again, this is all very high-  
16 level and assists us in our understanding of your view of  
17 the evidence that has been filed.

18 The next major conclusion drawn is that:

19 "The pipeline facilities that Enbridge has  
20 identified as segment B (comprising segment B1,  
21 the Buttonville station, and segment B2) appear  
22 to be avoidable through load reductions.  
23 Reinforcements that Enbridge has identified in  
24 the GTA for 2017 to 2020 would also be avoidable,  
25 as would additional reinforcements that would  
26 otherwise be required after 2020."

27 MR. NACZYNSKI: So I definitely disagree with that  
28 statement as well. As we look at the number of statements

1 that are made within this piece of evidence, the east-west  
2 portion of segment B1, I believe we've already demonstrated  
3 through other evidence that that segment is absolutely  
4 required to be able to take the gas away from Albion, in  
5 order to achieve those supply benefits that we've indicated  
6 and are contemplating in this project.

7 With respect to the north-south segment, we have  
8 submitted evidence with respect to an absence -- and spoken  
9 to it even earlier this morning -- an absence of all the  
10 other factors. We have provided what the option would be  
11 of a shorter segment of pipeline on that corridor, but  
12 recognizing all the benefits, including the pressure, the  
13 ability to operate the system at lower pressures, as well  
14 as multiple supplies into the downtown core, we do believe  
15 that it is important and imperative to have that north-  
16 south section of that segment.

17 With respect to the future reinforcements, those  
18 reinforcements have been included from an economics  
19 perspective. Those are high-level, anticipated needs on  
20 our system based on localized customer growth. As we look  
21 around various condos and things like that that are being  
22 constructed, those are internal reinforcements to make  
23 connections within the distribution network. Those have  
24 been noted in here, as all of them, at least under today's  
25 guidelines, would require a leave-to-construct to complete.  
26 And when those facilities are needed and it would be  
27 justified, we would have another facilities application to  
28 include those.

1           The economics have been simply just included here for  
2 a complete picture of how we intend to manage our assets  
3 within the GTA over the next 10 years.

4           MS. DULLET: Thank you. An additional conclusion that  
5 I'll draw your attention to is that:

6                     "The deferral of segment B would require that the  
7                     company's forecast of design peak load in the  
8                     project area be reduced by the equivalent of  
9                     about 26,000 cubic metres per hour annually."

10          MR. NACZYNSKI: So that specific number was backed out  
11 of -- at least I believe backed out of the specific amount  
12 of load growth that we would be anticipating.

13          What I would like to emphasize is that the  
14 distribution network within the City of Toronto is an  
15 integrated network, and we've included growth throughout  
16 the entire system. In particular -- and we don't  
17 necessarily need to pull up the reference, but in ED 13, in  
18 one of our responses to interrogatories, we show all the  
19 growth as it's occurring throughout the entire system.

20          Simply reducing or eliminating all that growth on the  
21 entire system would still not allow us to achieve specific  
22 objectives that we would have with the rest of the project.  
23 Yeah.

24          MS. DULLET: Thank you. We've addressed some of the  
25 next major conclusions, so I'll move onto the third point  
26 that is made, stating that:

27                     "Arrangements to reduce the load of the Portlands  
28                     Energy Centre, a large combined-cycle power plant

1           served from station B, on winter design days..."

2       So the question is that:

3           "The load in the relevant area may be decreased  
4           by a combination of the accelerated DSM,  
5           expansion of interruptible or curtailable rates  
6           for industrial, commercial and apartment loads,  
7           and arrangements to reduce the load of the PEC."

8       How would you respond to that conclusion?

9       MR. FERNANDES: First, the Portlands Energy Centre is  
10      a firm customer. They paid a significant contribution in  
11      aid of construction in order to receive a 20-year firm  
12      contract. And we have on the record today from the IESO  
13      that they are systemically important, so I would say that  
14      that is not an option.

15         In terms of other interruptible rates, we do have our  
16      account management team, who do review, at renewal -- which  
17      is most of our customers, on an annual basis -- options for  
18      taking interruptible rates. We have on the evidentiary  
19      record that we've seen an overall decline in the  
20      interruptible load, particularly within the GTA. So the  
21      trend over time for us is to have less interruptible load,  
22      not more, even though we do visit that with our customers  
23      on a frequent basis.

24       MS. DULLET: Thank you. So the last major conclusion  
25      on this page that I'll address is that:

26           "The Energy Futures Group has estimated an  
27           achievable annual DSM potential in the GTA area  
28           of 23 10<sup>3</sup>m<sup>3</sup> at design peak hour for an enhanced

1 DSM effort that attains results comparable to  
2 those achieved in other jurisdictions. The  
3 analysis by Enerlife on behalf of ED suggests  
4 that bringing the company's DSM program to the  
5 top quartile of performance would reduce design  
6 peak load by about 30 10<sup>3</sup>m<sup>3</sup> an hour each year.  
7 These load reductions would eliminate most or all  
8 of the load growth that Enbridge expects to  
9 create a supply problem at station B. A  
10 curtailable arrangement with PEC and/or  
11 enhancement of the interruptible load program  
12 would be available to smooth the transition and  
13 top off any shortfall in DSM deployment."

14 Is there anything that you would wish to add in  
15 relation to that conclusion that we haven't addressed,  
16 specifically with respect to the numbers stated in this  
17 conclusion?

18 MS. OLIVER-GLASFORD: I do not have confidence that  
19 those targets are achievable, in fact achievable. The  
20 study by Enerlife on behalf of Environmental Defence, it  
21 has a self-selected database on 638 participants from  
22 across Canada, as was noted by Ms. Ramsay earlier. That is  
23 not indicative of what is happening in our marketplace here  
24 in the GTA.

25 In addition, their forecasted numbers are more akin to  
26 what would be called, in potential terms, a technical.  
27 Anything that could possibly be achievable, they are not  
28 practically achievable.

1           We know that businesses have a limited amount of money  
2 to spend on various business needs, and roofs and IT  
3 systems often come before energy efficiency, as much as  
4 we'd wish otherwise.

5           In addition, the realities of our marketplace, when we  
6 look at our customers and we compare that with what  
7 Enerlife is saying is a realistic ramp-up in terms of who  
8 we would target -- you know, they say we would target 80  
9 customers in that first year based on the Staff -- the  
10 Staff IR 1, and that they responded to. And when we look  
11 at our customers, we have a few that are large enough to  
12 achieve kind of the savings that they outline. And  
13 93 percent of those largest 42 customers have actually done  
14 something within the past seven years with Enbridge in our  
15 portfolio.

16           So when we're talking about these sorts of  
17 assessments, broad-based academic analysis, they are not  
18 necessarily indicative of what's happening in the market.  
19 They don't factor in market realities or our market  
20 saturation to date.

21           Ms. Ramsay, would you like to add anything about the  
22 residential market?

23           MS. RAMSAY: Yes. So in the evidence, Energy Futures  
24 Group concentrated on the commercial potential and GEC  
25 concentrated on the residential potential.

26           And as GEC mentioned and Ms. Oliver-Glasford had  
27 referenced earlier, in their own evidence, they said it was  
28 not a DSM plan. It was not a detailed potential study.

1           When we looked into it a little bit, there are some  
2 concerns that we had. One of them was that GEC is  
3 suggesting that there's lots of room for Enbridge to ramp  
4 up, and they compared us to other utilities and what other  
5 utilities are achieving.

6           When we looked at some of the results from those other  
7 utilities, for example Vermont Gas, we found their results  
8 are reported in gross M-cubes, not net of free ridership,  
9 for example.

10          Our results in the same table are reported net of free  
11 ridership, and our free ridership on average is about  
12 35 percent discount. So our average results over that  
13 five-year period, without counting free ridership, we are  
14 at a level of one. We're already comparable to the  
15 performance of Vermont Gas, for example.

16          So some of the room that GEC is thinking there is for  
17 us to move into the market, we've already occupied that  
18 space.

19          Some of the other assumptions that GEC makes in terms  
20 of its projected market penetration, they talked about the  
21 number residential customers who would be recruited to do a  
22 whole house retrofit, which is a significant financial  
23 investment. And when you add up the number of customers  
24 over the ten- or twelve-year period that they are talking  
25 about, it comes out to be about 16 percent of the  
26 residential customers in the GTA area.

27          So we're talking about an area where housing prices  
28 are very high, family budgets are stretched, and we're

1 asking -- we are saying that -- or the proposal is saying  
2 that in ten years' time Enbridge can achieve a 16 percent  
3 market penetration in that market, and also in that market  
4 which has already had significant market penetration of  
5 whole house retrofits through the Federal government  
6 Energuide for houses and ecoEnergy program.

7 So these are some red flags that are raised for us  
8 when we look at the numbers that have been put forward and  
9 we can't attest that they are achievable.

10 MS. DULLET: Thank you very much. That actually  
11 addresses a lot of my follow-up questions on the DSM.

12 I am going to switch gears completely and ask a brief  
13 question on the Don Valley pipeline.

14 Does the fact that the Don Valley pipeline is in a  
15 floodplain that does overflow periodically present any  
16 special concerns to Enbridge?

17 MR. FERNANDES: One of the things we have on the  
18 evidentiary record is the fact that we would like to go  
19 towards higher wall thickness, and that's in general  
20 because of its capability to withstand mechanical damage.  
21 Mechanical damage is the primarily determinant of what we  
22 would consider a risk to our system.

23 In terms of the Don Valley pipeline being located in a  
24 floodplain, we have had an event to that effect, as Mr.  
25 Thalassinos noted already on the record. I don't believe  
26 it has any special significance, other than the fact that  
27 there are events that can impact our pipelines.

28 I would probably defer you to the first panel, if you

1 have any additional questions beyond that, though.

2 MS. DULLET: I'm sorry?

3 MR. FERNANDES: I would defer you to the first panel  
4 coming up, because between Mr. Thalassinos and Mr. Moore,  
5 I'm sure they could handle any more detailed questions if  
6 you wanted.

7 MS. DULLET: In terms of whether all the risks were  
8 canvassed with respect to the floodplain?

9 MR. FERNANDES: Correct.

10 MS. DULLET: Thank you very much. Mr. Elson dealt  
11 with most of the questions that we had with respect to  
12 forecast methodology. There is just one chart that I wish  
13 to look at with you in the Enerlife report, page 8 of the  
14 report. Again that's ED 1.

15 This is a graph that depicts the GTA demand historic  
16 and forecast model. The question that we have is just a  
17 point of clarification, really.

18 It appears from the graph that between 2006 and 2013,  
19 there is a modest change in the peak demand. But in the  
20 forecast period, there is a significant increase in peak  
21 demand. Can you just explain that for us?

22 MR. NACZYNSKI: As we look at -- so certainly we've  
23 seen some ups and downs in the overall load growth. Again  
24 we would observe that we did have an appreciable decrease  
25 in industrial load demands at that time, and certainly the  
26 and economics as we'd just come through some economic  
27 turmoil. A based on what our future outlooks are, we do  
28 believe that the customer additions, and therefore growth

1 on the system, will occur.

2 MS. DULLET: Just as a follow-up to that, since there  
3 may be load growth contributing to peak demands, there is  
4 also the replacement of older building stock with more  
5 energy efficient stock.

6 So how would you respond to that, with reference to  
7 this graph?

8 MR. FERNANDES: I think what we have as our common  
9 experience when we look around is that there is a lot of  
10 infill housing, but I think -- I mean we could walk across  
11 the street and see that there's smaller, older bungalows  
12 being replaced by high rises.

13 So what we see in our system we believe is -- and our  
14 forecast is for load growth, particularly at the peak hour.

15 MS. DULLET: Those are all of our questions. Thank  
16 you very much.

17 MS. CHAPLIN: Thank you. Mr. Brett?

18 MR. POCH: I think Mr. Brett is happier if I precede  
19 him.

20 MS. CHAPLIN: Okay, Mr. Poch. How long do you expect  
21 to be with this panel?

22 MR. POCH: I think I had an hour and forty-five  
23 between the two panels, and at this point I think I  
24 probably certainly -- probably more like an hour and I have  
25 fifteen minutes for the other panel, and the rest here.

26 MS. CHAPLIN: Okay. We'll rise today at 1:30, so  
27 wherever a logical break point is.

28 MR. POCH: I'm still a little vague as to which panel,

1 so we'll just let this panel bump it, as is appropriate.

2 I have just a few questions that have arisen from this  
3 morning's proceedings.

4 **CROSS-EXAMINATION BY MR. POCH:**

5 Mr. Fernandes, you said PEC's not an option. Earlier  
6 on the record, you said you didn't actually approach PEC to  
7 see if they would be interested.

8 Of course, PEC has a contract with OPA. Did you  
9 approach OPA?

10 MR. FERNANDES: OPA is not our customer.

11 MR. POCH: So you didn't approach OPA either?

12 MR. FERNANDES: That's correct.

13 MR. POCH: You can confirm that my interpretation of  
14 the earlier evidence is correct? You didn't approach PEC  
15 to see if they wanted to talk about that option either?

16 MR. FERNANDES: We've not specifically approached  
17 Portlands with respect to an interruptible.

18 MR. POCH: Now, you also said you're experiencing less  
19 interruptible load response, or interest from your  
20 customers; correct?

21 MR. FERNANDES: That's correct.

22 MR. POCH: Did you evaluate the potential to change  
23 the opportunity available to those customers if they take  
24 interruptible service, to reflect the added avoided costs  
25 that could be achieved if you could avoid some or all of  
26 these projects?

27 MR. FERNANDES: We evaluated the project based on our  
28 current policies.

1 MR. POCH: I understand that. I'm asking the other  
2 question, which is: You say interruptible load is waning,  
3 if I've got the waxing and the waning right there. Did you  
4 look at what would happen if you raised the incentive to  
5 customers to take interruptible service based on the  
6 avoided costs of infrastructure, this infrastructure, that  
7 you might be able to thereby avoid?

8 [Witness panel confers]

9 MR. FERNANDES: The short answer is no, but I do need  
10 to add that that would require significant policy change in  
11 terms of being able to offer additional incentives, because  
12 we would need to understand where that would come from.

13 MR. POCH: Presumably they would need to be - you  
14 would need to demonstrate they were cost driven; correct?

15 MR. FERNANDES: Presumably.

16 MR. POCH: Now, I apologize for jumping around a bit  
17 here.

18 This morning when Mr. Elson was taking you through the  
19 charts that he developed from your evidence about DSM, and  
20 if you look at his cross book -- I think it's helpful to  
21 have his cross book open at page 4 -- he was contrasting  
22 the -- your current budget and the budget that would be  
23 needed to, in effect, triple DSM for the GTA area, with the  
24 net TRC benefits.

25 You responded -- I think it was Ms. Oliver-Glasford --  
26 you responded that you have to remember that incentives are  
27 on top of the budget; correct? Do you recall that?

28 MS. OLIVER-GLASFORD: Correct.

1 MR. POCH: Not on top of the budget, I'm sorry, on top  
2 -- that aren't counted for in the TRC. I correct myself,  
3 as I think Ms. Ramsay was about to do.

4 Correct? You have to speak up for the record.

5 MS. OLIVER-GLASFORD: Correct.

6 MR. POCH: All right. And in fact, the budget does  
7 include the incentives that you give to customers to  
8 inspire their -- encourage their participation; correct?

9 MS. OLIVER-GLASFORD: Correct, based on today's  
10 realities, what is necessary. And we know that the cost of  
11 metres cubed increasing.

12 MR. POCH: Right. Give me a rough idea of how much of  
13 your DSM budget is incentives to customers. Would it be  
14 about half?

15 MS. OLIVER-GLASFORD: Subject to check, I think it's  
16 roughly more than half. So...

17 MR. POCH: That's close enough. Now, in his evidence,  
18 Mr. Chernick -- actually, it's in -- more specifically it's  
19 in -- I don't know if you need to turn it up if you have  
20 had an opportunity earlier to look at these answers, but in  
21 Exhibit M -- sorry, I'm referring to the wrong exhibit  
22 here.

23 It's actually reproduced in our cross-examination  
24 book, which we filed, and I don't think I have -- I don't  
25 think I've distributed that, so we should do that because I  
26 may need to look at it. Apologies.

27 MR. MILLAR: Madam Chair, this will be Exhibit K5.2.

28 **EXHIBIT NO. K5.2: GEC CROSS-EXAMINATION BOOK.**

1 MR. POCH: This was sent out electronically some days  
2 ago and it doesn't have anything in it, I believe, that's  
3 not already in the record. I may be mistaken about that,  
4 but in any event it was distributed some time ago.

5 Witnesses, I would just like to direct your attention  
6 to page 11 of the book, K5.2.

7 In his evidence, Mr. Chernick had developed avoided  
8 costs assuming that various components of the GTA project  
9 could be avoided. In other words, what would it be worth  
10 to -- spending to avoid those? And then in this  
11 interrogatory, he basically crystallized that with some  
12 further numbers.

13 I would just like to give you -- did you have a chance  
14 to see this earlier? Do you have any concerns about his  
15 numerical analysis? Of course I understand, Mr. Fernandes,  
16 you'll have concerns about the ability to defer these  
17 projects, but leaving that aside, if you could, do you have  
18 any concerns about his calculation of these avoided costs,  
19 at least as rough indicators?

20 MS. RAMSAY: Our concern is not so much with the math  
21 but with the use of TRC benefit avoided costs in assessing  
22 the cost-effectiveness of one option versus another.

23 So if the -- if the Board is to consider a DSM option  
24 compared to -- a DSM deferral option compared to pipeline  
25 infrastructure, then surely there must the same cost-  
26 effectiveness test applied to both.

27 And what we have in the evidence is the TRC test  
28 benefits being applied on the DSM side and not applied on

1 the pipeline side. So we have concerns about that.

2 MR. POCH: I understand your point there, but just in  
3 terms of the -- what Mr. Chernick has done here is simply  
4 tried to turn the capital cost of the new facilities into  
5 -- what it would do to avoided costs, if you were looking  
6 at DSM, that could defer those. You understand that? And  
7 in that context the numbers, the math is okay?

8 You have to speak up. I can't...

9 MS. RAMSAY: Yes. We're not taking issue with the  
10 math.

11 MR. POCH: All right. And just looking at -- even if  
12 you could only defer the north-south part of segment B --  
13 that's the segment B2, as he has called it here -- he has  
14 said that the avoided costs would -- if you could target  
15 conservation, the avoided costs would be 149 percent of the  
16 standard avoided costs you used for things such as space  
17 heating measures, which are, I guess, the applicable ones  
18 for addressing peak.

19 And you accept that calculation? With the caveats  
20 you've given earlier?

21 MS. RAMSAY: Well, and the other caveat that we have  
22 concern about is the 30 percent that Mr. Chernick has  
23 assumed that targeted -- double-targeting DSM, not only  
24 targeting it to the GTA area but then sub-targeting it to a  
25 smaller section, that then there would be a linear  
26 relationship in terms of the costs of the DSM. And he has  
27 developed that linear relationship and said: Oh, instead  
28 of it being \$50 million a year, which is understating the

1 costs of the DSM in GEC's -- in response to an answer to an  
2 interrogatory, GEC responded that the cost would be between  
3 40 and 70 million dollars a year for 10 years.

4 So that's -- perhaps Mr. Chernick is arriving at  
5 \$50 million as an average, but then he said 15 million  
6 instead of --

7 MR. POCH: I think we're confusing things here.

8 Maybe I'm misunderstanding, but I had assumed that the  
9 calculation of avoided costs has nothing to do what DSM  
10 costs, would cost to deliver. This is just the value of  
11 delivering it?

12 MS. RAMSAY: Yes. And I'm talking about the value --  
13 the cost of the --

14 MR. POCH: My question is just about this --

15 MS. RAMSAY: -- the activity, the DSM activity.

16 MR. POCH: I understand. My question was just about  
17 this 149 percent. You understand that, and I take it that  
18 you don't have difficulty with that math?

19 MS. RAMSAY: Correct.

20 MR. POCH: All right. So going back to Exhibit K4.5,  
21 the cross-examination book of Mr. Elson and ED, at page 4,  
22 if we were able, with targeted DSM, to defer just even that  
23 part of the project, would you agree that the TRC benefits  
24 would increase significantly because the avoided costs  
25 would go up 50 percent, 49 percent? That's how the math  
26 would run?

27 MS. RAMSAY: Could you repeat the question?

28 MR. POCH: If you were able to go out and do -- target

1 DSM, and defer -- or rather eliminate segment B2 in that  
2 example -- I just picked one on the sheet there -- that  
3 would increase the TRC net benefits of that DSM, because  
4 the avoided costs that you are avoiding would be  
5 149 percent of those that you would assume ordinarily?

6 MR. FERNANDES: Rather than go through the logic that  
7 has been applied in this particular reference, I would --  
8 if we're making the assumption that you can avoid a portion  
9 of the project, I would look at the project costs directly.

10 MR. POCH: That's what he has done, and he's just  
11 trying to reduce it into avoided costs so we -- all right.  
12 I won't get into an argument with you.

13 MR. FERNANDES: So I think to rely on Mr. --

14 MR. POCH: Let me try this another way; let me try it  
15 a simpler way.

16 Your concern about the incentives for DSM is that they  
17 are borne by all customers, whether they are participants  
18 or not. And that's a concern of some ratepayers, and has  
19 been a concern of the Board; correct?

20 MS. RAMSAY: Correct.

21 MR. POCH: And would you agree that when we build  
22 pipelines, the capital cost of those pipelines are borne by  
23 all customers, whether they are part of the growth or not;  
24 that's the way we make rates?

25 MR. FERNANDES: That is correct.

26 MR. POCH: And so if we look at the added incentives  
27 that would be needed here, assuming that can we could  
28 accomplish what this scenario sets out to accomplish, given

1 what you've said about the proportion of incentives as a  
2 proportion of budget, they pale in comparison to the TRC  
3 benefits, and they even pale in comparison to the avoidable  
4 costs that would otherwise be borne by all customers.

5 Isn't that clear?

6 MS. RAMSAY: I think the fundamental problem that  
7 we're dealing with here is that we are mixing different  
8 cost effectiveness tests, and looking at the avoided costs  
9 of the facility in different ways, and applying it in  
10 different ways.

11 So if we were to follow the TRC test protocols, if you  
12 will, then the potential deferral of a facility would be  
13 brought into the TRC test in a somewhat different way than  
14 you are describing.

15 So what it seems that we're discussing is the cost-  
16 effectiveness in looking at it through one lens, through  
17 the ratepayer lens, and looking at it through societal  
18 lens, and then blending those two cost-effectiveness  
19 analyses, and that doesn't work.

20 MR. POCH: Let me try this another way. I'm just  
21 trying to make the simple point here that you've identified  
22 that incentives may be a concern, and I think you've  
23 already agreed that, on the other hand, pipelines are paid  
24 for everybody, too.

25 In this scenario that's laid out here, is it not clear  
26 that the incentive burden that would be shared by all  
27 customers would be in fact less than the avoided capital  
28 costs of the pipeline?

1 MS. RAMSAY: I think you yourself have said that  
2 you're looking at just the incentive costs. And we  
3 reported just a few minutes ago the incentive costs were  
4 about half of the cost.

5 Also in the GEC response to one of the  
6 interrogatories, the total cost of DSM was estimated at  
7 between -- in order to achieve the peak reductions in that  
8 model, was estimated at between 40 and 70 million dollars a  
9 year for ten years.

10 That comes up to somewhere upwards of \$500 million of  
11 DSM cost to produce the peak reduction in that model.

12 MR. POCH: Well, I think we have the numbers on the  
13 record. We'll let them speak for themselves.

14 Panel, I would ask you if there's any questions that I  
15 raise - bring up now that are best for panel 1, please  
16 speak up.

17 In our cross-examination book K5.2, at page 3 -- first  
18 of all, this interrogatory and this response are dealing  
19 with -- well, in the question -- let me try it this way.

20 In the question on page 2, Enbridge asked Mr. Chernick  
21 about the upstream transportation requirements that  
22 Enbridge could utilize to deliver the 943 10<sup>3</sup>m<sup>3</sup> to Victoria  
23 Square. So that prompts me to ask: Are you concerned that  
24 if you -- that there would be - you'd not be able to  
25 continue taking 934 10<sup>3</sup>m<sup>3</sup> at Victoria Square at some point?

26 MR. FERNANDES: Yes, and I can point you to a few  
27 items that have been on the record. First and foremost, I  
28 think it's incumbent on us to recognize that we are looking

1 into the future, and there is changed circumstance within  
2 our environment that the business has to operate in.

3 So I would like to pull up -- make sure I get the  
4 right reference here -- interrogatory TCPL.EGD.6. And it's  
5 good we have the reference on the panel board, and this is  
6 relevant not just for the GTA, but for the entire Eastern  
7 Ontario Triangle.

8 When we look at current contracting practices coming  
9 in on long-haul through the northern Ontario line into the  
10 Eastern Ontario Triangle, they come in at North Bay.

11 And one of the things that we asked of TransCanada  
12 was: If the Mainline were to be fully contracted, would  
13 you proceed with the Energy east project? And their  
14 statement was a very simple yes.

15 So our supply lines that are important for us to be  
16 able to provide safe and reliable delivery to our customers  
17 are potentially changing, and they're potentially changing  
18 very significantly.

19 MR. POCH: First of all, the Energy East project is  
20 just a TCPL -- on their wish least right now. It's not  
21 even applied for, for let alone approved; correct?

22 MR. FERNANDES: My understanding of it is they have an  
23 open season, and they have obtained enough shipper support  
24 to make it economically feasible, and they are proceeding.

25 MR. POCH: And part of their proposal is they are  
26 going to have to build other gas infrastructure to deal  
27 with the fact that they would be taking some gas  
28 infrastructure out of service?

1 MR. FERNANDES: I think we can point to --

2 MR. POCH: I don't need specifics. I'm just talking  
3 very general, high level.

4 MR. FERNANDES: It is on the record. They've said in  
5 order to meet the firm demand, they would to have remediate  
6 their line two.

7 MR. POCH: So they would be taking some rate base out,  
8 and they'd be adding some rate base in, and I'm imagining  
9 you are going to have an interesting discussion about who  
10 should pay for what. But --

11 MR. FERNANDES: The point being is that there is a  
12 significant reduction in diversity on that path, and there  
13 is a significant reduction in capacity on that path. And  
14 given the other backdrop that we've heard in this hearing,  
15 that there is the most prolific supply basing in the  
16 continent right next door, it is incumbent on the company  
17 to actually take a look at our supply lines and understand  
18 where we would source in the future.

19 MR. POCH: I understand. And your position is that if  
20 you didn't have your GTA project, and TCPL went ahead and  
21 sought approval for Energy East, would you not be before  
22 the National Energy Board saying - if what you've just told  
23 me is correct - that service would be interrupted to your  
24 customers without that line?

25 MR. FERNANDES: I strongly suspect we will be before  
26 the National Energy Board with regard to Energy East  
27 regardless of what happens with respect to this proceeding.

28 MR. POCH: I think, if I've heard you correctly, you

1 are telling me that if you don't build this project, these  
2 projects, and TCPL builds Energy East, you are going to  
3 have -- you are not going to be able to get sufficient gas  
4 to Victoria Square. Never mind price; you are not going to  
5 be able to get it physically?

6 MR. FERNANES: We could go through what the scenario  
7 would be; it is already on the record. I can quickly walk  
8 through that with you.

9 MR. POCH: I just want to make sure I'm understanding  
10 you correctly. That is your evidence, that you would not  
11 be able to physically get the gas?

12 MR. FERNANDES: We would have concerns about the  
13 availability of supply.

14 MR. POCH: Would that not be a concern that the NEB  
15 would share with you?

16 MR. FERNANDES: That's correct, but I think when we  
17 had our panel up prior to the proceeding for the technical  
18 conference, it was clearly stated -- and we do have another  
19 panel coming up, but what was mentioned was that the NEB in  
20 their Mainline tolling decision clearly articulated to  
21 TransCanada that it does not have an obligation to serve  
22 like the LDCs do.

23 MR. POCH: We did discuss with you on June 12th -- and  
24 I think this is in the transcript there at page 39 to 40.  
25 I don't think you have to turn it up, Mr. Fernandes. I  
26 think you'll recall.

27 If you could build segment A but not segment B, and  
28 assuming someone builds the link from Albion to Maple, that

1 you could then provide gas via that route and then across  
2 the top of the city from Maple to Vic Square?

3 MR. FERNANDES: That would be one potential  
4 alternative that is technically feasible.

5 MR. POCH: All right. And you indicated if it -- I  
6 asked you if it had been costed and you said no. My  
7 question is just: Why haven't you costed that? Isn't that  
8 an alternative that you would want to cost, avoiding all of  
9 segment B?

10 MR. FERNANDES: You would not be avoiding all of  
11 segment B.

12 In terms of being able to meet the project objectives,  
13 if we were to source our short-haul volumes through Albion  
14 to Maple, we would require not only the north-south portion  
15 of segment B, but we would require additional piping up to  
16 Victoria Square.

17 So that, in conjunction with the upsizing on the  
18 Albion-to-Maple path and the fact we would to have pay  
19 tolls, would be less preferable for our customers.

20 MR. POCH: And you're assuming, then, in that scenario  
21 that the load is as you projected it off of station B and  
22 so on; correct?

23 MR. FERNANDES: I'm assuming you want us to compare  
24 apples to apples on a like-for-like basis, yes.

25 MR. POCH: I guess I'm asking: If you looked at the  
26 alternative of not building segment B, bringing the gas  
27 through segment A to Vic Square, doing the aggressive DSM  
28 to offset growth on the Don Valley line -- have you looked

1 at that? Have you costed that?

2 MR. FERNANDES: In order to meet all the objectives of  
3 the project, including the lower --

4 MR. POCH: No. I just asked if you've costed that  
5 objective. I've heard your evidence about what objectives  
6 it would or wouldn't meet. Have you costed it?

7 [Witness panel confers]

8 MR. FERNANDES: In that scenario, what we're really  
9 talking about is we still need the north-south piece as  
10 contemplated in segment B, but we also need --

11 MR. POCH: Why do you need that?

12 MR. FERNANDES: -- additional piping to Victoria  
13 Square.

14 In order to achieve the pressure reduction. The  
15 existing line would not be able to meet the load  
16 requirements on the system, even if there was no growth.

17 MR. POCH: Just want to make sure we're not confusing  
18 two objectives here.

19 In the scenario we've posited, where aggressive DSM  
20 takes care of increased load on that line -- the line right  
21 now is meeting the load right now?

22 MR. FERNANDES: That is correct. What I'm trying to  
23 state is in this scenario where there is no incremental  
24 load growth, it's been reduced to zero, a consequence of  
25 lowering the pressure in our oldest high-stress lines  
26 requires replacement capacity that would require  
27 incremental infrastructure even in the scenario of no load  
28 growth.

1 MR. POCH: You are saying you wouldn't need it for  
2 load growth; you would need it because you wanted to lower  
3 the pressure, the operating pressure? This is the  
4 37 percent to 30 percent SMYS issue; correct?

5 MR. FERNANDES: Correct. We'd like to deal with our  
6 aging infrastructure.

7 MR. POCH: We'll come back to that in a minute.

8 We heard discussion of this Ontario government target  
9 of an 80 percent reduction in GHGs. There was a discussion  
10 last week from your earlier panel about the Board's  
11 objective, mentioned last week by your earlier panel the  
12 Board's objective of rational development of the gas  
13 system.

14 Would you agree that the rational development of the  
15 gas system should take into account the government policy  
16 of 80 percent reduction in GHGs?

17 MR. FERNANDES: I think we want to point out that the  
18 Ontario government policies are for the entire province.

19 One of the ways which these particular set of  
20 facilities support those policies is through  
21 intensification, like the Places to Grow legislation.

22 So it's required to have the basic infrastructure in  
23 place for that growth, and just because there's an increase  
24 in natural gas consumption in one area of the province does  
25 not mean that there's an overall increase for the entire  
26 province. And there's also capability for things like fuel  
27 switching as urbanization takes place.

28 So we do believe that this project is supportive of

1 Ontario policy.

2 MR. POCH: My question is simpler than that. Do you  
3 agree that to consider the rational development of the gas  
4 infrastructure, it's appropriate to consider that  
5 80 percent target? One of the factors that you should  
6 consider?

7 [Witness panel confers]

8 MR. FERNANDES: We agree that that would be one factor  
9 of many factors that should be considered.

10 And one of the major policy pieces for greenhouse gas  
11 reductions has been the conversion of coal plants, which is  
12 supported by additional natural gas infrastructure.

13 MR. POCH: I take it that the only problem driving  
14 this project that you've identified -- the only problem  
15 driving this project that you've identified in regard to  
16 low pressures is the station B low pressure problem;  
17 correct? And that's only in certain conditions?

18 [Witness panel confers]

19 MR. POCH: You've given the other drivers for your  
20 project. I'm not --

21 MR. NACZYNSKI: There are a number of limitations and,  
22 as you mentioned, drivers for the project. But as we've  
23 mentioned before, the control point on our system that  
24 we're trying to manage is the inlet pressures to our  
25 station B facility.

26 MR. POCH: All right. And that is driven by your  
27 modelling, which is premised on a 41 heating degree day and  
28 a couple more years' growth, and PEC operating at

1 100 percent of its contract demand; correct?

2 MR. NACZYNSKI: That's correct.

3 MR. POCH: Can you tell me exactly what load areas --  
4 it might be helpful -- in our cross materials, I reproduced  
5 the system maps at pages 5, 6 and 7 of our book. I don't  
6 know if you need it, but it's just there as an aid.

7 Can you just tell me exactly what load areas affect  
8 the pressure at station B?

9 Well, not exactly. That will be difficult, but let's  
10 say more generally. Let me put it this way. Does load  
11 along the NPS 26 line affect pressure at station B? I'm  
12 talking currently.

13 MR. NACZYNSKI: Along the 26-inch line, it would have  
14 a marginal impact on the pressures of station B. At this  
15 time, our system gas does travel from the 26-inch line and  
16 then feeds into the Don Valley line at the present time.  
17 So some more load coming off of it would change things  
18 marginally.

19 MR. POCH: How about load along the NPS 20 Lakeshore  
20 line? Similar?

21 MR. NACZYNSKI: For the purposes of this discussion,  
22 the system relatively balances itself between West Mall and  
23 station B, somewhere kind of halfway, for all intents and  
24 purposes here, somewhere near the Humber River, but let's  
25 say in the middle, straight down from Downsview station.

26 So about half of that area is fed from station B and  
27 the other half from the West Mall station.

28 MR. POCH: So load reductions on that line would also

1 free up more gas to flow further east to the core itself?

2 MR. NACZYNSKI: So the -- in our technical conference,  
3 we referred to the, quote-unquote peach area. And that  
4 would be the area directly in and around the influence of  
5 the Don Valley line, of the 30-inch line.

6 So load reductions in the downtown core and in around  
7 that Bayview station and station B would serve to reduce  
8 load at the station.

9 MR. POCH: I understood that already. What I'm asking  
10 is since this NPS 20 Lakeshore line runs all the way into  
11 that region, I'm wondering if load reductions upstream on  
12 that line would enable more gas to flow into, as you say,  
13 the peach area.

14 MR. NACZYNSKI: I mean, we'll note that as the  
15 upstream load reductions may happen, however recognizing  
16 that that line is of a certain defined diameter, in this  
17 case 20-inch, if I now have to push those volumes further  
18 into the city, it's got to travel longer distances, there's  
19 more head losses, and will have reduced pressures. So  
20 there is a balance in there.

21 MR. POCH: There is a balance, so I take it that  
22 diminish the effect. But is my presumption correct that it  
23 would --

24 MR. NACZYNSKI: It would be a diminished effect, so I  
25 would not presume that a one load reduction at the West  
26 Mall, for example, would equal and opposite to a one cube  
27 or whatever unit reduction in the downtown core.

28 MR. POCH: Understood, and implied in your answer is

1 that the answer to my first question was yes, but it would  
2 be a somewhat diminished effect.

3 MR. NACZYNSKI: That's correct, it would have  
4 diminished effect.

5 MR. POCH: Is it similarly the case with load along  
6 the lines east from Martingrove and south of Downsview?

7 MR. NACZYNSKI: Are you referring to the - sorry.

8 MR. POCH: You've got a number of lines snaking  
9 towards the core, and I'm just asking the same question  
10 with respect to each line.

11 I just want to know if the answer is going to be the  
12 same, that yes, freeing up capacity on those lines by  
13 upstream conservation would help, but obviously it's not  
14 one for one.

15 MR. NACZYNSKI: So Enbridge owns and operates and  
16 maintains a grid of infrastructure to the downtown core  
17 that runs at lower pressures than what we've indicated on  
18 here. And to the premise of your question, yes, but to a  
19 diminished effect upstream; load reductions would have some  
20 impact.

21 However, recognizing that these are relatively smaller  
22 diameter lines, and again you have to push the gas through  
23 greater distances; so a diminished effect.

24 MR. POCH: I take it that the constraint on the Don  
25 Valley line is driven by hourly rather than daily load?

26 MR. NACZYNSKI: That is correct. Our system is  
27 designed at a peak hour on a design day.

28 MR. POCH: Your contract with your customers -- let's

1 less look at PEC as the example, a firm customer. If you  
2 have an emergency, I take it you can interrupt them. But  
3 your contract basically says you don't want to plan on  
4 interrupting them. Is that fair?

5 MR. NACZYNSKI: We have a firm contract with Portlands  
6 that does have emergency provisions within that contract,  
7 as we do with all of our contracts in an emergency.

8 MR. POCH: In the situation where you had a washout  
9 and a pipeline break or something, as you did on -- I think  
10 it was last year or this year -- that would be the kind of  
11 emergency you are talking about?

12 MR. NACZYNSKI: There was a washout. It was certainly  
13 not a breach of the pipeline in any way. I just want to  
14 make sure we're clear.

15 MR. POCH: In that situation, if there was a washout  
16 unforeseen and you had to do some repair work, if you had  
17 to interrupt them, obviously you try to do it in a way  
18 didn't disrupt their business, or the security of  
19 electricity supply to the city; that said, you could do so  
20 under your contract?

21 MR. NACZYNSKI: There are certainly a number of  
22 provisions. Certainly if we had a loss of the pipeline in  
23 some -- or its capability in some fashion, there may be a  
24 force majeure declaration, or something to that effect.  
25 But certainly we'd be looking at what we can do on the  
26 system.

27 MR. POCH: You're aware that Toronto is a summer  
28 peaking electric city?

1 MR. FERNANDES: Yes, we are.

2 MR. POCH: And your concern is about the winter peak?

3 MR. NACZYNSKI: That's correct.

4 MR. POCH: Can you identify - are there other areas of  
5 the system that are operating above 30 percent SMYS, other  
6 than the ones you've identified specifically for this --  
7 trying to address in this project?

8 [Witness panel confers]

9 MR. NACZYNSKI: Enbridge has a number of what we  
10 characterize as higher stress lines and I believe, subject  
11 to check, about 280 kilometres of pipeline above 30 percent  
12 SMYS.

13 MR. POCH: Do you have projects that you are applying  
14 this Board to change that for those other pipelines?

15 MR. NACZYNSKI: What you're referring to there is some  
16 of the design philosophy and guidelines that Mr.  
17 Thalassinos can speak to. But certainly what I can say is  
18 that certainly directionally, Enbridge is seeking to be  
19 able to operate those lines at lower pressures.

20 MR. POCH: But you're not proposing to build to get  
21 around the problem, if you can't otherwise deal with it?

22 MR. NACZYNSKI: When the system or ability to manage  
23 the system reaches a point where -- for example, in this  
24 case, we have challenges meeting peak, peak hourly pressure  
25 constraints on the system, one of the requirements that my  
26 team and system analysis would look at is what  
27 infrastructure we require to not only to meet our load  
28 growth or other challenges on the system, but also

1 incorporate what would be required to be able to reduce  
2 pressures on those lines to below 30 percent.

3 MR. POCH: Could you turn up in the cross book page --  
4 I'm sorry, I've got wrong cite here; one moment please.

5 Actually, this is the one that didn't make it in the  
6 cross book, my apologies. It's Exhibit M, GEC.EGD.1. Can  
7 you pull that up out of your binders, or maybe we can get  
8 it on the screen?

9 I'm looking at page 3 of that response. Do you have  
10 that?

11 MR. FERNANDES: Can you provide that reference again,  
12 please?

13 MR. POCH: It's Exhibit M, GEC.EGD.1. Page 3.

14 MR. NACZYNSKI: We'll need that pulled up for us.  
15 Yes, we have that reference in front of us now.

16 MR. POCH: What Mr. Chernick -- you've earlier looked  
17 at this response, I take it?

18 MR. NACZYNSKI: I had a brief review of it; that's  
19 correct.

20 MR. POCH: Is there anything wrong with the math,  
21 first of all?

22 MR. NACZYNSKI: Nothing wrong with the math, but  
23 certainly, as I'm sure we'll get into here, some  
24 questioning of the overall conclusions, but nonetheless.

25 MR. POCH: Sure, okay. What Mr. Chernick has done --  
26 for brevity, I'll just explain. He has taken your numbers,  
27 which indicate that if you reduce the pressure to achieve  
28 30 percent on the Don Valley line, you would have to -- it

1 would reduce the capacity about 19 percent, if the load  
2 reduction is taken at station B. Is that about right?

3 MR. NACZYNSKI: I would like to note that -- again  
4 subject to check on that. But my brief calculation  
5 performed right now would be it closer to 25 percent  
6 reduction.

7 MR. POCH: All right. He drew the graphic on page 3  
8 with a hundred percent being the level of load that would  
9 be the station B load, less that 19 percent. So the 81  
10 percent level is depicted as 100 percent here. And he's  
11 just taken your data that was available that you provided  
12 us, which was the last few years of hourly load. He's  
13 trying to derive that and express it relative to that, and  
14 suggests there was one hour, basically, in the last few  
15 years when --

16 MR. NACZYNSKI: Are you suggesting we wouldn't serve  
17 customers during that one hour, then?

18 MR. POCH: No, I'm not getting to that. Let's just --  
19 one step at a time, if you would.

20 Leaving aside the implications of this, I just want to  
21 make sure that we're not disagreeing about this -- what  
22 this depiction is and what it means.

23 You understand that? And...

24 MR. NACZYNSKI: So I understand what the depiction is  
25 getting at. I would want to point out that my system is  
26 designed at a peak hour on a peak day.

27 MR. POCH: Right. So the point being that it's quite  
28 infrequent, looking at those graphics, it's very infrequent

1 that this -- you have a problem where your reducing the  
2 pressure conflicts with meeting load; correct?

3 MR. NACZYNSKI: What's certainly noted here is that  
4 the situation certainly can and does exist.

5 MR. POCH: Yes. And do you lower your load -- do you  
6 lower your operating pressure on the Don Valley line  
7 routinely for the other 99 percent of the hours of the year  
8 when you're not facing this kind of an issue?

9 MR. NACZYNSKI: So the pressures on the Don Valley  
10 line, as well as the pressures on our Parkway line, are  
11 controlled by our gas control folks. And they will manage  
12 those pressures up and down throughout the course of a day,  
13 throughout the course of a week, to manage upstream supply,  
14 to manage all the pressures on the system.

15 So the pressures will fluctuate on those lines intra-  
16 day, even.

17 MR. POCH: Right. We had that answer earlier, and  
18 what I took from it was they don't make a concerted effort  
19 to get it below 30 percent on the 90-odd -- 95, 97, perhaps  
20 99 percent of the time -- that they could. That's not --  
21 they don't attempt to do that through their operating  
22 procedures right now?

23 MR. NACZYNSKI: In particular, the Don Valley line is  
24 run high enough to make sure we're able to maintain  
25 adequate inlet pressures to station B. It --

26 MR. POCH: Could you answer my question? Is it an  
27 objective that you run that line at 30 percent whenever  
28 possible?

1 MR. NACZYNSKI: As an objective, as I'm not the  
2 operator of the system. The question is likely best  
3 directed to Chris Moore and Nick Thalassinos, who have  
4 that.

5 However, from my experience, I can say that the line  
6 most -- often does run below 30 percent, and has all this  
7 summer, for example.

8 MR. POCH: All right. So there's only a very brief  
9 period of time during the year, then, it that actually does  
10 run over 30 percent, is what you are telling me?

11 MR. NACZYNSKI: The line -- again, subject to gas  
12 control managing the system, the line would run at or above  
13 30 percent throughout most of the winter.

14 MR. POCH: Throughout most of the winter? All right.  
15 Well, we'll have to talk to him about that.

16 Obviously if you could lower -- let me leave that for  
17 a moment.

18 Madam Chair, it's one o'clock. Did you want to break  
19 at 1:00 or 1:30?

20 MS. CHAPLIN: 1:30.

21 MR. POCH: 1:30? All right.

22 And the pipeline's been running at 37 percent SMYS  
23 since it was built; correct?

24 MR. NACZYNSKI: The MOP of the pipeline is 450 pounds.  
25 Normal operating pressure or max normal operating pressure  
26 is 450, and the MOP, maximum operating pressure, is 480.

27 MR. POCH: And that puts it at 37 percent, basically?

28 MR. NACZYNSKI: Correct.

1 MR. POCH: All right. When you say 450 or 480, that  
2 is up at Victoria Square; correct?

3 MR. NACZYNSKI: That's correct.

4 MR. POCH: It's progressively lower geographically as  
5 you go south?

6 MR. NACZYNSKI: Certainly as flows and head losses  
7 down the line will serve to drag the pressures down.  
8 Correct, throughout this line.

9 MR. POCH: So not only is the line below 30 percent  
10 some portion of the year, and above it, as you've  
11 indicated, in the winter, but physically a bunch of the  
12 line would be below that 30 percent simply because of the  
13 physics, that as you go south the pressures drop; correct?

14 MR. NACZYNSKI: That's correct. However, your control  
15 point, of course, is Victoria Square.

16 MR. POCH: I understand.

17 Can I get a sense, if you could -- if we offset load  
18 growth in the GTA with DSM, how many days of the year would  
19 Enbridge need to have pressures -- first of all, I take it  
20 you would have to take it down the 375 PSI at Victoria  
21 Square to get it down to 30, 30 percent; correct?

22 MR. NACZYNSKI: That's correct.

23 MR. POCH: All right. And you would be concerned at  
24 375 PSI you're not going to have the 225 PSI you indicate  
25 you need at station B to serve PEC and your other loads?

26 MR. NACZYNSKI: That's correct.

27 MR. POCH: All right. And the question is: If we  
28 could offset all growth with DSM -- so we're not worried

1 about the growth of load on that line -- how many days of  
2 the year do you need the pressure above 375 PSI at Victoria  
3 Square to maintain that pressure?

4 MR. NACZYNSKI: That would certainly depend upon the  
5 weather. And I can't really predict how many days per year  
6 I'll have weather of a certain situation where we'd have to  
7 do that.

8 Suffice to say that I'll need to at some point over  
9 the course of a winter, but over that three-month period  
10 from the beginning of December to the end of March when  
11 we're trying to manage our system through that winter  
12 period.

13 MR. POCH: We can see from the graphic we just looked  
14 at, it's very -- it's kind of a needle peak; correct? It's  
15 going to be a few days in January that's really the concern  
16 here?

17 MR. NACZYNSKI: I think statistically it's January the  
18 14th, but again, statistically based.

19 MR. POCH: I would like to turn to some of the DSM  
20 matters.

21 Does the company believe that an alternative must be  
22 able to address all system reliability needs by itself to  
23 be viable? Or is it reasonable to suggest that it would be  
24 appropriate to assess combinations of alternatives?

25 MR. FERNANDES: Absolutely it's appropriate to look at  
26 combinations, which we did.

27 MR. POCH: For the DSM folks on the panel, if the  
28 company had done no DSM over the past decade, could you

1 tell us how much higher the load would be today?

2 MS. RAMSAY: I believe we answered this question in an  
3 IR, and we don't have any means of assessing that.

4 MR. POCH: Would you agree that it would have  
5 accelerated the date on which this pipeline would be needed  
6 if you hadn't done DSM?

7 MS. RAMSAY: We can say that there are indirect  
8 effects on load of the broad-based DSM programs that we  
9 pursue now that are evaluated on the basis of annual  
10 throughput. But we don't know what the relationship is  
11 between those reductions in annual throughput and any  
12 impact on peak load. We have no...

13 MR. POCH: You don't have a model for it?

14 MS. RAMSAY: No.

15 MR. POCH: Right. Now, you made a point in your --  
16 there's about a page and a half of evidence in your  
17 prefiled about DSM as an alternative, and a good part of  
18 that is dedicated to saying that there's some measures that  
19 -- DSM measures that are addressed towards annual load but  
20 can actually increase peak, and you gave a couple of  
21 examples.

22 Then we queried you in interrogatories and it became  
23 clear that, of the 53 measures, those were the only one  
24 that do that, that the vast majority of measures address  
25 peak and non-peak savings; correct?

26 MS. RAMSAY: Yes. That's a correct account of the  
27 responses that we made, yes.

28 MR. POCH: Indeed, when you look at things like

1 residential building shell and heating improvements, that's  
2 what's driving your peak load, is those temperature-  
3 sensitive loads; correct?

4 MS. RAMSAY: That's correct, but it's also driven by  
5 the time of day.

6 MR. POCH: Sure. I understand that.

7 MS. RAMSAY: And customer behaviour at that time of  
8 day.

9 MR. POCH: Right. So the couple of measures you gave  
10 an example of are ones where it tends to shift load, and  
11 that can be counterproductive. But in the main,  
12 conservation which reduces your heat-sensitive load is  
13 going to reduce peak load?

14 MS. RAMSAY: This is where we don't really know,  
15 because the impact on the system of people turning up their  
16 furnace at seven o'clock in the morning when it's peak, we  
17 haven't assessed that. We don't think it's a linear  
18 relationship between annual --

19 MR. POCH: If you insulate -- sorry to interrupt.

20 If the insulate the house, it's going reduce the load  
21 at all hours, isn't it?

22 MS. RAMSAY: Yes, but at that seven o'clock in the  
23 morning time when your thermostat goes back up, your  
24 furnace is going to be cycling more frequently than it  
25 would be during day in a steady state.

26 So it's not a linear relationship.

27 MR. POCH: I understand. Can you confirm that your  
28 avoided costs for DSM, that you evaluate DSM programs with,

1 have nothing in them for avoiding capital costs to the  
2 system? You've got commodity, and you've got  
3 transportation and storage?

4 MS. RAMSAY: Yes, we can confirm that that is the  
5 case. And when we looked into it, it's our recollection  
6 that we removed the distribution component of the avoided  
7 costs about the same time that the company was moving  
8 towards a performance incentive that was based on TRC  
9 results. And it was deemed at that time that it wouldn't  
10 be fair for the company to be receiving a return on  
11 investment for the capital infrastructure and receiving a  
12 performance incentive based on deferring that same capital  
13 infrastructure. So it was removed.

14 Now that it's come to our attention, we can certainly  
15 bring this to the next DSM guideline discussion and put  
16 forward a revised methodology for calculating avoided  
17 costs, bringing back in that potential distribution  
18 deferral component to the avoided costs.

19 MR. POCH: You're aware that the Board's DSM  
20 Guidelines in section 6.2 specifically call for avoided  
21 costs based on, quote

22 "... long-term estimates, and include avoided  
23 supply-side costs such as capital, operating and  
24 commodity costs."

25 MS. RAMSAY: Yes. And the company's method for  
26 developing avoided costs was presented in our recent DSM  
27 plan proceedings, was reviewed by all of the stakeholders,  
28 and was approved by the Board.

1 MR. POCH: The DSM collaborative has been set up to  
2 minimize hearings and enhance the quality of the DSM  
3 planning process, I'm sure you'll agree.

4 Have you ever raised this issue of the problem of  
5 including capital costs in your avoided costs in the DSM  
6 collaborative?

7 MS. RAMSAY: In recent recollection of collaborative  
8 meetings, I don't recall that that matter has come up, but  
9 it certainly was discussed to our recollection at the time  
10 when the decision was made to remove the distribution costs  
11 from the avoided costs calculation.

12 MR. POCH: Mr. Neme in his evidence points out that  
13 your residential component, the savings that you're  
14 achieving in your DSM program, very little comes from the  
15 residential sector. You would agree with that, I take it?  
16 That's just reporting your results?

17 MS. RAMSAY: That is currently the case, but if you  
18 look at -- over the years, the history of the company in  
19 terms of activity in the residential sector has been very  
20 strong, and what we're seeing now is that the company is in  
21 a transition phase as we have captured all the low-hanging  
22 fruit in the residential sector. We pioneered programs,  
23 and now we're reassessing and developing new approaches to  
24 that market.

25 MR. POCH: You would agree with me that the  
26 residential sector is a particularly peak-intensive sector,  
27 since it's dominated by heat-sensitive load?

28 [Witness panel confers]

1 MS. OLIVER-GLASFORD: I'm going pass it over to my  
2 colleagues, and I may add if there's anything more to be  
3 added.

4 MR. FERNANDES: The GTA system is predominantly adding  
5 residential and commercial type load that is heat-  
6 sensitive. So we presented that in our evidence, that it's  
7 becoming peakier, so to speak, over time as a result of  
8 having a lower proportion of base load industrial type  
9 activity.

10 MR. POCH: Right. So you would think that  
11 conservation in the residential sector would be  
12 increasingly important as a consequence; correct?

13 MR. FERNANDES: If we were to run our DSM programs  
14 specifically to the GTA only, that would be true.

15 MR. POCH: Okay. And I imagine that older homes are  
16 more of a problem and that they tend to be more  
17 concentrated downtown in Toronto; is that correct?

18 I'm not saying that's the biggest opportunity; I'm  
19 just saying that they're more of a problem in terms of how  
20 much peak they impose.

21 MS. OLIVER-GLASFORD: Yes, they would be, but perhaps  
22 the opportunity is less in terms of the GTA.

23 MR. POCH: An you've got a lot of new construction in  
24 the GTA. You would agree with me, new construction is a  
25 particularly good opportunity, to the extent you can get in  
26 there and affect the form of construction? It's the  
27 cheapest time to intervene and it has the longest impact?

28 MS. OLIVER-GLASFORD: Certainly that's one of the

1 three objectives of DSM, is pursuit of lost opportunities.  
2 However, I would say that that is captured in the forecast  
3 already.

4 MR. POCH: I just read -- I won't talk about load  
5 growth much, because Mr. Elson did such a good job on that.  
6 I just happened to read today in the paper that there's --  
7 they're now seeing a dramatic slowdown in condominium sales  
8 in Toronto, and I'm wondering if your forecasts have yet to  
9 capture that fall-off in condominium growth.

10 MR. FERNANDES: The customer count forecast is based  
11 on the best available information at the time of our  
12 filing. It's certainly possible that things will turn out  
13 to be different from how we forecast, but it's consistent  
14 with how the forecast the load growth for our entire  
15 franchise.

16 We believe it's correct for this particular  
17 geographical area.

18 MR. POCH: Earlier you were talking about redundancy  
19 to the core. You are not proposing a loop from the  
20 Jonesville station south to station B?

21 MR. FERNANDES: That's not part of this application,  
22 no.

23 MR. POCH: Right. And indeed, that's where you it had  
24 floodplain problem recently; correct? With the erosion?

25 MR. FERNANDES: The objective for us to lower the  
26 pressure in the Don Valley line impacts the entire  
27 pipeline, and it allows us to accomplish repairs, things  
28 such as welding and other various maintenance activities,

1 regardless of where it is located.

2 But you are correct. In terms of diversity and having  
3 a second feed, we're proposing to have a second feed down  
4 as far south as Eglinton at this point in time.

5 MR. POCH: We've already addressed the fact that you  
6 are not up at above 30 percent much of the year, so you  
7 could do maintenance at those times. And then if you  
8 really had an emergency, we've already addressed the fact  
9 that, if necessary, you could interpret PEC and that would  
10 get around that -- lower your pressures down to 30 percent,  
11 wouldn't it?

12 MR. NACZYNSKI: So at a peak day -- again, recognizing  
13 that would happen infrequently -- even with the line at  
14 Victoria Square at 375 pounds, even with PEC off, we'd  
15 still be looking at a substantial customer outage at that  
16 point. So if there was an issue or a reliability challenge  
17 or the loss of the pipeline, even, for whatever reason, we  
18 would certainly be in a force majeure situation at that  
19 point.

20 MR. POCH: Of course. If you lose a pipeline from  
21 Jonesville south, you've lost the pipeline in any of these  
22 scenarios. You're not talking about looping it.

23 What I'm asking you is -- and you've indicated you  
24 want to be able to get it down to 30 percent so you can do  
25 maintenance, I think you've already agreed for some  
26 significant portion of the area you are already below 30  
27 percent on the whole Don Valley pipeline; correct?

28 MR. NACZYNSKI: So again, from a -- I know that Mr.

1 Thalassinos can speak to this much more --

2 MR. POCH: I --

3 MR. NACZYNSKI: Let me finish, though.

4 MR. POCH: Yeah.

5 MR. NACZYNSKI: -- much more eloquently. However, if  
6 there is an issue with the pipeline, given the size and the  
7 location of that pipeline -- you just mentioned it's in a  
8 floodplain -- a certain amount of planning work would be  
9 required, access permits, all those things would be  
10 required.

11 So yes, you said that maybe it's only one hour, but if  
12 that one hour happens in a three-week cycle where it took  
13 to get the permits, access and everything else that would  
14 have to be done on that line, we're really talking about an  
15 extended period of time where those pressures would be  
16 reduce.

17 And I don't know if the luck of the weather is  
18 sufficient for us to be planning our system around.

19 MR. POCH: If you had a -- well, I'm just going to  
20 repeat myself, so let's leave it at that there.

21 MR. FERNANDES: I think the other important point,  
22 though, is that in order for us to serve firm load, even if  
23 Portlands was interrupted based on the variability of  
24 weather, we require today with today's facilities set for  
25 the Don Valley line to be above 30 percent SMYS.

26 For many months of the year, it's not a single hour,  
27 because we don't know when that weather event is going to  
28 happen. So planned maintenance can only occur during the

1 approximately seven months where we're certain, based on  
2 weather, that those cold events will not occur.

3 If an event happened just prior to that period, what  
4 Mr. Naczynski was stating was that if we did not have time  
5 to have the pipeline remediated, we would be facing a  
6 significant outage of customers.

7 MR. POCH: I just looked at those graphics I put  
8 before you before. It didn't seem like you're operating at  
9 those high pressures for three months a year. You're  
10 really only running into those peaks in January of the  
11 year.

12 MR. FERNANDES: I think Mr. Chernick's graphic was  
13 based on some assumptions that I don't think we would  
14 necessarily endorse. Granted it is directionally correct,  
15 it's certainly not accurate in its depiction.

16 MR. POCH: All right. I think we'll --

17 MR. FERNANDES: We typically operate the line well  
18 above 30 percent SMYS for several months of the year and  
19 would be required to do so.

20 MR. POCH: Okay. I'm going to leave it there, Madam  
21 Chair. I think further on that would be better off with  
22 the other panel, if it's even necessary. Thank you.

23 MS. CHAPLIN: All right. So next on our list was Mr.  
24 Brett. Is there any area you could usefully cover in 10  
25 minutes? I have you down for 30 minutes, but...

26 MR. BRETT: I know. Thanks. I probably could. There  
27 may be others here who have very small amounts they could  
28 do in their entirety.

1 MS. CHAPLIN: That would be a good suggestion. Is  
2 there anyone who -- Ms. Grice?

3 MS. GRICE: Yes, I think I could. I'm down to about  
4 three questions now.

5 MS. CHAPLIN: Thank you. Please proceed.

6 **CROSS-EXAMINATION BY MS. GRICE:**

7 MS. GRICE: Good afternoon. One -- I just want to  
8 start off with -- I think it was Environmental Defence's  
9 compendium. It was page 4, where it shows all of the --  
10 just bear with me here -- all of the peak load reductions  
11 from current DSM programs, and then what would be needed to  
12 defer or avoid the GTA project. And if we just look at  
13 that now, the peak demand forecast currently is 12,000  
14 cubic metres per hour and the reduction needed 25,000.

15 I just wanted to get a sense. If the Board were to  
16 approve the DSM additional incremental load reduction, from  
17 Enbridge's perspective what would be needed? What process  
18 would you have to go through to get that in place in order  
19 to defer the GTA project?

20 If you could just talk about your bottom-up approach,  
21 what you would need to do?

22 [Witness panel confers]

23 MS. OLIVER-GLASFORD: We did gave some thought, and,  
24 you know, it's our belief that there would be considerable  
25 amount of analysis that would have to be done to understand  
26 if it makes sense at this point and this time to start off  
27 with, you know, what those peak loads -- translations look  
28 like, how our DSM technologies would impact peak load, to

1 try and get some more clarity on that.

2 I think ideally we would be enabled with all of the  
3 smart meters that the electric side had to create any  
4 certainty, but certainly there's a lot of analysis that  
5 needs to be done. We need to have a proper,  
6 geographically-based, comprehensive potential study to  
7 understand what the potential is in reality in the GTA  
8 area.

9 And so those would be the two major pieces, I think,  
10 of the analysis.

11 And also the capability to ramp up a realistic look at  
12 the timeline to get through the regulatory processes, as  
13 well as the timelines to get up on the actual  
14 implementation of programs. Because as Mr. Elson pointed  
15 out, it does create jobs, but it takes a while to hire  
16 those people and train those people, and that all has to be  
17 factored in when you are looking at a magnitude increase of  
18 two or three times what we're currently doing.

19 MS. GRICE: Would you see that -- your current DSM  
20 program that's in place for 2014, how would this impact  
21 that? Would it be enhancement of the existing programs, or  
22 would you need to bring new programs online? And then  
23 would that require a whole additional layer of analysis  
24 with respect to screening and targets and incentives?  
25 Would that also be a feature?

26 MS. OLIVER-GLASFORD: I think there would be a  
27 complete, you know, update of our portfolio. We note that  
28 you would want to go into residential, houses, and do as

1 much initiatives as you can. That would cause an entire  
2 review of how we're approaching those customers, and indeed  
3 the costs.

4 We know that the costs to do those sorts of programs  
5 are huge. In fact, our current community energy retrofit  
6 program is trending at a negative TRC value; it is not  
7 cost-effective.

8 So we'd really have to put a lot of thought into how  
9 we ramp those programs up and get those programs to be  
10 cost-effective in such a tight time frame. And then -- Ms.  
11 Ramsay, do you have anything else to add?

12 MS. RAMSAY: Yeah, I would just like to add that, as  
13 we mentioned earlier, that targeted DSM for the purposes of  
14 deferral of infrastructure is quite a different undertaking  
15 than the type of broad-based DSM with a view to achieving  
16 annual reductions, and there is considerably more risk  
17 involved.

18 So we would need to understand what that level of risk  
19 is; we would need to understand what contingency measures  
20 would need to be put in place.

21 We don't require contingency measures for the broad-  
22 based, open-ended, minimal-risk DSM activities that we're  
23 on now, but where that DSM activity would be targeted for,  
24 to meet specific peak load requirements we would need to  
25 factor in what additional targets we would need in order to  
26 allow for contingency.

27 MR. FERNANDES: Can I also add? We should reiterate  
28 that load growth is only one component, and just to put it

1 in perspective, if you look at our evidence in Exhibit A,  
2 tab 3, schedule 4, I believe if you were to normalize that  
3 over the 10-year period, we're talking about a half percent  
4 peak load growth, approximately.

5 We've stated on the evidentiary record that if we were  
6 only addressing load growth, it would be a very small  
7 subset of the facilities that we would be looking at. So  
8 the vast majority of the project is associated with what we  
9 described previously, which is the safe and reliable  
10 delivery of gas to both our current and future customers.  
11 We're looking for those upstream entry point and downstream  
12 supply chain reliability enhancements to our current system  
13 that has significant operational limitations.

14 MS. GRICE: With the proposed in-service dates for  
15 segments A and B, and given what you said you would need to  
16 do in terms of your analysis, is a DSM program that reaches  
17 this level something that could be implemented in time to  
18 meet those in-service dates?

19 MS. OLIVER-GLASFORD: No. I would not be able to  
20 confirm that with any confidence.

21 MS. GRICE: Just one last thing, just conscious of the  
22 time.

23 There was an interrogatory response that talked about  
24 under-spending in -- I believe it was in response to  
25 Environmental Defence No. 20 that you noted that it's  
26 uncertain whether and when the conservation targets can be  
27 achieved, noting that the company has not fully utilized  
28 its budget opportunity historically.

1           Could you just expand on that a bit, whether it's the  
2 base budget or whether it's referring to the DSM variance  
3 account opportunity?

4           MS. OLIVER-GLASFORD: Yes. We have -- it's my  
5 understanding, and perhaps Ms. Ramsay can confirm if my  
6 understanding is different from her memory of actual  
7 events, that we've not spent our full DSM base allowable  
8 budget. We've come close; we've had one time where we  
9 accessed our allowable overspend, if you will, our variance  
10 account, but it should be noted that we're incented to do  
11 as much conservation as we can.

12           So those additional funds, if we had customers waiting  
13 at the door or we had programs that we are just turning  
14 people away, we would have accessed those dollars.

15           MS. GRICE: And just on that note, there -- as part of  
16 the screening process, there are candidate programs that  
17 come through, and then you go through a prioritization  
18 process with stakeholders. Are there any candidate  
19 programs now sitting in the wings, so to speak, waiting to  
20 be deployed?

21           MS. OLIVER-GLASFORD: Yes. That's certainly an  
22 accurate depiction of the process we go through.

23           And we're constantly reaching out to various groups.  
24 We're a member of a number different energy efficiency  
25 organizations to understand what programs and initiatives  
26 are happening in the marketplace.

27           And our feet on the street, if you will, are always in  
28 touch with our customers to find out what their needs are,

1 but we do have a number of programs that we're analyzing;  
2 higher-efficiency furnace programs, to name one. We've  
3 been looking at how do we get windows into our portfolio.

4 So we have other initiatives that we are  
5 contemplating.

6 MS. GRICE: Thank you. Those are my questions.

7 MS. CHAPLIN: Thank you. All right. Well, we will  
8 rise for today. We resume at nine o'clock on Thursday, at  
9 which point I assume we will complete panel 2; is that...?

10 MR. STOLL: That's exactly where I was going to go,  
11 whether we were going to try and finish panel 1 or conclude  
12 panel 2. I'm not sure --

13 MR. MILLAR: I thought panel 2 was not available.

14 MR. STOLL: On Thursday, that's correct.

15 MR. MILLAR: So we would to have go back to panel 1.

16 MR. STOLL: Panel 1.

17 MS. CHAPLIN: And so this panel will then resume on  
18 the 27th?

19 MR. STOLL: The Friday. That's correct.

20 MS. CHAPLIN: All right. Are there any other matters  
21 before we rise? Okay. Thanks very much.

22 --- Whereupon the hearing adjourned at 1:32 p.m.

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