

**PUBLIC UTILITIES BOARD OF MANITOBA**

**CENTRA GAS MANITOBA INC.**

**2013/14 GRA**

**Written Evidence of John D. McCormick  
on Behalf of  
Consumers Association of Canada (Manitoba) Ltd.**

**May 27 2013**

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## **Executive Summary**

- I am of the opinion that the underlying data used to develop the financial forecasts for T-Bill and 10 Year + Canada rates is both outdated and materially different from current forecasts readily available in the market.
- I am of the opinion that to attempt to base the interest component of the revenue requirement on financial forecasts of T-bill and 10 year + Canada rates which are based on superseded data is unwise, and, owing to the material difference between the original data inputs and those currently available, is prejudicial to consumers.
- I am of the opinion that the Board should establish a policy that Centra would provide an update of its forecast interest rates, at each proceeding.
- I am of the opinion that to reduce the degree of upward bias in Centra's forecasting, the Board should remove Informetrica, the source of the highest forecasts in Table 1 and Table 2, in PUB/Centra I-6, from its calculation of forecast interest rates used to derive near term interest costs.

1 **Q.1 Please state your name, business address and occupation.**

2 A. My name is John D. McCormick, and my business address is 1014 Hillcrest  
3 Avenue South West, Calgary, Alberta. I am a financial consultant and President  
4 of J. D. McCormick Financial Services, Inc. A description of my professional  
5 qualifications is found in Attachment 1.

6 **Q.2 What is the purpose of your evidence at this proceeding?**

7 A. Consumers Association of Canada (Manitoba) Ltd. had requested that I review the  
8 application for matters related to financing and provide my views with respect to  
9 those matters that caught my attention.

10 **Q.3 What matters caught your attention?**

11 A. This being Centra's first rates hearing subsequent to Order 128/09, I thought that  
12 it would be worthwhile to explore whether the revised interest rate forecasting  
13 methodology, employed by Centra, followed the particulars discussed in  
14 paragraph 9 of the Order, and, in particular, paragraph 9 (f).

15 Paragraph 9 (f) suggests an update of the interest rate "forecast in advance of the  
16 hearing if warranted"<sup>1</sup>. Philosophically, in my opinion such an update would  
17 always be warranted as I view superseded data as invalid. Owing to interest rate  
18 volatility, and a desire to make decisions with the best possible data, I would  
19 recommend that the Board order an interest forecast update as part of each  
20 proceeding. I was, though, interested in learning what change in forecast results  
21 Centra would view as warranting such an update<sup>2</sup>. I was very interested in  
22 learning what steps had been taken to develop a "proposed process to update the  
23 forecast in advance of the hearing"<sup>3</sup>.

24 As the second major topic in forecasting, I was interested to learn about Centra's  
25 progress on developing a "process to retrospectively test the accuracy of

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<sup>1</sup> Order No. 128/09, September 16, 2009 page 137 of 139.

<sup>2</sup> In addition to the October 2012 update discussed in the material related to this proceeding, Tab 5 in the Hydro 2010/11 GRA makes reference at page 2 of 8 to an October 2009 update.

<sup>3</sup> Order No. 128/09, September 16, 2009 page 61 of 139 and page 137 of 139.

1 forecasters to assess their inclusion in future forecasts”<sup>4</sup> as part of a process to  
2 maintain a “robust, precise forecasting methodology”<sup>5</sup>. Centra has changed the  
3 group of worthy forecasters, adding two new names, but keeping at least one that  
4 I would delete due to the manner of its discontinuous data presentation. Centra  
5 also appears to have changed its methodology as to how it includes certain  
6 forecasters that forecast annual data points.

7 The record in this proceeding indicates that Centra’s selection of worthy  
8 forecasters results in forecasts which consistently exceed actual results. As a  
9 consequence, I would also seek to remove at least one of the forecasters whose  
10 forecasts are high. The record in this proceeding shows Centra forecasting 8% to  
11 23%<sup>6</sup> in excess of actual annual total interest cost in the past four years. To  
12 reduce the degree of upward bias in Centra’s forecasting, I would urge the Board  
13 to remove Informetrica<sup>7</sup>, the source of the highest forecasts in Table 1 and Table  
14 2, from its calculation of forecast interest costs.

15 The next aspect of my interest was to consider whether the Centra forecast had  
16 accurately converted the various forecasters’ data points into quarterly or annual  
17 financial year forecasts of interest rates. While the forecast error created by  
18 sloppy use of the forecasters’ forecasts may be less consequential than the forecast  
19 error created by the inclusion of forecasters whose forecasts are high, accuracy is  
20 an important feature in good analysis.

21 The Board, in Order 128/09, also commented on the integration of the financing  
22 function and noted “that Centra’s needs should “trump” consolidated  
23 perspectives”<sup>8</sup>. As such, I wished to understand whether, policies had been put in  
24 place to ensure that Centra’s differing needs were identified and considered in its  
25 financings.

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<sup>4</sup> Order No. 128/09, September 16, 2009 page 61 of 139 and page 137 of 139.

<sup>5</sup> Order No. 128/09, September 16, 2009 page 61 of 139

<sup>6</sup> PUB/Centra I-42

<sup>7</sup> I would note that it appears that some of the reasons for removing Spatial Economics reflected in CAC/MSOS/MH II-161 (Revised) dated October 15, 2010, may also apply to Informetrica.

<sup>8</sup> Order No. 128/09, September 16, 2009 page 63 of 139.

1 **Q.4 Was the evidence prepared by you or under your direct supervision and**  
2 **control?**

3 A. Yes.

4 **Q.5 Please summarize your conclusions.**

5 A. In aggregate, I am of the opinion forecast interest rates for 3 month T-bills of  
6 2.10%, and 10 year + Canada bonds of 3.20%<sup>9</sup>, are inappropriate. They are built  
7 upon a foundation of stale dated and superseded forecast data<sup>10</sup>.

8 I am of the opinion that the Board should establish a policy that Centra would  
9 provide a update<sup>11</sup> of its forecast interest rates, at each proceeding.

10 I am of the opinion that to reduce the degree of upward bias in Centra's  
11 forecasting, the Board should remove Informetrica, the source of the highest  
12 forecasts in Table 1 and Table 2, in PUB/Centra I-6, from its calculation of  
13 forecast interest rates used to derive near term interest costs.

14 **Q.6 Why do you view mandating a process to update the interest rate forecast as**  
15 **part of the hearing as important to the Board's mandate to set "just and**  
16 **reasonable"<sup>12</sup> rates and tolls.**

17 A. The statute sets out the "just and reasonable" standard which the hearing process  
18 is designed to achieve. Superseded forecast data is, by its very nature, no longer

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<sup>9</sup> These are the rates identified for 2014/15 in PUB/Centra I-6. In addition, I believe that the forecast rates for the remaining period of 2013/14 are also inappropriate being based largely on superseded data. The specific reference to a March 2014 3.30% fixed rate financing contained in Tab 9, does not explain the difference between its forecast rate and the forecast rate for the 2013/14 year, but would also appear to be based on superseded data.

<sup>10</sup> Order No. 128/09 September 16, 2009, page 62 of 139 "The Board understands that Centra utilizes forecasts from many sources and that a consensus approach is appropriate for determining interest rate forecasts. However, the Board believes that the use of stale-dated forecasts, subsequently superseded with more updated information, is not appropriate. Accordingly, the Board will expect the new methodology to ensure that only current forecasts are utilized for interest rate forecasting purposes for future GRAs."

<sup>11</sup> See Order No. 128/09 September 16, 2009, pages 62 and 63 of 139 "The Board will also expect Centra to propose a methodology to be used for rate setting purposes to update the interest rate forecast during the hearing process. The Board understands that an update is already required for the cost of gas, and that an updated interest rate forecast should also be provided. Centra may choose to update its interest rate forecast coincident with its cost of gas update."

<sup>12</sup> The Public Utilities Board Act, Manitoba, Sections 61, 64, 77 and 84.

1 valid. To rely on superseded data<sup>13</sup> does not seem reasonable. It would be highly  
2 beneficial to demonstrate that the hearing process achieved that “just and  
3 reasonable” standard if the most current interest rate information is placed before  
4 the Board. Owing to its use of private subscription forecast services, Centra is in  
5 the best position to assist the Board, in demonstrating the efficacy of its  
6 methodology and the timeliness and reliability of resulting forecast.

7 Centra’s willingness to update its forecasts and demonstrate the efficacy of its  
8 methodology, based in part on access to private subscription data, while  
9 potentially helpful, is not required. As we saw in the last Centra GRA, an  
10 alternative methodology, relying only on public data, can be accepted by the  
11 Board<sup>14</sup>.

12 Centra may have a long internal forecast and planning cycle, but I do not accept  
13 that the long cycle of the development of its financial forecasts should obligate its  
14 Board of Directors nor the Public Utilities Board to approve an outdated and  
15 unreasonable forecast of interest rates. The internal forecast is not sacrosanct. As  
16 I understand the principle, as it has descended from the 1929 Northwestern  
17 Utilities case<sup>15</sup>, public utilities boards have considerable scope to set a fair and  
18 reasonable rate of return even if no witnesses testify to the altered conditions of  
19 the money market. To facilitate the Board’s need for timely forecasts, I believe  
20 Centra should willingly update its forecast rates during the regular GRA filing  
21 process. To promptly provide the forecast inputs to the model as part of its

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<sup>13</sup> Order No. 128/09 September 16, 2009, page 62 of 139 “The Board understands that Centra utilizes forecasts from many sources and that a consensus approach is appropriate for determining interest rate forecasts. However, the Board believes that the use of stale-dated forecasts, subsequently superseded with more updated information, is not appropriate. Accordingly, the Board will expect the new methodology to ensure that only current forecasts are utilized for interest rate forecasting purposes for future GRAs.”.

<sup>14</sup> Order 128/09 page 60 of 139. “Accordingly, the Board will direct Centra to adopt the interest rate forecasts that are more in line with the recommendations put forward by CAC/MSOS’ witness, Mr. McCormick. ... While actual rates are very likely to vary from these forecast rates, nonetheless, as the evidence presented by Mr. McCormick was found to be more suitable than the projections of Centra, Mr. McCormick’s rate forecasts should be utilized for forecasting purposes”.

<sup>15</sup> Northwestern Utilities and the City of Edmonton, SCC, [1929] SCR 186.

1 application will also enhance regulatory efficiency, by reducing the need for  
2 information requests to acquire the data.

3 **Q.7 What do you view as the purpose of the interest rate forecast?**

4 A. In my view the purpose of this attempt to forecast future interest rates, in the  
5 context of the GRA, is to arrive at a forecast with the minimum error in the rates  
6 forecast over the forecast period, which in this case is the test years of the GRA. I  
7 do not believe that achieving accuracy in the forecast, requires a large or  
8 particular number of forecasters, and reject the notion that using a large number of  
9 forecasters, 12 in 2008/09, and 11 in 2012/13, enhances the process without  
10 additional testing of accuracy. The success of the process should rather be judged  
11 by its degree of accuracy, not the use of stale dated forecasts from a group of  
12 famous name forecasters.

13 Centra obviously views its interest forecasting process as part of an overall  
14 planning system. While its planning efforts are no doubt important internally, in  
15 the context of this hearing, I submit that those broader goals are irrelevant to  
16 correctly setting the portion of the revenue requirement required to support the  
17 forecast interest costs.

18 Organizations can become committed to a particular process over time and, in  
19 focusing on the particular process, can lose sight of the purpose for which the  
20 process was initially undertaken.

21 In the 2008/09 Centra GRA, Centra vigorously defended its then institutionalized  
22 process of interest rate forecasting<sup>16</sup>. In CAC/MSOS/Centra 2-76 (k), we were  
23 told that “Each year Centra applies a consistent economic forecasting  
24 methodology that utilizes high quality inputs from numerous independent  
25 forecasters”<sup>17</sup>, and “Centra adopts a longer term view which incorporates high  
26 quality data sources and sound forecasting methodologies.”<sup>18</sup> During the IR

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<sup>16</sup> In its Rebuttal Evidence in the 2009/10 Centra GRA, May 29, 2009 at page 23 of 24, “Centra is of the view that its current forecasting methodology for interest rates is fair and reasonable”.

<sup>17</sup> CAC/MSOS/Centra 2-76 (k), page 5 of 5, Centra 2009/10 GRA

<sup>18</sup> CAC/MSOS/Centra 2-76 (k), page 5 of 5, Centra 2009/10 GRA

1 process, in spite of its professed belief in its then “sound forecasting  
2 methodologies”, Centra declined to, provide a link between the names of  
3 forecasters and their data points<sup>19</sup>, justify the use of superseded and statistically  
4 interdependent data, and, explain its blending of period end and period average  
5 inputs.

6 My evidence in that proceeding addressed what I perceived to be serious  
7 methodological lapses in analysis, and indicated then current forecasts for 3  
8 month T-bill rates for the 2009 and 2010 of less than 0.5% for 2009, and less than  
9 1% for 2010, rather than the 3.75% and 4.5% 3 month T-bill rates indicated in  
10 that application and derived from the Centra methodology. My evidence in that  
11 proceeding also indicated then current forecasts for 10 year Canada rates for the  
12 first calendar quarter of 2010 would indicate an interest rate in the 3% range  
13 rather than the 4.7% rate indicated in the application.

14 Even with the significant adjustments made in the forecasting methodology made  
15 through Order 128/09, Centra has a persistently upward bias in its forecast of total  
16 interest costs. For that reason, I am making further suggestions as to how to  
17 improve the forecast accuracy.

18 **Q.8 Did Decision 128/09 resolve the forecasting issues related to Centra?**

19 A. That decision solved a number of the very large problems in the Centra forecast  
20 methodology, but some issues of implementation appear to remain outstanding.  
21 In addition, Centra also appears to have changed its methodology in the manner in  
22 which it employs data from certain forecasters, which is worthy of exploration.

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<sup>19</sup> An update to PUB/Centra 2-198 filed in the 2009/10 GRA on June 3, 2009, provided the link to forecasters names and their various forecasts some of which dated from October 2009. This update was filed after intervener evidence was filed on May 15, 2009



1 As I have mentioned, the record<sup>20</sup> appears to indicate a chronic uncorrected  
2 upward bias in the results of the forecast methodology when compared to actual  
3 results. The change in the manner in which certain forecaster's contributions are  
4 employed may contribute to that upward bias.

5 **Q.9 Were you able to establish that the forecast had accurately converted the**  
6 **various forecasters' data points into quarterly or annual financial years**  
7 **forecasts of interest rates?**

8 A. Regrettably, no.

9 I attempted to confirm the calculation of many of the visible<sup>21</sup> data points  
10 presented in Table 1 and Table 2 of PUB-Centra I-6 based on the supporting  
11 documentation provided but identified a number of anomalies. The first type of  
12 problem was that there appear to have been a number of calculation errors [CAC-  
13 Centra II-46 (a) CIBC]. The second type of problem were instances where  
14 forecasters' data points were available, but were not included [CAC-Centra II-46  
15 (a) Conference Board] in the various tables. Finally, in instances where some  
16 forecasters might omit a data point in mid series, the forecast values included in  
17 Tables 1 and 2 of PUB-Centra I-6, presented values which did not appear to make  
18 consistent use of the known data points to bridge the gap created by the missing  
19 data point.

20 In addition to these problems related to the visible forecast data points which were  
21 created based upon identified sources, initially, I could not attach any confidence  
22 to the suppressed data points ascribed to Bank A or Bank B, and, as such, could  
23 not attach any confidence to financial year values. Subsequently, many of those  
24 data points were made available in PUB/Centra II-141.

25 Consumers are entitled to have a forecast of interest rates built on a methodology  
26 that can be demonstrated to provide a good approximation of the value which it

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<sup>20</sup> PUB/Centra I-42 (b)

<sup>21</sup> The data points for "Bank A" and "Bank B" were initially suppressed and the input sources were not provided in response to PUB/Centra I-6.

1 seeks to forecast. As the data provided in PUB/Centra I-42 (b) shows, the  
2 forecasts employed vary substantially from the actual experience. I believe that  
3 we can do better than just averaging some dozen or so forecasters that have  
4 apparently been selected without any clear criteria<sup>22</sup> for or demonstrated success  
5 in the accuracy of near term forecasts of the interest rates which are used as base  
6 rates in the revenue forecast. While it may appeal to our intellectual curiosity to  
7 study the vast array of interest rate forecasts available from Canadian and  
8 international economists<sup>23</sup>, consumers will benefit from accuracy.

9 **Q.10 How can forecast accuracy be improved?**

10 A. In broad terms, I believe that retrospective testing can be instructive, and essential  
11 to creating a robust methodology.

12 Imagine for a moment, that you were the general in charge of a campaign and you  
13 discovered that your artillery units were shooting 8% to 14% too far. I suspect  
14 that it would not take very long to get targeting recalibrated.

15 If you are a golfer, you understand that the goal of every stroke is to get the ball  
16 into or close to the hole. If you are a golfer, who like me, generally hits to the  
17 right you embrace strategies to reduce the directional error, perhaps by changing  
18 one's stance or one's grip.

19 Whatever one's career path or choice of recreational pursuit, most people would  
20 be familiar with some form of benchmarking or quality enhancement process. If  
21 we discover that our results are constantly high, or constantly low, and to our  
22 disadvantage, we would adjust the process to reduce the error. Owing to the  
23 nature of this process, Centra is not disadvantaged if its forecast of interest rates is  
24 above the actual future interest costs. The excess charges in rates, all other things

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<sup>22</sup> Centra appears to seek the "strength of diversity" which would CAC/Centra I-13 page 7 of 7. The goal of diversity of opinion would seem to support inclusion within the sample of views selected from among the highest quartile and the lowest quartile.

<sup>23</sup> Bloomberg, for example, provides near term forecasts of various rates including 10 year Canada rates from 19 firms. For recent forecasts for 2Q 2014 ranged from 1.70% to 3.02% , while the median value was 2.59%.

1 being equal, result in higher retained earnings. In this instance, the moral hazard<sup>24</sup>  
2 is that Centra is not disadvantaged in adopting an interest rate forecast  
3 methodology based on a particular sample of forecasters that consistently  
4 produces forecasts of interest rates that exceed actual experience.

5 In my evidence in the last Centra GRA, I noted; “In as much as Centra has  
6 selected a sample of the available forecasters, I believe it would be a good  
7 practice to review the estimates of forecasters so as to be assured that the selection  
8 of forecasters would best approximate the result. I believe it would be worth  
9 knowing whether one included forecaster was perennially low or high if that  
10 result was causing a variance which could be avoided by its exclusion.”<sup>25</sup> I  
11 remain of that opinion.

12 Based on that simple principle, and noting that Informetrica is currently the  
13 highest forecaster in the sample, I would remove its forecast of near term interest  
14 rates to address the consistent upward bias in Centra’s forecasting from this  
15 sample of forecasters.

16 In my evidence in the Manitoba Hydro 2010/11 & 2011/12 GRA, I discussed the  
17 accuracy of certain forecasters who had made predictions in April and May of  
18 2009. I noted that there was very low overall error when one based a forecast on  
19 Scotia and National Bank data. In a 6 quarter period, discussed in that evidence at  
20 page 26, “the Scotia forecast had the least average error, being about 23 basis points  
21 too low. The National Bank forecast was closer to actual in the early quarters before  
22 markedly increasing its variance in the last two quarters. Its average error was about  
23 26 basis points too high. For these six quarters using only the National and Scotia  
24 forecasts would result in the lowest average error, about 2 basis points.”<sup>26</sup> It should  
25 be noted that both Scotia and National, like many forecasters, were low in the early  
26 periods and high in the later quarters.

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<sup>24</sup> Wikipedia describes moral hazard as a concept in economic theory which “arises because an individual or institution does not take the full consequences and responsibilities of its actions, and therefore has a tendency to act less carefully than it otherwise would, leaving another party to hold some responsibility for the consequences of those actions.”

<sup>25</sup> See page 15 of Mr. McCormick’s evidence dated May 15, 2009.

<sup>26</sup> See page 26 of Mr. McCormick’s evidence dated December 10, 2010.

1 **Q.11 Would you identify some of the data “anomalies” to which you referred**  
2 **earlier, which you classified as calculation errors?**

3 A. In CAC/Centra II-46 and 47, we asked for an explanation of the some anomalies  
4 related to CIBC, Conference Board and National Bank data points.

5 To deal with 1Q 2014 CIBC data point anomaly, in CAC/Centra II-47 (f), Centra  
6 confirms that the 1Q 2014 data point should have been 2.86<sup>27</sup>. Their reply does  
7 not explain that the values ascribed to the CIBC for 1Q 2014 through to 1Q 2015  
8 were values related to Desjardins’ forecast.

9 With respect to the National Bank data points, the issue that gives rise to my  
10 concern is that the National Bank, from time to time, provides discontinuous data  
11 points. In some quarters they do not publish one of the middle values of their  
12 forecast. I am of the view that the Centra abandoned its averaging methodology  
13 as it calculated the 2Q 2013 data point of 1.31 for National Bank T-bill rate. We  
14 had both the data points required to calculate the period average, but the 2 Q 2013  
15 value got swept up in the effort to deal with the missing 3Q 2013 data point.  
16 Centra did not apply the same methodology that was used to develop the 1Q 2013  
17 data point. Referring to the table below, one can see that the average of 0.98<sup>28</sup> and  
18 0.94<sup>29</sup> inputs to the 1Q 2103 calculation averages to 0.96, the average of 0.94<sup>30</sup>  
19 and 1.05<sup>31</sup> do not average to the 1.31 value presented in Table 1. Effectively, the  
20 1.31 calculated data point rejects or ignores available data, in this case the  
21 National Bank 2Q 2013 end period forecast value of 1.05.

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<sup>27</sup> In CAC/Centra II-46 (b) we also addressed missing data points related to the Conference Board forecast.

<sup>28</sup> 0.98 is the 4Q 2012 end period value input.

<sup>29</sup> 0.94 is the 1Q 2013 end period value input.

<sup>30</sup> 0.94 is the 1Q 2013 end period value input

<sup>31</sup> 1.05 is the 2Q 2013 end period value input

National Bank	4Q 12	1Q 13	2Q 13	3Q 13	4Q 13	Total 2Q to 4Q values
As published end period	0.98%	0.94%	1.05%		1.67%	
Solve for a 3Q end period value			1.05%	1.36%	1.67%	
Calculate period average value		0.96%	1.00%	1.21%	1.52%	3.72%
Centra period average		0.96%	1.31%	1.31%	1.31%	3.93%

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2           In my opinion the better method to deal with the discontinuity would be to  
3 estimate the missing 3Q 2013 value relying on the known 2Q 2013 and 4Q 2013  
4 values. My estimate for the missing 3Q 2013 value would be 1.36, the average of  
5 the known 2Q 2013 and 4Q 2013 values. Using the 1.36 value for the 3Q 2013  
6 end period data input into the into the calculation of the period average values for  
7 3Q 2013 and 4Q 2013 would result in values of 1.21 and 1.52 respectively. The  
8 total of the 2Q, 3Q and 4Q values in the Centra method to bridge the missing  
9 quarter's data point is 3.93, while the total, using my method would be 3.72. As  
10 such, ignoring the available 2Q forecast data point adds 20 basis points before  
11 averaging, to the T bill interest rate calculation.

12           In CAC/Centra II-47, Centra explains that the "same approach" that was used to  
13 bridge the missing data point for the T-bill calculation was utilized for the  
14 National Bank "long term interest rate" calculation. As such, I am also of the  
15 view that the calculated data point for National Bank 10 year + Canada rate for  
16 2Q 2013 is simply wrong. It does not apply the same methodology that was used  
17 to develop the 1Q 2013 data point. While the 10 year + calculation is a little less  
18 obvious, as one must average 4 numbers rather than just the 2 numbers required  
19 for T-bills, my calculation of the value is 2.13 not the 2.28 value presented in  
20 Table 2. Effectively, the 2.28 calculated data point rejects or ignores available  
21 data.

22           In addition to the problems of care in the use of data involving the 2Q through 4Q  
23 2013 data points ascribed to National Bank, the explanation of the 4Q 2012 long  
24 bond averages demonstrates a further example of laxity in approaching data.

1 Centra on page 3 of 4 in CAC/Centra II-47 tells us that the end period and period  
2 average 30 year bond data points are each 2.31. To be logically consistent, the end  
3 period data point would, of necessity also need be 2.31. Unfortunately, the Royal  
4 Bank provides a different actual value, 2.40, which, of course, would force the  
5 2.31 period average to 2.36.

6 The foregoing discussion relates to the Centra methodology which attempted to  
7 compensate for the intermittent discontinuity in the National Bank's forecast data  
8 points, and which attempt resulted in Centra suppressing the valid 2Q data point.  
9 These attempts to compensate for the discontinuity in the presentation of data,  
10 raise the question, of why National Bank continues to be a worthy forecaster.  
11 With all the alternatives available, and the apparent difficulty triggered by the  
12 manner in which it publishes its forecast, I am unsure what, if any, special value  
13 National Bank currently adds to the resulting forecast.

14 **Q.12 Are you satisfied with the manner in which Centra bridges from quarterly**  
15 **inputs to annual inputs in its forecast?**

16 A. No. My concerns arise in those instances where a forecaster has supplied  
17 quarterly data for some portion of its forecast and then annual average data for a  
18 further longer period.

19 An example of this area of concern can be found with the use of Desjardins data.  
20 In PUB/Centra I-6, attachment 1 at page 8 of 29, one is provided with annual  
21 average data, which for T-bills is 1.05% for 2013, 1.55% for 2014 and 2.25% for  
22 2015. In PUB/Centra I-6, attachment 1 at page 3 of 29, one is provided with  
23 period end data including T-bill rates of 1% for 1Q and 2Q 2013, 1.05% for 3Q  
24 2013 and 1.15% for 4Q 2013.

25 While Centra has averaged the 1.05% for 3Q 2013 and 1.15% for 4Q 2013 inputs  
26 to arrive at a 4Q 2013 period average value of 1.10%, they abandon averaging for  
27 1Q 2014, and apply the annual average to each of the four calendar quarters.  
28 Essentially they are assuming an immediate jump in rates which then remain  
29 constant for that calendar year. In my view, if it is reasonable to assume an

1 average rate of 1.10% in 4Q 2013, it would be more reasonable to interpolate  
2 2014 data to arrive at the average rather than assuming an immediate rate hike to  
3 a constant level. Assuming interpolation is unsatisfactory for some reason, I  
4 would have preferred an analysis which assumed that the 1Q 2014 data point was  
5 1.55% which when averaged with the 4Q 2013 data point would result in a period  
6 average value for 1Q 2014 of 1.35%. Clearly, if we wish to maintain a 1.55%  
7 annual average for this forecaster's contribution, we would need to increase the  
8 value in a later quarter to compensate for a lower value in an earlier period.  
9 Having the big jump from a quarterly rate to the next year's annual rate in the first  
10 quarter of each forecast year adds a few basis points to the fiscal year calculation  
11 of interest rates.

12 **Q.13 Can you provide an update on the interest rate forecasts for T-bills and**  
13 **comment on the materiality of the change in forecasts since those of**  
14 **September and October 2012 were issued?**

15 A. Yes, at least partially. Unfortunately, I do not have access to all the forecasts<sup>32</sup> of  
16 the 11 forecasters used by Centra.

17 The table below provides certain of the forecast T bill data points for seven of the  
18 fall 2012 forecasters. These were selected from the forecasters for which fall  
19 2012 forecast documents were included in PUB/Centra I-6 and PUB/Centra II-  
20 141 where there is public access to a more current interest rate forecast.<sup>33</sup>

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<sup>32</sup> For example, Informetrica, among others, does not appear to freely post its forecasts on its website  
<http://www.informetrica.com/>.

<sup>33</sup> For the CIBC forecast see [http://research.cibcwm.com/economic\\_public/download/rates.pdf](http://research.cibcwm.com/economic_public/download/rates.pdf), for  
Desjardins see [http://www.desjardins.com/en/a\\_propos/etudes\\_economiques/previsions/courbe-  
rendement/cr1304.pdf](http://www.desjardins.com/en/a_propos/etudes_economiques/previsions/courbe-<br/>rendement/cr1304.pdf), for Laurentian see  
[http://www.vmbi.ca/Economics/15/WeeklyMonitor\\_07052013\\_e.pdf](http://www.vmbi.ca/Economics/15/WeeklyMonitor_07052013_e.pdf), for Scotia see  
[http://www.gbm.scotiabank.com/English/bns\\_econ/forecast.pdf](http://www.gbm.scotiabank.com/English/bns_econ/forecast.pdf), and for TD see  
[http://www.td.com/document/PDF/economics/finances/DollarsAndSense\\_May2013.pdf](http://www.td.com/document/PDF/economics/finances/DollarsAndSense_May2013.pdf)

T Bill Rates		2Q 2013	3Q 2013	4Q 2013	1Q 2014	2Q 2014	3Q 2014	4Q 2014	AVG 2014
CIBC	27/09/2012	0.95%	0.95%	1.20%	1.45%				
CIBC	08/05/2013		0.95%	<u>0.95%</u>	<u>0.95%</u>	0.95%	0.95%	1.05%	0.97%
	Variance			0.25%	0.50%				
Scotia	27/09/2012	1.00%	1.00%	1.00%					
Scotia	30/04/2013	<u>1.00%</u>	<u>1.00%</u>	<u>1.00%</u>	1.00%	1.00%	1.00%	1.10%	1.02%
	Variance	0.0%	0.0%	0.0%					
TD	18/09/2012	1.40%	1.55%	1.65%	1.70%	2.05%	2.05%	2.10%	
TD	02/05/2013	<u>0.95%</u>	<u>0.95%</u>	<u>0.95%</u>	<u>0.95%</u>	<u>0.95%</u>	<u>1.05%</u>	<u>1.40%</u>	1.06%
	Variance	0.45%	0.60%	0.70%	0.75%	1.10%	1.00%	0.70%	
Desjardins	Fall 2012	1.00%	1.05%	1.15%	1.55%	1.55%	1.55%	1.55%	
Desjardins	25/04/2013	<u>0.95%</u>	<u>1.00%</u>	<u>1.00%</u>	<u>1.00%</u>	<u>1.00%</u>	<u>1.20%</u>	<u>1.50%</u>	1.14%
	Variance	0.05%	0.05%	0.15%	0.55%	0.55%	0.35%	0.05%	
Laurentian	17/09/2012	1.00%	1.50%	1.60%				2.10%	
Laurentian	15/04/2013	0.96%	<u>1.00%</u>	<u>1.05%</u>	1.05%	1.05%	1.10%	<u>1.60%</u>	1.17%
	Variance		0.50%	0.55%				0.50%	
BMO	02/10/2012	1.00%	1.00%	1.25%	1.25%	1.50%	1.50%	1.75%	
BMO	10/05/2013		<u>0.99%</u>	<u>0.99%</u>	<u>0.99%</u>	<u>0.99%</u>	<u>1.24%</u>	<u>1.49%</u>	1.18%
	Variance		0.01%	0.26%	0.26%	0.51%	0.26%	0.26%	
RBC	04/10/2012	1.45%	1.85%	2.00%					
RBC	May-13	<u>1.00%</u>	<u>1.00%</u>	<u>1.00%</u>	1.00%	1.10%	1.25%	1.55%	1.19%
	Variance	0.45%	0.85%	1.00%					
	AVG Var	0.24%	0.34%	0.42%	0.52%	0.72%	0.54%	0.38%	

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Other than TD, which provided, in both the September 2012 and April 2013 forecasts, quarterly forecast data points for 2Q 2013 through 4Q 2014, the other forecasters' data points overlap only for a few periods. With the exception of Scotia, where there is no variance in the overlapping values, all the other forecasters have forecast lower values in the more recent forecasts and some of those changes in values are quite significant. While many are in the 50 basis point range, those for TD are more significant.

As these forecasters mainly provide end period data, the "AVG 2014" column was calculated including the 4Q 2013 value and all the four 2014 end period values, the exception being the BMO for which only 4 data points were averaged. The overall average of these forecasters for calendar 2014 year T bill rates would



1 round to 1.10%. I estimate that the average for the 2014 calendar year T bill rate  
2 presented in Table 1 from PUB/Centra II-141 might be approximately 1.88%.  
3 This analysis would suggest that the benefit to consumers of an update in the  
4 forecast T-bill rates could be in the order of 75 or 80 basis points for calendar  
5 2014.

6 Before we leave the forecast of T bill rates for 2014, which on this sample of  
7 forecasters is currently averaging slightly over 1%, it may be instructive to realize  
8 that rates in the 1% range have been around for some time. Recall that the  
9 Manitoba Hydro Debt Management Strategy 2004/05 2005/06, dated June 2004,  
10 at page 2 of 9, observed “With the exceptionally low interest rates in the current  
11 short-term market, Manitoba Hydro has been taking advantage of a greater  
12 weighting in short-term instruments. In fact, for the first time in the  
13 Corporation’s history, short-term borrowing is being transacted at rates below  
14 1%.”

15 In addition to the consumer benefit in 2014 of a lower forecast, in several of the  
16 2013 quarters in which we have overlapping data points, that there is also a  
17 reduction in forecast T bill rates. In the TD 4Q 2013 data points, there is a 70  
18 basis point consumer advantage contained in current updated forecast. The  
19 consumer advantage contained in the Laurentian 4Q 2013 data points is 55 basis  
20 points.

21 As a final note, only one of these recent forecasters published a period end 1Q  
22 2015 T bill rate forecast. That CIBC forecast value is 1.25%, The average of the  
23 5 visible values in Table 1 in PUB/Centra I-6 for 1Q 2015 is 2.69%<sup>34</sup>, and as such  
24 the current CIBC end period represents a drop of 56% of the 2.69% value, or,  
25 expressed in basis points, a drop of 144 basis points. With these significant

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<sup>34</sup> Several of the values presented in 1Q 2015 in PUB/Centra I-6 are period average values, while the CIBC value is an end period value, which in a rising interest rate environment would tend to reduce the impact of the comparison as period average values would tend to be lower than the end period values.

1 changes being observed in 6 or 7 months, I understand and support the Board's  
2 desire for an update.<sup>35</sup>

3 **Q.14 Is it your opinion that the current T-bill forecasts are sufficiently different**  
4 **from the superseded forecasts from September and October 2012 that a**  
5 **update is required?**

6 A. Yes.

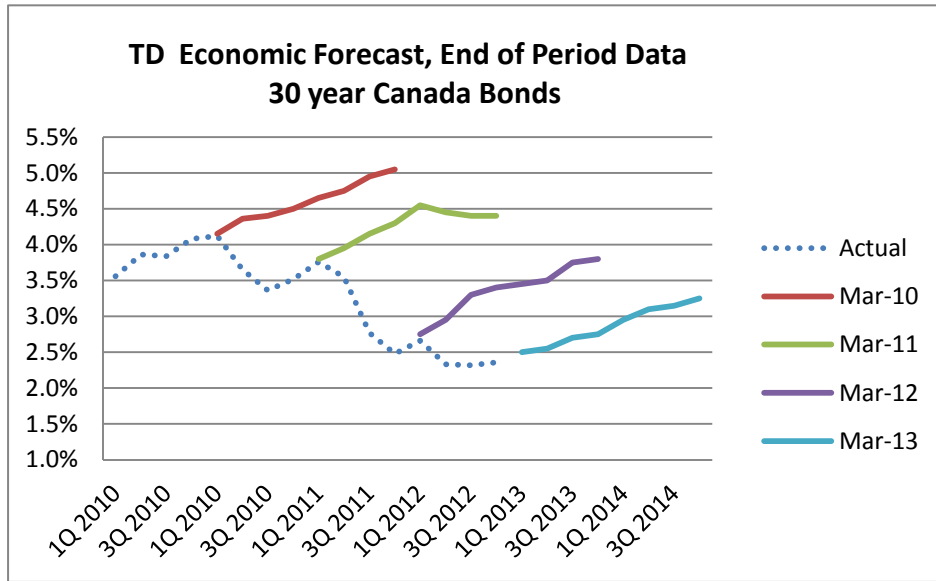
7 In my view, these new forecasts indicate a material change of forecast T bill rates.  
8 I remain of the opinion, that the fact that the September and October forecasts  
9 have been superseded is sufficient cause to require the update even in the absence  
10 of a debate over the relative materiality of any change.

11 The new forecasts have several advantages. In the first instance there is now  
12 actual data for an additional 6 or more months that was formerly being forecast.  
13 Secondly, several of the new forecasts, CIBC, Laurentian, Royal and Scotia in my  
14 sample, extended the period of their published quarterly forecast into 2014 and  
15 beyond. Finally, the forecasters have, for better or worse, been able to recalibrate  
16 their prognostications based on more data and knowledge of more recent events.

17 To provide an example of how forecasts change over time, I have prepared a chart  
18 showing actual results and a series of TD Bank forecasts between March 2010 and  
19 2013. In each of the successive annual forecasts covering a 2 year forecast period,  
20 TD economists have forecast increasing interest rates going forward. It is  
21 important to note that in each case the forecast value that begins each series is  
22 materially below the prior year's forecast for that date. The variance or error,  
23 when we have actual data, is often less in the first few quarters of the forecast,  
24 than the last few quarters. This observation supports the need for updates.

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<sup>35</sup> Order No. 128/09 September 16, 2009, page 62 of 139 "The Board understands that Centra utilizes forecasts from many sources and that a consensus approach is appropriate for determining interest rate forecasts. However, the Board believes that the use of stale-dated forecasts, subsequently superseded with more updated information, is not appropriate. Accordingly, the Board will expect the new methodology to ensure that only current forecasts are utilized for interest rate forecasting purposes for future GRAs."



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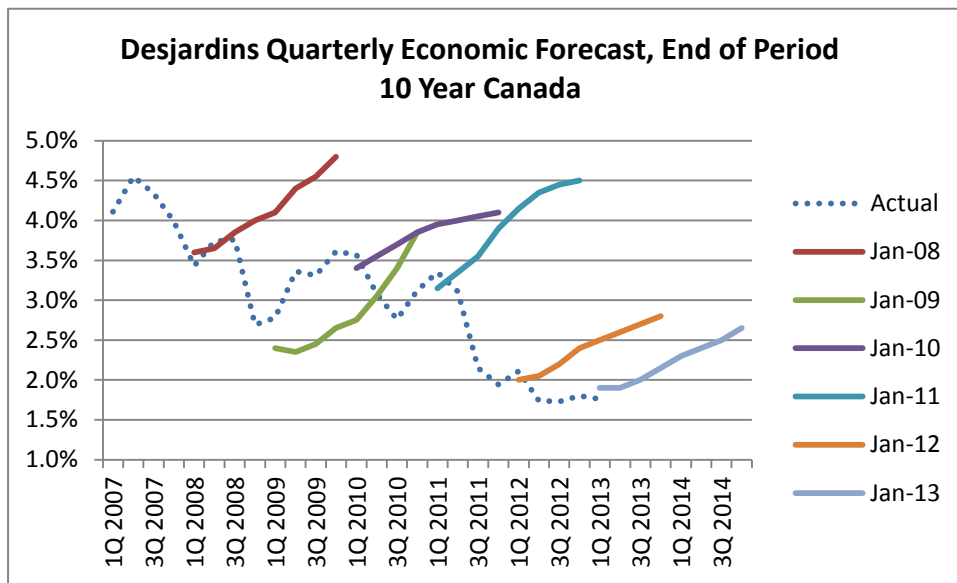
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The chart below shows actual results and a series of Desjardins forecasts between January 2008 and 2013. In each of the successive annual forecasts covering a 2 year forecast period, Desjardins economists have forecast increasing interest rates going forward, with the exception of the January 2009 forecast. Interestingly, the cumulative error of the January 2009 forecast is the lowest of the group for which we have 8 points of actual data.



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1 **Q.15 Do you have a recommendation as to the threshold which would vitiate the**  
2 **need to update the forecasts?**

3 A. No. I recommend that superseded forecasts be replaced when new forecast data is  
4 available.

5 I was, though, interested in Centra's views on that subject. I understood from the  
6 documents<sup>36</sup> filed in the proceeding that there was some circumstance in the  
7 interest rates or capital markets forecasts which was in their view of sufficient  
8 importance, or "materially different", so as to encourage them to undertake an  
9 update of the spring and summer 2012 forecast using September and October  
10 2012 data<sup>37</sup>.

11 Centra indicated that there had been a "significant financial market event" and  
12 that the level of interest rate forecast change was "materially different". To  
13 attempt to benchmark the "significant financial market event" rendering the  
14 interest rate forecast change "materially different, in CAC/Centra I-12, we  
15 requested information that would allow an efficient review of the values which  
16 were thought to be materially changed.

17 CAC/Centra II-56 we requested the comparative spring or summer equivalent  
18 tables to Table 1 and Table 2 provided in PUB/Centra I-6, and the copies of the  
19 source forecasts relied upon. The tables were not provided, and as such we have  
20 not been able to fully quantify Centra's view of what change in market conditions  
21 would constitute a material change. In the recently received reply to CAC/Centra  
22 I-12, we were provided with a table from the spring Economic Outlook which  
23 shows certain differing values from the forecast rates of the fall update, but we  
24 were unable to infer what the minimum Centra threshold for a material change  
25 might be.

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<sup>36</sup> Centra indicates in Section 4.1 page 2 of 7, in Tab 4 of the application, that "this year, the continued falling forecasts of near term interest rates ... were considered materially different from the spring and summer forecasts".

<sup>37</sup> In addition to the October 2012 update discussed in the material related to this proceeding, Tab 5 in the Hydro 2010/11 GRA makes reference at page 2 of 8 to an October 2009 update.

1 Had we been given spring equivalent tables to Tables 1 and 2, it would have been  
2 a smaller task to identify the changes in the interest rate environment which in  
3 aggregate were considered material by Centra. In PUB/Centra I-6 we gained  
4 access to many of the fall and early winter forecasts which we understand were  
5 the basis of “IFF 12, which is the basis for the 2013/14 Centra General Rate  
6 Application.”<sup>38</sup> In CAC/Centra I-6 we received many of the forecasts used in the  
7 summer review, but not all<sup>39</sup>.

8 With the data available, my view is that the change from spring forecasts provided  
9 in CAC/Centra I-6 to the fall forecasts provided in PUB/Centra I-6 for 10 and 30  
10 year Canada rates is of similar materiality as the change between the most  
11 currently available forecasts and the fall forecasts provided in PUB/Centra I-6.

12 Since it appears to me, that we have experienced a similar level of materiality in  
13 the changes in forecasts, while I appreciate opportunity to review the 2013  
14 Economic Outlook when it is filed, I am puzzled that Centra remains unsure of  
15 “whether to revise the Application at that time.”<sup>40</sup>

16

17 **Q.16 Can you describe the recent changes in forecasts for the 10 year and 30**  
18 **Canada bonds?**

19 A. Yes, and in aggregate there were reductions in forecast interest rates for 10 and 30  
20 year Canada bonds, for periods in which the publically available data in the  
21 October 2012 and May 2013 publically available forecasts overlapped. The one  
22 forecaster which went against the decreasing trend in interest rate forecasts was  
23 BMO which increased its 10 and 30 year forecasts by an average of about 24  
24 basis points in periods in which the superseded and current forecasts overlapped.  
25 Other forecasters had moderate decreases in their forecasts in periods which  
26 overlapped, including CIBC, Desjardins, Laurentian, Scotia and TD. RBC had a

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<sup>38</sup> CAC/Centra II-56.

<sup>39</sup> Forecasts from BMO, Spatial and Informetrica were not included in CAC/Centra I-6.

<sup>40</sup> CAC/Centra II-59.

1 more significant decrease in its forecasts in the periods which overlapped  
2 averaging about 72 basis points. Overall, the variance for overlapping data points  
3 from the current public forecasts compared with the October forecasts appeared  
4 approximately equal that the variance between the October forecasts and the  
5 subset of the spring 2012 forecasts contained in CAC/Centra I-6<sup>41</sup>.

6 The table below shows the calculation of the 10 year + RBC values based on the  
7 October forecast contained in PUB/Centra II-141 (a), and the publically available  
8 May 2013 forecast. The average variance in 10 year + values for 3Q 2013 to 4Q  
9 2014 is approximately 72 basis points.

	RBC	4Q 12	1Q 13	2Q 13	3Q 13	4Q 13	1Q 14	2Q 14	3Q 14	4Q 14
10 yr	Oct-12	1.85%	2.05%	2.20%	2.40%	2.55%	2.90%	3.30%	3.65%	4.00%
30 yr	Oct-12	2.40%	2.60%	2.75%	2.95%	3.10%	3.45%	3.85%	4.20%	4.55%
10+		2.34%	2.23%	2.40%	2.58%	2.75%	3.00%	3.38%	3.75%	4.10%
10 yr	May-13			1.85%	1.90%	1.95%	2.20%	2.40%	2.65%	2.85%
30 yr	May-13			2.45%	2.55%	2.65%	2.80%	3.00%	3.15%	3.35%
10+				<sup>42</sup>	2.19%	2.26%	2.40%	2.60%	2.80%	3.00%
	Variance				0.39%	0.49%	0.60%	0.78%	0.95%	1.10%

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11 **Q.17 Can you comment on the accuracy of current process of interest rate**  
12 **forecasting used by Centra and the prospect of Centra enhancing its**  
13 **accuracy?**

14 A. In PUB/Centra I-42 (b), Centra supplies certain data points relevant to its forecast  
15 accuracy. In each of the 4 years for which data has been supplied, forecast  
16 interest on debt exceeded the actual amounts by between 8% and 23%<sup>43</sup>. Were

<sup>41</sup> Using the data in Table 2 of PUB/Centra II -141 to provide an example, the average forecast value for fiscal 2014/15 is 3.20%. Using the same sample of 7 publically available forecasters presented in an earlier table related to T-bill forecasts, their current average 10 Year + forecast for calendar year 2014 is approximately 2.83%, a change of about 35 basis points.

<sup>42</sup> A variance was not calculated for 1Q 13, as the 1Q 13 input values were no longer forecast values but were actual values.

<sup>43</sup> In any analysis, the starting point is important. In my evidence in the Manitoba Hydro 2010/11 & 2011/12 General Rate Application, at page 3, using a different starting point, I noted "A comparison of the original Schedule 4.12 filed in the recent Centra GRA with their compliance filing shows that the short term and long term interest expense saving to consumers for the 2009/10 and 2010/11 test years was approximately \$10.1 million. This \$10.1 million difference arose largely because of the more rigorous and

1 this trend to continue into 2012/13, and the upward bias in Centra's forecasting  
2 continues at the amount in 2011/12, the variance in the period 2008/09 through to  
3 2012/13 could exceed the total interest on debt in the 2010/11 year.<sup>44</sup>

4 This issue of persistent upward bias in Centra's forecasting of total interest on  
5 debt, is not only an issue of just and reasonable rates, but is also an issue of  
6 intergenerational equity<sup>45</sup>. By way of example, the retired farmer in Swan River  
7 may not be around long enough to benefit from a year in which total interest on  
8 debt is under forecast. Centra, for its part, noted "retained earnings held for the  
9 benefit of ratepayers along with the self correcting ability to adjust the revenue  
10 requirement at the next GRA".<sup>46</sup> This GRA appears to be that opportunity for  
11 adjustment. As Centra seems to feel the matter had been resolved<sup>47</sup>, the timing is  
12 not beneficial<sup>48</sup>, such a process will weaken it, and deprive it of the "valuable  
13 strength of diversity"<sup>49</sup>, among other concerns, it appears that the only hope for an  
14 adjustment lies with the Board

15 In PUB/Centra II-141, Centra provides a quotation for PUB/Centra 50 (b), from  
16 the 2011/12 Cost of Gas Application, addressing the timeliness of retrospective  
17 testing. They concluded:

18 "It is Centra's view that the collective economic opinion that currently exists  
19 within Centra's established portfolio of respected forecasters provides a  
20 valuable strength of diversity, and that a process to retrospectively test the  
21 accuracy of forecasters to assess their inclusion in future forecasts is not  
22 beneficial at this time." [Emphasis added]

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updated forecast methodology, ordered by the PUB, which employed lower interest rates based upon more current interest rate forecasts".

<sup>44</sup> 10,053+4,380=14,433. 14,433 > 14,273.

<sup>45</sup> Hydro recognized the concept of "intergenerational customer equity and fairness" in a discussion of asset liability matching in respect of "ultra long financing" in CAC/MSOS/MH II-146 (Revised) in the Hydro 2010/11 GRA.

<sup>46</sup> Page 2 of 6 PUB/Centra II 142,

<sup>47</sup> Page 4 of 5 Letter of April 1, 2013, Mr. Czarnecki to Mr. Singh

<sup>48</sup> PUB/Centra II-141

<sup>49</sup> Page 7 of 7 CAC/Centra I-13

1 In light of the persistent upward bias in Centra’s forecasting of interest costs, I  
2 wonder for whom the retrospective testing “is not beneficial at this time”. I am  
3 confident that the retired farmer in Swan River, in particular, and consumers  
4 generally, would find it beneficial, just as they would have found Order 128/09  
5 beneficial. I also wonder when, if ever, the conditions will exist which would  
6 make retrospective testing “beneficial” to Centra. The moral hazard here, relates  
7 to the cost being borne by the consumers while the benefit is enjoyed by Centra.

8 Centra, in PUB/Centra II-141 (b), provides a number of objections to  
9 retrospective testing, including that concern that “it is important for the  
10 Corporation to consider the broad range of respected forecaster opinion”, and,  
11 “retrospective testing ... could potentially weaken or bias the Corporation’s  
12 viewpoints.” With respect, I am not proposing that Centra be prevented from  
13 reading the totality of economic forecasts from every one of the forecasters  
14 currently prognosticating, only that they modify their sample of worthy  
15 forecasters, for the purpose of calculating near term interest rates, or the interest  
16 rate calculation methodology, so as to avoid the demonstrated upward estimation  
17 bias.

18 Centra also observes, in PUB/Centra II-141 (b), that “forecaster modeling  
19 algorithms are evolving”. With respect, “forecaster modeling algorithms” have  
20 been evolving for decades, and, while the economic worries of the day constantly  
21 change, the low interest rate environment was noted in the Manitoba Hydro Debt  
22 Management Strategy 2004/05 2005/06, dated June 2004, as the Corporation  
23 celebrated financings at rates under 1%. As such, I reject the implicit suggestion  
24 that we must wait “through a full business cycle ... to appropriately test the  
25 accuracy of these algorithms.”<sup>50</sup>

26 With this history of near term upward bias in Centra’s forecasting of total interest  
27 on debt, we inquired as to the last year in which Centra had under forecast the

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<sup>50</sup> PUB/Centra II-141 (b), page 3 of 6.



1 total interest on debt, in CAC/Centra II-52 (d). While Centra advised that it  
2 “disagrees with the premise outlined in the preamble ” to the question, “that  
3 variations between forecast and actual interest costs ... arise as a result of the  
4 forecast methodology, changes in the capital spending or debt levels”. Centra  
5 completely ignored part (d), and did not identify or supply the date of any year in  
6 which it had under forecast interest costs, leading to the inference that such an  
7 event has not happened in recent memory.

8 In answer to a request to quantify the various factors contributing to the  
9 variances<sup>51</sup>, such as forecasting a fixed rate financing and then undertaking a  
10 shorter term floating rate such as Series 10. Centra declined to quantify the  
11 causes, and ascribed the variances “primarily” to “significant financial market  
12 changes”. Centra’s disagreement with the premise that a number of other factors  
13 may have contributed to interest cost variances is puzzling, since there appear to  
14 have been changes in the interest basis<sup>52</sup> of financings and, the rates<sup>53</sup> at which  
15 forecast financings were undertaken.

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<sup>51</sup> CAC/Centra II 52 (b) as to interest on long term debt, and CAC/Centra II-52 (c) as to interest on short term debt.

<sup>52</sup> In CAC/MSOS/Centra 1-5 (e), in the 2009/10 GRA, we see that \$75 million of financing was forecast as 20 year fixed rate 5.3% forecast rate financings, based on a 4.7% long rate and a 60 basis point credit spread (see CAC/MSOS/Centra 1-1(m)). Series CG 10, for \$35 million was done at a rate of 3 Month BAs + 0.484%.

<sup>53</sup> In CAC/MSOS/Centra 1-5 (e), in the 2009/10 GRA, we see that \$75 million of financing to be undertaken in February 2010 and \$50 million of financing was forecast as 20 year fixed rate at a 5.3% forecast rate. Series CG 11, a 20 year financing was undertaken at a rate of 4.726%, Series CG 12, and CG 13, each a 27.5 year financing were undertaken at a rate of 4.638%, Series CG 14, a 25 year financing was undertaken at a rate of 4.638%,. Each of those financings were undertaken at rates which varied from the forecast rate.

It is worthy of note that the terms the intercompany advance from MHEB many not match all the particulars of the underlying debt placement from which an interest rate may be assigned. For example, Series CG 13 has a maturity date of September 30, 2037, while the page 52 of the Manitoba Form 18-K indicates a March 5, 2063 maturity date for series C109, which was identified as the source of the assigned interest rate in PUB/Centra I-43. See <http://www.gov.mb.ca/finance/pdf/mb18k2012.pdf>

Schedule		STD	LTD	Total Debt	STD/Total
5.7.7	2009/10 T	98,330	265,835	364,165	27.0%
9.7.2	2009/10 A	80,145	253,260	333,405	24.0%
	Variance	18,185	12,575	30,760	2.96%
5.7.8	2010/11 T	94,869	297,671	392,540	24.2%
9.7.3	2010/11 A	21,600	297,671	319,271	6.8%
	Variance	73,269	-	73,269	17.40%

1 The table above shows the amounts of short and long term debt in each of the  
2 financial test years 2009/10 and 2010/11 as reflected in Schedules 5.7.7 and 5.7.8,  
3 dated January 20, 2009.<sup>54</sup> The similar tables 9.7.2 and 9.7.3 found in tab 9, reflect  
4 the actual data for those test years and appear to indicate a dramatic change in the  
5 role of short term debt in the debt structure.

6 I would have thought that a \$73 million reduction in the short term debt level and  
7 the total debt in the capital structure might have had a measureable influence on  
8 the forecast interest levels in 2010/11. I believe it could have been helpful to have  
9 Centra’s quantification of the any of the other factors involved in creating the  
10 interest variance to support a solution to the upward bias problem, rather than the  
11 vague identification of the primary factor as changes in the capital market.

12 **Q.18 How long is that “full business cycle” which Centra suggests must transpire**  
13 **“to appropriately test the accuracy”<sup>55</sup> of the forecasters’ work?**

14 A. As I understand the term, it is not a period certain. A week, for example, is a  
15 defined period of 7 days. The various phases of the moon, as it wanes and waxes  
16 from full moon to new moon and full moon again, is a period certain of about 29  
17 days<sup>56</sup>.

<sup>54</sup> PUB/Centra II-144a Attachment 1 page 25 of 55 provides an amended Schedule 5.7.3 for the 2009/10 test year, reflecting order 128/09 dated February 19, 2010. Page 26 of 55 provides an update for the 2010/11 test year. See also page 13 of 55 and 14 of 55 for similar schedules reflecting Orders 128/09 and 41/10.

<sup>55</sup> See page 7 of 7 of CAC/Centra I-13. Since Centra references “the financial crisis” the cycle, for which they appear to wish to await the conclusion, may have begun in October 2008.

<sup>56</sup> Astronomers have the length of time to the moon’s cycle calculated to the minute, but the number of hours and minutes are not relevant to our discussion.

1 The timing of a full business cycle is random and somewhat unpredictable. You  
2 could begin at any point in the cycle, and the full business cycle you are observing  
3 will conclude when the various phases have run their course. Like the moon, as it  
4 moves through its phases, the business cycle can be described as having 4 phases.  
5 Contraction, a slowdown in the pace of economic activity, will be followed by the  
6 low point of the cycle, the trough, which occurs just before the economy begins to  
7 expand. The expansion phase will run until it reaches its zenith or peak. The  
8 peak being the final phase before the economy slips, once again, into the  
9 contraction phase.

10 To use the C. D. Howe Institute's identification of the monthly trough and  
11 monthly peak of the most recently completed cycle as the benchmark<sup>57</sup>, the last  
12 business cycle, marked by recessions, ran from April 1992 to October 2008, a  
13 period of over 16 years.

14 It does not seem reasonable that this Board should allow Centra to wait for the  
15 completion of some currently undefined period, "a full business cycle", which  
16 based on the C. D. Howe Institute's last measurement, could be a decade or more,  
17 to adjust clearly the demonstrated pattern or upward bias in forecasting near term  
18 interest rates.

19 **Q.19 Do you understand Centra's choice of forecasters?**

20 A. No.

21 Centra has selected approximately 12 forecasters from a large number of  
22 forecasters who comment on the Canadian interest rates. Bloomberg shows 19  
23 names of contributing firms that offer forecasts of 10 year Canada bonds. In  
24 addition Centra provides 5 other names which were recently considered for the  
25 spaces granted to Desjardins and Laurentian Bank. Removing duplicates, the list  
26 of names includes about 28 firms.

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<sup>57</sup> <http://www.cdhowe.org/c-d-howe-institute-business-cycle-council-issues-authoritative-dates-for-the-2008-2009-recession/19382>

1           Within the group of worthy forecasters changes can be made throughout the year.  
2           Owing to the frequency of publication, apparently not all forecasts made  
3           throughout the year would contain the same sample set of worthy forecasters.  
4           Centra, on page 3 of 6 in PUB/Centra II-141(b), provides a list of twelve  
5           forecasters that contributed to the 2012 Economic Outlook. There is one name,  
6           Spatial Economics, included in that list which is not included in the list of worthy  
7           forecasters used in the September and October update process. Apparently,  
8           Spatial Economics currently only forecasts in the spring<sup>58</sup>.

9           While several years ago, only a subset of Centra's worthy forecasters contributed  
10          to the near term interest rate forecast, that may no longer be the case. There is  
11          one apparent change in the inclusion policy or methodology brought to our  
12          attention with the publication of Tables 1 and 2 in PUB/Centra I-6. That is the  
13          inclusion of Informetrica in the first 2 years of forecasts. In CAC/MSOS/MH II-  
14          161 (Revised) dated October 15, 2010, Table 1 lists those forecasters that are  
15          included in the forecasts for the first two years, and in a separate column, those  
16          who contribute to forecast years 3 and beyond. Informetrica was not included in  
17          contributing forecasters, at that time, for years 1 and 2. The explanation appears  
18          to be Informetrica's publication of annual rather than quarterly forecasts.  
19          Informetrica, like Spatial Economics, apparently reports annually and provides  
20          calendar year data, but unlike Spatial Economics, Informetrica was not excluded  
21          from the fall update. Informetrica's inclusion appears to raise a serious question  
22          of consistency in approach to forecasting near term interest rates.<sup>59</sup> It is my  
23          recommendation that Informetrica be removed from the group of worthy  
24          forecasters for near term interest rates.

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<sup>58</sup> See note 4, page 3 of 6 PUB/Centra II-141(b). In PUB/Centra 2-198 Revised June 1, 2009, in the 2009/10 Centra GRA, Centra indicated that it had included a November 2008 Spatial Economics forecast as an input to the 2009 Economic Outlook. Spatial Economics at that time had the highest forecast for 10 year + interest rates included in the forecast for 2011.

<sup>59</sup> In CAC/MSOS/MH I-138 in the 2010/11 Hydro GRA. Hydro observes that "With respect to the forecast of 90 Day T-bill rates, the following forecasters were excluded in the rates for 2009/10 - 2012/13 ... Informetrica and Spatial Economics were excluded as quarterly forecast information was not available from them."

1 CAC/MSOS/MH II-161 (Revised) dated October 15, 2010, also provides a table  
2 which provides the frequency of forecasts of the various worthy forecasters. One  
3 is weekly, most are monthly, one reports quarterly, and two report annually.  
4 Desjardins, recently added to the group of worthy forecasters, appears to publish  
5 its “Yield Curve”<sup>60</sup> about 7 times a year. With a publication cycle of 7 times a  
6 year, I would view Desjardins as being less accessible than those forecasters that  
7 provide monthly updates. For clarity, I would favor forecasters which update  
8 frequently and publish in a consistent manner over those who update infrequently  
9 and publish less consistent data.

10 Centra indicated that the number of source forecasters was increased in the work  
11 related to the 2012 Economic Outlook. At that time, Desjardins and Laurentian,  
12 were added, from a long list of other forecasters considered, including Deutsche  
13 Bank and Economap Strategic Economic Advisors, J.P. Morgan, Merrill Lynch  
14 and UBS Warburg<sup>61</sup>. Centra did not supply the criteria which lead to the selection  
15 of this list of 7 names for consideration, nor did it identify why the two  
16 forecasters, thought to be most worthy of inclusion, were more worthy than the  
17 others.

18 Centra did indicate in CAC/Centra I-13, that its forecasters include “Canada’s  
19 primary financial institutions in addition to several other independent sources, all  
20 of which are well known and respected.” Without intending any disrespect, I  
21 would not have classified Desjardins and Laurentian as among “Canada’s primary  
22 financial institutions”. If balance sheet strength is a measure of respect, I would  
23 suggest that Deutsche Bank <sup>62</sup>and UBS Warburg might precede Desjardins and  
24 Laurentian in the league tables.

25 Centra did though indicate that it enjoys a “valuable strength of diversity” in its

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<sup>60</sup> [http://www.desjardins.com/en/a\\_propos/etudes\\_economiques/previsions/courbe-rendement/](http://www.desjardins.com/en/a_propos/etudes_economiques/previsions/courbe-rendement/)

<sup>61</sup> PUB/Centra II-141(b)

<sup>62</sup> Recent financial statements indicate Total Equity of 56, 078 million Euros as at March 31, 2013. See [https://www.deutsche-bank.de/ir/en/content/reports\\_2013.htm](https://www.deutsche-bank.de/ir/en/content/reports_2013.htm),  
For comparison Laurentian Bank financial statements indicate \$1,541 million in equity as at October 31,  
2012. See [https://www.laurentianbank.ca/pdf/RA2012\\_AN\\_p75\\_160\\_FinancialStatements.pdf](https://www.laurentianbank.ca/pdf/RA2012_AN_p75_160_FinancialStatements.pdf)

1 portfolio of forecasters. Understanding that providing or bolstering “diversity”  
2 might have been one of the reasons for including Desjardins and Laurentian, I  
3 looked for diversity in the forecasts of T-bill rates presented earlier in a table in  
4 this evidence. Before looking at the forecasts, I had imagined that one or other of  
5 these worthy new members of the pool might have enhanced the diversity of the  
6 group by being higher or lower than the existing sample. They were not.

7 Looking at the “AVG 2014” column in that table of T-bill rates, I saw two groups  
8 of forecasters based on the 2014 data points. The low group, made up of CIBC,  
9 Scotia and TD, average about 1.02% for 2014. Before considering the new  
10 members, the higher group included BMO and Royal with vales around 1.18%.  
11 The new additions, Laurentian and Desjardins, clearly are joining the high group,  
12 although with their addition to the high group they drop the average by a little  
13 over 1 basis point to 1.17%. While the addition of these two new forecasters to  
14 the pool does not seem to increase the breadth of opinion on 2014 T-bill rates,  
15 adding two more members to the high group does increase the average of the 7  
16 forecasters up a couple of basis points over the average of the previous 5  
17 forecasters in my sample.

18 In CAC/Centra 1-13 we had requested any “analysis, undertaken by Hydro or  
19 Centra, considering ... or excluding or including forecasters in the group of  
20 contributors”. In the recently received reply, there is no mention of any such  
21 analysis.<sup>63</sup>

22 In the 2009 Centra GRA, Centra told us that “The Corporation does not review  
23 the relative success of each forecast included in its forecast of T-bill rates by  
24 comparing their historical forecasts with actual market results”.<sup>64</sup> If this same  
25 policy applies to the selection of new worthy forecasters from the pool available,  
26 one must therefore wonder what criteria allowed them to select Desjardins and

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<sup>63</sup> There is, though, a comment on arithmetic adjustments to the effect that Centra saw “little value in performing detailed analysis on any computational variances.”

<sup>64</sup> CAC/MSOS/Centra 2-76f from the Centra 2009/10 GRA.

1 Laurentian Bank to be included in the group of worthy forecasters to the  
2 exclusion of others considered.

3 Centra has also indicated that “The Corporation does not have a view regarding  
4 the optimal number of sources within its pool of independent forecasters.”<sup>65</sup>  
5 Recent actions in adding two names to the pool would seem to suggest that 10  
6 sources was suboptimal and 12 was more optimal.

7 As noted earlier, I am unclear why National, with its less complete manner of  
8 publishing its results, and the data additional estimation challenge that the data  
9 discontinuity creates, is worthy to remain in the pool.

10 **Q.20 Since some of the forecasters update their forecasts monthly are you**  
11 **suggesting that an IFF forecast would only be valid for a month?**

12 A. No. I would not suggest that we create a treadmill of constant updates for Hydro  
13 and Centra.

14 Rate cases have not been annual events. The last Centra GRA was in 2009, so the  
15 regulatory review requirement clearly does not impose an obligation to do  
16 monthly updates. The better view is that the Board should be supplied with  
17 timely information in the hearing process, and, Centra, as the applicant controls  
18 the start date.

19 I have mentioned above my belief in the necessity of the Board having access to  
20 timely information to arrive at just and reasonable rates. Centra, in earlier  
21 proceedings, has asserted that it “monitors and assesses interest rates on an  
22 ongoing basis”.<sup>66</sup> If that is still true, Centra will be well aware that its forecast of  
23 interest rates becomes increasingly unrepresentative with the publication of the  
24 updated forecasts over time.

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<sup>65</sup> PUB/Centra II-141(b) page 3 of 6 footnote #4.

<sup>66</sup> CAC/MSOS/Centra 2-72 e (8 and 9) from the Centra 2009/10 GRA.

1 **Q.21 Were you able to identify any policy changes with respect to Centra's debt?**

2 A. Yes. There appears to be a significant change in Centra's ability to access short  
3 term debt.<sup>67</sup>

4 Previously, Centra had been accessing short term financings at a spread free BA  
5 or T-bill rate reflecting Hydro's ability to finance at very low rates for short  
6 terms.<sup>68</sup> While not immediately obvious, this change appears to increase the  
7 effective short term rate to Centra and perhaps appears to allow Hydro greater  
8 access to the funds at the lowest cost.

9 In the past, Centra had made it a practice to fund a healthy proportion of its total  
10 debt with short term debt. Details of the proportions of short term debt as a  
11 fraction of the total debt can be found in CAC/MSOS/Centra 1-1 (c) in the  
12 2009/10 GRA<sup>69</sup>. In that table, short term debt represented as much as 41.4% of  
13 the total debt<sup>70</sup>, and over the period presented, both actual and forecast, short term  
14 debt averaged a little over 25% of the total debt. Going forward, the proportions  
15 of short term debt as a percentage of total debt are forecast to shrink markedly.

16 The table below shows the amounts of short and long term debt in each of the five  
17 financial years from 2006/07 through 2010/11 as reflected in Schedules 5.7.4

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<sup>67</sup> Centra's individual need for short term capital relates in part to the "seasonal nature of Centra's business and cash flow requirements". See CAC/MSOS/Centra 1-6 page 2 of 4. The balance is highest at the end of the December quarter and lowest at the end of the March quarter.

<sup>68</sup> In the 2009/10 Centra GRA, in Centra's Rebuttal Evidence at page 23 of 24, Centra noted: "With respect to short term financing, Centra reiterates that the intercompany short term financing agreement using one month Bloomberg banker's acceptance rates is fair and has been consistently applied since Manitoba Hydro acquired Centra"

<sup>69</sup> Similar Manitoba Hydro data for the period 2004-2009 was made available in CAC/MSOS/MH I-146(d). These tables were recently updated with the delivery of CAC/Centra I-18. In CAC/MSOS/MH I-146(e), Hydro provides its view that "Short term borrowings are not intended as a financing vehicle to reduce Manitoba Hydro's overall debt servicing costs. Manitoba Hydro uses its short term notes to fund seasonal working capital requirements and to bridge the timing between long term debt issues. The data provided in CAC/Centra I-18 suggests that Hydro rarely uses this facility (at least across a quarter end). Hydro had drawn down short term debt in sufficient amounts to meet Centra's needs in only 7 of 25 quarters beginning June 2005. In most of the remaining quarters Hydro had no or insufficient short term debt to fund Centra's indicated short term debt balance. This state would allow the inference that Hydro prefers to prefund its near term cash requirements with longer term (and likely higher cost) instruments. The late arrival of this reply has restricted our ability to explore this possible policy change.

<sup>70</sup> For 3Q 2008/09 Centra indicated a short term component of \$168,466,000 of \$406,473,000 total debt equaling 41.4%. Long term fixed rate debt was shown as \$238,007,000.



1 through 5.7.8, dated January 20, 2009.<sup>71</sup> The table below indicates that in early  
2 2009, the then expectation was that short term debt would continue to represent  
3 some percentage of the total debt structure in the mid twenty percent range.

Schedule		STD	LTD	Total Debt	STD/Total
5.7.4	2006/07 A	88,058	243,362	331,420	26.6%
5.7.5	2007/08 A	97,321	240,261	337,582	28.8%
5.7.6	2008/09 F	100,333	238,083	338,416	29.6%
5.7.7	2009/10 T	98,330	265,835	364,165	27.0%
5.7.8	2010/11 T	94,869	297,671	392,540	24.2%
	Average	95,782			27.2%

4  
5 Currently, the similar tables found in tab 9, reflect a dramatic change in the role of  
6 short term debt in the debt structure. The proportion of spread free short term  
7 debt is forecast to drop in 2012/13 to less than one tenth of its former average.

Schedule		STD	LTD	Total	STD/Total
9.7.2	2009/10 A	80,145	253,260	333,405	24.0%
9.7.3	2010/11 A	21,600	297,671	319,271	6.8%
9.7.3	2011/12 A	16,696	297,671	314,367	5.3%
9.7.4	2012/13 F	8,494	296,244	304,738	2.8%
9.7.5	2013/14 T	20,340	295,000	315,340	6.5%
	Average				
	2010/11 to				
	2013/14	16,783			5.3%

8  
9 Clearly, a comparison of these tables indicate that there was an expectation of a  
10 need for a higher level of debt capital, reflected in Schedules 5.7.7 and 5.7.8, than  
11 was actually required for those test years.<sup>72</sup>

12 The table above also reflects that as opposed to the original mid-twenty something  
13 percent proportion of spread free short term debt as a component of total debt in

<sup>71</sup> PUB/Centra II-144a Attachment 1 page 25 of 55 provides an amended Schedule 5.7.3 for the 2009/10 test year, reflecting order 128/09 dated February 19, 2010. Page 26 of 55 provides an update for the 2010/11 test year. See also page 13 of 55 and 14 of 55 for similar schedules reflecting Orders 128/09 and 41/10.

<sup>72</sup> For test year 2009/10 there was an expectation of \$364 million in debt in the capital structure, where the actual number appears to be approximately \$333 million and in 2010/11 the expectation in Schedule 5.7.8 was \$392 million while the actual was \$319 million as reflected in Schedule 9.7.3.

1 the capital structure, going forward the forecast is for less than 10% of the debt to  
2 be short term debt.

3 In PUB/Centra II-176, we are told that the “Reduction in the relative weighting of  
4 short term debt shown in the schedule is primarily the result of the cumulative  
5 amounts of capital financing that were converted from short term debt to long  
6 term debt with debt series CG9 (\$30 million on September 1, 2009) and CG14  
7 (\$30 million on March 31, 2010). In addition to those new issues, series CG10,  
8 CG11 and CG12 were undertaken in February 2010 to partially refinance CG5.<sup>73</sup>  
9 Of those issues CG10 is particularly relevant to the discussion of short term debt  
10 as it was undertaken for a principal amount of \$35 million on a floating rate basis  
11 at a coupon based on “3 Month BAs + 0.484%”.

12 **Q.22 Can you quantify the importance of this policy change?**

13 A. Yes.

14 In the 2009/10 Centra GRA, CAC made an issue of the spread between Hydro’s  
15 cost of funds for short term debt and the rate that was to be charged between  
16 Hydro and Centra on that short term debt. In that proceeding, Centra indicated  
17 that it was “allocated interest by MH on the basis of Bloomberg’s one month  
18 banker’s acceptance rate.”<sup>74</sup> In the recently arrived CAC/Centra I-12, Centra  
19 indicates that the current “intercompany charge for Centra’s short term debt is  
20 equivalent to the short term interest rate (defined as the 3 month Canadian T-Bill  
21 rate or C1033M)”. While the “intercompany” transfer rate had changed to the  
22 lower T-bill rate from the generally higher Banker’s Acceptance rate, owing to  
23 the presentation of historical data, I will ignore the spread between T-bills and  
24 BAs<sup>75</sup>.

25 The evidence in the 2009/10 Centra GRA showed that Hydro frequently had a

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<sup>73</sup> See PUB/Centra I-43 for term sheets of the various issues.

<sup>74</sup> Order 128/09 page 56 of 139.

<sup>75</sup> For a period running from February 2010 to May 2013, the one month BA rate, series V39068, averaged 1.03%, while the three month T-bill rate, series V39065, averaged 85 basis points, a difference of 18 basis points.

1 lower cost of funds for short term debt than the one month banker's acceptance  
2 rate which Hydro was charging Centra.<sup>76 77</sup> The table on page 57 of 139 of Order  
3 128/09 shows that for certain periods Hydro's cost of funding for short term debt  
4 was below the Bloomberg average 1 month BA rate.<sup>78</sup> In two of the quarters  
5 presented, Hydro was financing at 80 basis points below the 1 month BA rate. In  
6 one of the quarters presented, Hydro enjoyed a 99 basis point advantage over the  
7 1 month BA rate. The profit on the disparity of cost and funding rates is  
8 significant when one notes that Centra had between \$165 million and \$168  
9 million at period end in the relevant quarters.<sup>79</sup>

10 "Centra noted that MH may, periodically, be able to secure short-term financing  
11 at a lower rate than the one month banker's acceptance rate."<sup>80</sup> Somewhat  
12 paradoxically, in light of the spreads being charged "Centra stated MH has no  
13 intention to profit from its financing agreement with Centra".<sup>81</sup> However  
14 unintentional the short term financing profit was, the Board accepted the CAC  
15 position that there should be no spread earned by Hydro on short term debt  
16 required by Centra, and went as far as to order a quarterly "true-up".<sup>82</sup>

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<sup>76</sup> Order 128/09 at pages 126 and 127 of 139. "Mr. McCormick noted that the quarterly variance in funding rates available to MH were substantially different to the one month BA rate charged to Centra which has recently ranged from a 53 basis point difference in the September 2007 quarter to 99 basis points in the December 2008 quarter. Mr. McCormick indicated that Centra was paying a premium for short term debt that is readily available. Mr. McCormick indicated that Centra should be entitled to short term rates that are available on a pass through basis, or close to the associated cost of financing."

<sup>77</sup> Additional Manitoba Hydro data for the period March 2004 to December 2009 can be found in CAC/MSOS/MH I-146 (e) from the 2010 Hydro GRA.

<sup>78</sup> The data in the table was sourced from CAC/MSOS/Centra 1-9 (d) from the Centra 2009/10 GRA and the original table covered the period March 31, 2004 through December 31, 2009.

<sup>79</sup> The 2Q 2008/09 short term debt is identified as \$165,691,000, and the 3Q 2008/09 short term debt balance is identified as \$168,466,000. Assuming an average balance of approximately \$167 million, and a spread of 99 basis points, the quarterly profit to Hydro would have been approximately \$413,000.

<sup>80</sup> Order 128/09 page 56 of 139. The data in the table in CAC/MSOS/Centra 1-9 (d), shows 2 periods in which Hydro's short term funding cost was equal to or greater than the average 1 month BA rate. The excess in those 2 periods averaged 5 basis points. In 13 other periods, the Hydro cost of funding was lower than the average 1 month BA rate. In those 13 periods, the average profit to Hydro was 37 basis points, and in five of those 13 periods, the average spread to Hydro was in excess of 50 basis points.

<sup>81</sup> Order 128/09 page 58 of 139.

<sup>82</sup> Order 128/09 at page 63 of 139. "The Board understands the administrative simplicity of charging the one-month Bloomberg banker's acceptance rate, however the Board believes that any short-term debt advances should be provided on a cost recovery basis."

1 Order 128/09 was issued September 16, 2009. While Centra had prior thereto  
2 enjoyed access to short term financings at rates approximating 1 month BAs, on  
3 February 22, 2010, Centra entered into CG10, a \$35 million financing at a rate  
4 based on 3 month BAs, and a spread of 48.4 basis points. Ignoring any spread  
5 between 1 month and 3 month BAs<sup>83 84</sup>, the 48.4 basis point spread incorporates a  
6 \$169,000 annual additional interest cost over the short term rate with “true-up”  
7 which Centra had enjoyed before.

8 Manitoba Hydro’s access to short term debt appears unchanged at \$500 million.  
9 The Board, in Order 128/09 also commented on the integration of the financing  
10 function and noted “that Centra’s needs should “trump” consolidated  
11 perspectives”<sup>85</sup>. I do not understand how imposing a spread of at least 48.4 basis  
12 points<sup>86</sup> on Centra through the CG10 issue, where no spread was payable before,  
13 serves Centra’s needs.

14 The process of pushing the lowest cost funding out of Centra’s capital structure is  
15 forecast to continue. Tab 9 at page 60 of 63 indicates a \$15 million principal  
16 amount of floating rate debt would be issued in March 2014. That issue is  
17 forecast to have an interest rate of 3 month BAs plus a spread of 45 basis points.  
18 Ignoring any spread between 1 month and 3 month BAs<sup>87</sup>, the 45 basis point

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For administrative purposes, the Board accepts that it will remain appropriate for MH to charge Centra the one month banker’s acceptance rate, as it is a readily available number. However, the Board will expect a true-up and adjustment on a quarterly basis to ensure there has been no over or under-recovery of short-term finance costs charged to Centra.” See also Order 128/09 at page 137 of 139.

<sup>83</sup> For the period February 22, 2010 through May 23 2013, the spread between the average daily 1 month BA rate, Bank of Canada series V39068, and the average daily 3 month BA rate, series V39071, was 8 basis points. Adding the 8 basis points to the 48.4 basis point spread would increase the additional interest amount to \$197,400 per year.

<sup>84</sup> Mr. McCormick acknowledges that Centra uses Bloomberg data for actual or forecasting purposes, rather than Bank of Canada data. Each of those sources use different sources of market pricing information which can give rise to variances. See CAC/MSOS/Centra 2-75, May 1, 2009 page 3 of 5 for a discussion of the Bank of Canada and Bloomberg different methodologies in collecting data.

<sup>85</sup> Order No. 128/09, September 16, 2009 page 63 of 139.

<sup>86</sup> The response to CAC/Centra I-14 (p) and note 5 in CAC/Centra I-19, seems to suggest that the 48.4 basis point spread is a manufactured rate calculated to create an economic equivalence in a swap transaction, rather than a rate reflecting the new issue market at the date of the transaction.

<sup>87</sup> Including the 8 basis point average spread between one and three month BAs would increase the cost to \$79,500 per annum.

1 spread on this \$15 million incorporates a \$67,500 annual additional interest cost  
2 over the short term rate with “true-up” that Centra had enjoyed before. The total  
3 additional interest cost due to spread of the CG10 issue and the forecast \$15  
4 million issue is \$236,500.<sup>88</sup>

5 **Q.23 Did the recent arrival of the reply to CAC/Centra I-18 assist your**  
6 **understanding of this change in Centra’s access to short term debt?**

7 A. Yes. The consolidated tables attached to the recently delivered reply were quite  
8 interesting.

9 The tables indicate that in the 17 quarters from March 2009 to and including  
10 March 2013, Hydro has had a quarter end short term debt balance for seven of  
11 those quarters. Centra had, often substantial, quarter end short term debt balances  
12 in each of the 17 quarters. In all but 3 of those quarters, the quarter end Centra  
13 balance exceeded the consolidated or Hydro balance. This appears to suggest that  
14 Hydro is prefunding its short term financing requirements. The relative balances  
15 may also explain why the size of the true up amounts have become negligible.

16 Centra indicated “When Centra's short term debt balances exceeds Manitoba  
17 Hydro's short term debt balances, the weighted average index rate is utilized to  
18 calculate the adjusted interest cost.”<sup>89</sup>

19 **Q.24 Is there anything inherently wrong with a spread on the recent floating rate**  
20 **debt series?**

21 A. No. Floating rate debt issues are commonly done with some credit spread. By  
22 way of example, in January 2011, Manitoba undertook a floating rate issue to  
23 mature April 19, 2016 with an interest rate based on CDOR plus 20 basis points.  
24 When I last looked at the issue, Bloomberg indicated that there was \$480 million

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<sup>88</sup>  $\$67,500 + \$167,000 = \$236,500$ . Including the 8 basis point average spread between one and three month BAs would increase the cost to \$276,900 per annum.  $\$79,500 + \$197,400 = \$276,900$

<sup>89</sup> Page 7 of 7 CAC/Centra I-18.

1 outstanding<sup>90</sup>. Manitoba also undertook a floating rate issue in May 2011 to  
2 mature on September 15, 2016 with an interest rate based on CDOR plus 15 basis  
3 points. When I last looked at the details of that issue there was \$350 million  
4 outstanding.

5 Regrettably, most of the information related to debt and interest rate issues in  
6 response to the first group of interrogatories only arrived on in the afternoon of  
7 May 24, 2013, so there has been limited time to analyze it. As such, I have been  
8 unable to collect data on the spread for the Canadian dollar floating rate issue  
9 undertaken by Manitoba in February 2010, or the 5 year floating rate issue  
10 announced in April 2010. So at this time, I am unable to comment on the  
11 reasonableness of the 48.4 basis point spread in the context of the spring 2010  
12 new issue floating rate market. From the recently received description contained  
13 in note 5 of CAC/Centra, I-19, the 48.4 basis point spread was mathematically  
14 derived based on the assumptions therein set out to achieve a theoretical point of  
15 indifference related to the interest cost of debt series described therein.

16 **Q.25 Can you comment on the timing of this policy change?**

17 A. Yes.

18 The forecast debt levels in the 2009/10 Centra GRA had premised on continuing  
19 access to large amounts of short term spread free debt. Centra was also  
20 forecasting exclusively fixed rate long term debt. The interesting timing aspect, is  
21 that after the Board removed the interest rate advantage that Hydro was earning,  
22 Centra<sup>91</sup> altered its intention to do a fixed rate financing and undertook a floating  
23 rate financing.

24 Assuming that Centra has some limits for the proportion of floating rate debt in its  
25 capital structure, this recent \$35 million dollar financing, and the forthcoming \$15

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<sup>90</sup> Page 51 of the Manitoba Form 18-K indicates an April 19, 2016 maturity for series C121, which was identified as having \$430 million outstanding. See <http://www.gov.mb.ca/finance/pdf/mb18k2012.pdf>

<sup>91</sup> "Centra has no employees" Tab 5, page 28 of 30, lines 11-12. See Order No. 128/09 September 16, 2009, page 63 of 139. "With respect to advances from MH to Centra, the Board believes that MH should act in Centra's individual best interest when it comes to Centra's borrowing decisions, and that Centra's needs should "trump" consolidated perspectives." [Emphasis added]

1 million floating rate financing will consume room that was formerly available to  
2 be funded, without spread, through short term debt.

3 **Q.26 Did the arrival of the reply to CAC/Centra I-19 on Friday May 24, assist**  
4 **your understanding of this change in Centra's access to short term debt?**

5 A. Yes. In some respects it was quite helpful, in other respects raises questions that  
6 could have been posed in the second series had CAC/Centra I-19 arrived on a  
7 timely basis.

8 Firstly, the passage quoted from CAC/MSOS/MH I-175 (a), on page 5 of 10 of  
9 CAC/Centra I-19, notes that the use of short term is an “inappropriate” method of  
10 funding certain capital requirements. While that may be a plausible explanation  
11 for the policy change, it seems to represent an admission of “inappropriate”  
12 financing behavior in at least the 2006/07 and 2007/08 financial years<sup>92</sup>, and clear  
13 intention during the 2009/10 Centra GRA to continue that “inappropriate”  
14 financing behavior in the forecast years, 2009/10 and 2010/11, as indicated by the  
15 balances shown in CAC/MSOS/Centra 1-1 (c).

16 On page 6 of 10 of CAC/Centra I-19, Centra provides, in the form of a chart, the  
17 actual values of Total Debt for 2009/10 and 2010/11, years that were the subject  
18 of forecasts in the 2009/10 Centra GRA. The actual pinnacle value was slightly  
19 over \$350 million of total debt during 2009/10 and 2010/11. The forecast  
20 pinnacle value, during the 2009 Centra GRA, was over \$455 million, perhaps  
21 supporting my observation that some portion of the variance between forecast  
22 interest cost and actual interest cost may have arisen due to factors other than  
23 financial markets.

24 Finally, footnote 6 on page 10 of 10 of CAC/Centra I-19, provides what I believe  
25 may be a new policy related to debt concentration. “The debt management  
26 strategy guidance for the concentration of refinancing risk is to have less than

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<sup>92</sup> At page 6 of 10, Centra notes the high gas prices in 2005-06 and 2008/09, and observes that gas prices had fallen in the intervening years.

1 15% of the long term debt portfolio maturing within a fiscal year.” We were most  
2 interested to see this policy as in previous years and hearings when we have  
3 inquired as to policies, objectives and guidelines, the responses tended to be  
4 restricted to interest coverage, debt equity ratios, and under questioning fixed and  
5 floating interest rate ratios. While we had frequently asked about policies  
6 concerning debt, we cannot recall such a guideline ever being mentioned. What is  
7 unclear, among other things, is when this new policy was developed, and whether  
8 it applies to Centra or only the consolidated entity since Hydro views its financing  
9 arrangements as integrated.

10 Should this new policy on debt concentration apply to Centra, it is not surprising  
11 that it did not come to our attention in the 2009/10 Centra GRA, in which we  
12 raised the issue of debt concentration in our evidence in pages 15 through 17. The  
13 problem of concentration which we identified in 2009 could not be made to  
14 conform with this policy until 2012 owing to the concentration of debt due to the  
15 large balances in Series CG 1<sup>93</sup>, CG 3<sup>94</sup> and CG 5<sup>95</sup>. Those 3 debt series  
16 represented 73.4% of Centra’s March 2004 debt and collectively represented  
17 73.4% of Centra’s debt, with approximately 37% of the debt maturing in one year.

18 In CAC/Centra I-19 we were advised:

19 “Since the acquisition of Centra in 1999, Centra’s debt portfolio has been in  
20 transition as the principles of Manitoba Hydro’s Debt Management Strategy  
21 (including those to manage the interest rate risk with the debt portfolio arising  
22 from the use of short term debt and floating rate long term debt) have been  
23 applied to manage its debt.”<sup>96</sup>

24 1999 to 2010<sup>97</sup> or 2013<sup>98</sup>, seems a very long transition period.

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<sup>93</sup> This series represented approximately 25% of Centra’s 2004 debt.

<sup>94</sup> This series represented approximately 19% of Centra’s 2004 debt

<sup>95</sup> This series represented approximately 30% of Centra’s 2004 debt, and with another series maturing within a month, collectively placed approximately 37% of the debt in one year.

<sup>96</sup> The same sentence appears on page 6 of 11 of CAC/Centra I-14

<sup>97</sup> The year in which the percentage of Centra’s debt maturing in any one year first dropped below 36%



1 In CAC/Centra I-14, Centra identifies debt series CG1 through CG4 as legacy  
2 issues. The February 2000, CG5<sup>99</sup> issue of \$75 million of 10 year fixed rate debt,  
3 seemed designed to frustrate any balance or diversification of maturity dates,  
4 since when its principal amount is added to that of the \$18 million series CG 4  
5 issue, also due in 2010, they collectively represented almost 37% of Centra's then  
6 debt maturing in one year. Either the new 15% maturity policy did not exist in  
7 2000, or those allocating the financing to Centra did not see the issue or financial  
8 risk of concentration of debt maturities on a Centra level.

9 As interesting as it is to learn of new policies in the IR process during a GRA, we  
10 would encourage the Board to require Centra in this GRA and Hydro in future  
11 GRAs, to clearly enumerate the policies which then apply to them, and, alert the  
12 Board to policy changes that have been implemented during the period since the  
13 last GRA.

14 **Q.27 Do you accept the proposition that it is “conceptually flawed to represent**  
15 **floating rate debt as having less cost to the consumer than fixed rate debt”<sup>100</sup>?**

16 A. No. I disagree with that proposition.

17 In fact, I am rather surprised that Centra would take that position in this hearing,  
18 since, in the 2009/10 Centra GRA, in CAC/MSOS/Centra 2-72 (e)(7), Centra  
19 observed that “Centra’s customers have received the benefit of a lower cost of  
20 financing on the accumulated portion of STD”.<sup>101</sup> In Coalition/MH I-85 in the  
21 Hydro 2008/09 GRA, Hydro noted the purpose of its target guidelines for floating  
22 rate debt were in place “to ensure that the Corporation provides rate payers with  
23 the economic benefits provided by floating rate debt (short-term interest rates are  
24 lower than long-term interest rates in a typical upward sloping yield).” Each of  
25 those earlier statements seem to directly challenge that proposition.

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<sup>98</sup> The year in which the percentage of Centra’s debt maturing in any one year first dropped below 15%

<sup>99</sup> The term sheet for this issue was filed in PUB/Centra 49 (b) in the 2009/10 GRA.

<sup>100</sup> See footnote 3 of CAC/Centra I-12.

<sup>101</sup> I was unable to find any suggestion in the 2009/10 GRA that Centra then considered that its use of STD was in any way “inappropriate”.

1 When markets are exhibiting a typical upward sloping or normal yield curve,  
2 which is the “normal” or most common condition, short term rates are lower than  
3 long term rates.

4 I do acknowledge that markets change and it is possible that over time short term  
5 rates in the future market could exceed a long term fixed rate entered into at some  
6 earlier day. It is also possible that by going long too soon, a long term rate that  
7 looked attractive at one time<sup>102</sup> is less attractive in the context of a later market.  
8 The use of short term debt as part of a portfolio allows a borrower to gain a  
9 financial advantage or economic benefit, being the lower costs of funds, and those  
10 short term issues can be used to allow an issuer to defer a long term issue to a  
11 period in which it may anticipate more attractive market conditions.

12 In CAC/MSOS/MH I-150, Hydro provided a very clear chart showing the gross  
13 interest cost in percentage terms for 5 data series, covering both US and  
14 Canadian, fixed and floating rate debt, on an actual and then forecast basis  
15 covering 2003/04 through 2011/12. It should be no surprise that throughout that  
16 period the US and Canadian floating rate and short term interest rate series both  
17 are materially below the comparable series for fixed rate debt.

18 **Q.28 Do you accept the proposition that “At the date of debt origination, the**  
19 **Corporation is economically indifferent between either fixed or floating rate**  
20 **debt for the same term to maturity?”<sup>103</sup>**

21 A. As Centra has, until recently, demonstrated a propensity to do fixed rate debt long  
22 term debt to the exclusion of floating rate debt, the question of economic

---

<sup>102</sup> For an example, compare the coupon and other terms of the 2030 and 2037 maturities undertaken in 2010 with the coupon and other terms of the 2033 and 2042 maturities undertaken in 2012, detail of which are found in PUB/Centra I-43.

Series 11, February 2010, 4.726% maturing February 2030.

Series 12, February 2010, 4.638% maturing August 2037.

Series 16, September 2012, 3.281% maturing September 2033.

Series 17, September 2012, 3.413% maturing September 2042.

In its Rebuttal Evidence in the 2009/10 Centra GRA, May 29, 2009, Centra noted “There are significant downside risks associated with not locking in long term rates if they are at historic lows.” I would observe that there can be risks or future costs of locking in long term rates too soon.

<sup>103</sup> See note 3 paragraph 3, of CAC/Centra I-12.

1 indifference would appear to have been made subservient or secondary to other  
2 factors.

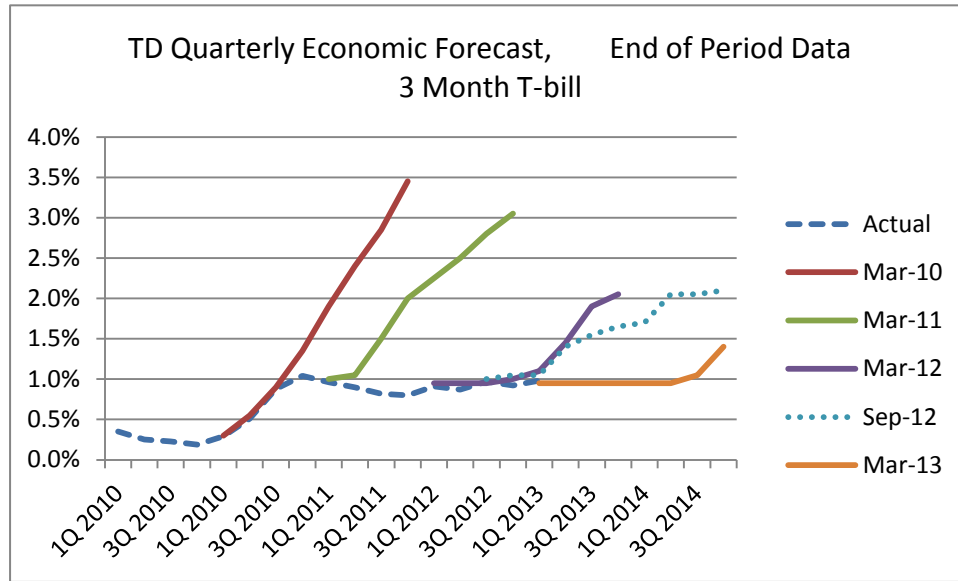
3 Centra explains this calculated indifference point with an example that focuses on  
4 its interest rate forecast as the driver. Centra observes “For example, for the  
5 forecasted long term debt issuance in March 2014, while floating rate long term  
6 debt interest rates are projected to be less than the fixed rates in the early years of  
7 the debt stream, at the back end of the debt stream, the interest payments on the  
8 floating rate long term debt are projected to exceed those of the fixed rate long  
9 term debt”<sup>104</sup>. With this example we can see that the state of indifference exists as  
10 a result of the interest rate forecasts for “the early years” and “the back end of the  
11 debt stream”.

12 At an earlier point of this document I have provided two charts showing various  
13 Desjardins and TD forecasts for long term rates from as various successive dates  
14 between January 2008 and March 2013. All of the forecasts charted were upward  
15 sloping in that there were lower rates in the earlier periods and higher rates in the  
16 “back end”.

17 As the discussion of indifference relates to short term rates, I thought it helpful to  
18 provide a chart showing the TD forecast of T-bill rates for several recent periods.

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<sup>104</sup> CAC/Centra I-12 footnote 3, paragraph 3. As there does not appear to be a maturity date indicated in the documentation filed, the length of the period described as the “back end of the debt stream” is uncertain. The long term portion is forecast to have a 20 year term, and if the floating portion is swapped, it may have a similar term.



1

2 The TD forecasts of March 2010 and March 2011 each prognosticate significant  
3 increases in T-bill rates over their 2 year span, and, in each instance in the  
4 ultimate quarterly data point forecast were 245 basis points or 213 basis points  
5 higher than the actual interest rate that prevailed 2 years later. The more recent  
6 forecasts are more moderate in their expectation of the degree of the prospective  
7 increase in rates and the immeidacy with which the increase may commence.  
8 While the right shape of forecast curve from one of the many forecasters, may  
9 allow the calculation of an indifference point, the weak link in the exercise is that  
10 forecasters are less than perfect in their prognostications of interest rates,  
11 particularly as it relates to the “back end of the debt stream”. Owing to my views  
12 of the accuracy of interest rate forecasts, I am unwilling to place any great weight  
13 on the concept of calculated indifference.

14 **Q.29 Were there other matters related to the forecast interest rates which you**  
15 **wished to comment on?**

16 A. Yes. As one of the components of the forecast total interest cost, Centra seeks to  
17 include in its forecast revenue requirement, the forecast 10 year + rate and a  
18 forecast credit spread. To better understand the forecast credit spread, in

1 CAC/Centra I-12 (h) we sought details on the credit spreads of the issues for  
2 which term sheets had been requested in PUB/Centra I-43.

3 In its reply to CAC/Centra I-12 (h) Centra did not provide the requested  
4 comparison on the Centra interest rate to the relevant Canada bond of proximate  
5 term. This request was similar to the information requested and supplied in  
6 CAC/MSOS/Centra 1-4 (c) and (d), and included spreads depending on the issue,  
7 70.5 basis points in one example. While some of the Centra debt series, CG 8 for  
8 example, seem clearly linked to particular Manitoba financing in date, term,  
9 coupon and yield, others are less clearly linked<sup>105</sup>. Regretfully, the delay in  
10 receiving an answer to this first series question has prevented follow up questions  
11 in the second series.

12 I was also interested in Centra's views and policies as to the appropriate levels of  
13 short term and floating rate debt in the Centra capital structure and in Centra's  
14 forecast of new debt to be issued within the GRA process. While Hydro at one  
15 time had a policy of forecasting all of its new long term debt as fixed rate debt<sup>106</sup>,  
16 it amended that policy to reflect that a portion of its debt issues were undertaken  
17 on a floating rate basis. Centra's current capital structure includes a \$35 million  
18 principal amount of floating rate debt, Series CG10<sup>107</sup>. Tab 9 at page 60 of 63  
19 indicates a \$15 million principal amount of floating rate debt would be issued in  
20 March 2014. To better understand the Centra's policies on floating rate debt and  
21 its views on prudent levels of interest rate stability, in CAC/Centra I-14 (i and p)  
22 and CAC/Centra I-17 and 19, sought more information on these topics.

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<sup>105</sup> The CG9 "September" issue with a coupon of 5.1745%, is described as having its "coupon rate assigned" based on a June debt series, FK-2. The Manitoba 18-K at page 51 refers to series FK as having a 4.65% coupon. Series CG10, a floating rate issue maturing in 2015 is described, in PUB/Centra I-43, as having its interest rate "assigned" based on "Series FM-4". The Manitoba 18-K at page 51 refers to series FM as maturing in 2014 with a 3.05% coupon. Series CG11, maturing in 2030 is described, in PUB/Centra I-43, as having its interest rate "assigned" based on "Series FN". The Manitoba 18-K at page 51 refers to series FN as maturing in 2050. Series CG12, maturing in 2037 is described, in PUB/Centra I-43, as having its interest rate "assigned" based on "Series C109". The Manitoba 18-K at page 52 refers to series C109 as maturing in 2063.

<sup>106</sup> See CAC/MSOS/ MH I-143 (a) "For the purposes of the forecast, all new long term debt is assumed to be Canadian dollar 30 year fixed rate financing".

<sup>107</sup> See PUB/Centra I-43 for the term sheet for this issue.

1           Regrettably, we received incomplete replies to several of these questions and the  
2           delay of receiving an answer to this first series question has prevented follow up  
3           questions in the second series.<sup>108</sup> .

4           While in this current GRA, Centra has forecast more than 20% of new debt on the  
5           basis of a floating rate instruments, its policy for future years has, as yet, not been  
6           clarified.

7           **Q.30 Do you also have concerns with the forecast floating rate for the new long**  
8           **term floating rate debt issue forecast for March 2014?**

9           A. Yes. I have two concerns with the forecast rates for near term issues in this  
10          circumstance. The first is that while we may have a precise date for the issue, we  
11          use a blunt instrument in the form of the average interest rate forecast for the  
12          fiscal year as the base rate. As we are forecasting an action to take place in a  
13          relatively narrow time period, the use of a quarterly forecast as opposed to an  
14          annual forecast would appear to increase the precision of the forecast<sup>109</sup>. As I  
15          addressed the concern with calculating a precise rate for the relevant quarter and  
16          then averaging it with 3 other quarters at some length in my 2009 evidence, I will  
17          not repeat that discussion here.

18          My second concern is that the base rate has been forecast using superseded data.  
19          The forecast for the floating rate issue of uncertain term to be done at a spread of  
20          45 basis points intended for March 2014 also suffered from the same use of  
21          superseded or materially changed data points discussed above.

22          Assuming that Centra is correct in its timing and that these issues will be done  
23          close to the month end, if we look at the changes in the T-bill forecasts as

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<sup>108</sup> By way of example, being aware that Manitoba has issued floating rate instruments with terms of 5 and 15 years, including series C123 and D166, we requested the spreads applicable to a series of alternative terms for floating rate instruments, in CAC/Centra I-14 (p) but received partial data.

<sup>109</sup> Using the data in Table 1 of PUB/Centra II -141 to provide an example, the average forecast value for fiscal 2014/15 is 2.10%. The forecast value for the first quarter of 2014, in which the issue is expected is 1.66%, resulting in a difference of approximately 45 basis points. Using the same sample of 7 publically available forecasters presented in an earlier table, their current average T-bill forecast for 1Q 2014 is 1% and the average for calendar year 2014 is approximately 1.1%.

1 indicative of the change in the reference rate for the floating rate issue, CIBC in  
2 September 2012 had forecast a March 31, 2014 end period T-bill rate of 1.45%.  
3 The May 8, 2013 CIBC forecast is for a 0.95% T-bill rate. Desjardins in fall 2012  
4 had forecast an end period T-bill rate of 1.55%. The current April 25 2013  
5 forecast is for a 1.00% T-bill rate. Directionally, these two forecasters would  
6 suggest a reduction in forecast base rate of approximately 50 basis points<sup>110</sup>.

7 To appropriately compensate Centra for the anticipated financings in March 2014,  
8 I would recommend that the Board incorporate the current forecast of financing  
9 costs into the revenue requirement for both the floating and fixed rate<sup>111</sup> March  
10 2014 forecast issues, rather than the forecast costs identified in the application  
11 based on fall 2012 forecasts.

12 **Q.31 Are you aware of the Board’s comments in Order 128/09 with respect to**  
13 **“Centra’s individual best interest”?**

14 A. Yes. I agree with the view expressed by the Board.

15 “With respect to advances from MH to Centra, the Board believes that MH should  
16 act in Centra’s individual best interest when it comes to Centra’s borrowing  
17 decisions, and that Centra’s needs should “trump” consolidated perspectives.”<sup>112</sup>

18 I have already commented on the apparent end to Centra’s free access to spread  
19 free short term debt. There are at least two areas where there appears to have  
20 been some inattention to Centra’s individual best interest in past years. One of  
21 these areas related to the weighted average term to maturity of debt and the other  
22 relates to the allocation between fixed and floating rate debt.

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<sup>110</sup> Additional data points on the change in other forecasters March 31 T bill values between September and May are found in a table comparing the forecasts earlier in this document.

<sup>111</sup> Using the data in Table 2 of PUB/Centra II -141 to provide an example, the average forecast value for fiscal 2014/15 is 3.20%. The forecast value for the first quarter of 2014, in which the issue is expected is 2.86%, resulting in a difference of approximately 35 basis points. Using the same sample of 7 publically available forecasters presented in an earlier table related to T-bill forecasts, their current average 10 Year + forecast for 1Q 2014 is 2.55% and the average for calendar year 2014 is approximately 2.83%.

<sup>112</sup> Order No. 128/09 September 16, 2009, page 63 of 139. “With respect to advances from MH to Centra, the Board believes that MH should act in Centra’s individual best interest when it comes to Centra’s borrowing decisions, and that Centra’s needs should “trump” consolidated perspectives.”

1 **Q.32 What is the weighted average term to maturity of debt?**

2 A. The weighted average term to maturity of debt is a calculation in which one  
3 multiplies the principal amount of debt issues by their remaining life in years and  
4 divides the calculated value by the total principal amount. It is one of a number  
5 of ways that the characteristics of a debt portfolio could be described.

6 It is often suggested that it is an appropriate corporate financing practice to fund  
7 long life assets with long-term debt<sup>113</sup>. Regrettably, there are a number of other  
8 factors at work, that make it impossible to precisely match the maturity of  
9 financing with the declining life and value of assets. For example, assets  
10 depreciate at different rates, while many issues are “bullet” issues in which the  
11 full principal is repaid at maturity. Issuers’ choices are effected both by current  
12 market conditions and appetites<sup>114</sup> and their expectations of future market  
13 conditions.

14 Both Hydro and Centra have long life assets. The financial statements of Hydro  
15 indicate that the range of service lives for some of its asset categories extend to  
16 terms of 65, 75, 85 and 125 years<sup>115</sup>. The Centra financial statements<sup>116</sup> also  
17 indicate service lives extend to terms of 45 and 65 years. Neither financial  
18 statement provides an average of the remaining lives of its various assets. The  
19 longer service lives of Hydro assets, and the fact that Hydro has been heavily  
20 investing in new facilities suggest that it would be appropriate for Hydro to have a  
21 longer weighted average term to maturity in its debt portfolio relative to Centra.

22 Financing long service life assets utilizing short or medium term financing may  
23 expose ratepayers to the risk of incurring higher interest rates upon refinancing.

24 The near term benefit is that short or medium term financing, in a normal yield

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<sup>113</sup> See Order No. 128/09 September 16, 2009, “Centra further stated it was an appropriate corporate financing practice to fund long term assets with long-term debt, noting that Centra’s capital assets portfolio has service lives exceeding 30 years and that utilizing short or medium term financing exposes ratepayers to the risk of incurring higher interest rates upon refinancing.”

<sup>114</sup> Hydro discussed some of this factors and its then expectations of short term rates which were “projected to rise faster than the long term interest rates” in CAC/MSOS/MH I-148 (b) from an earlier proceeding.

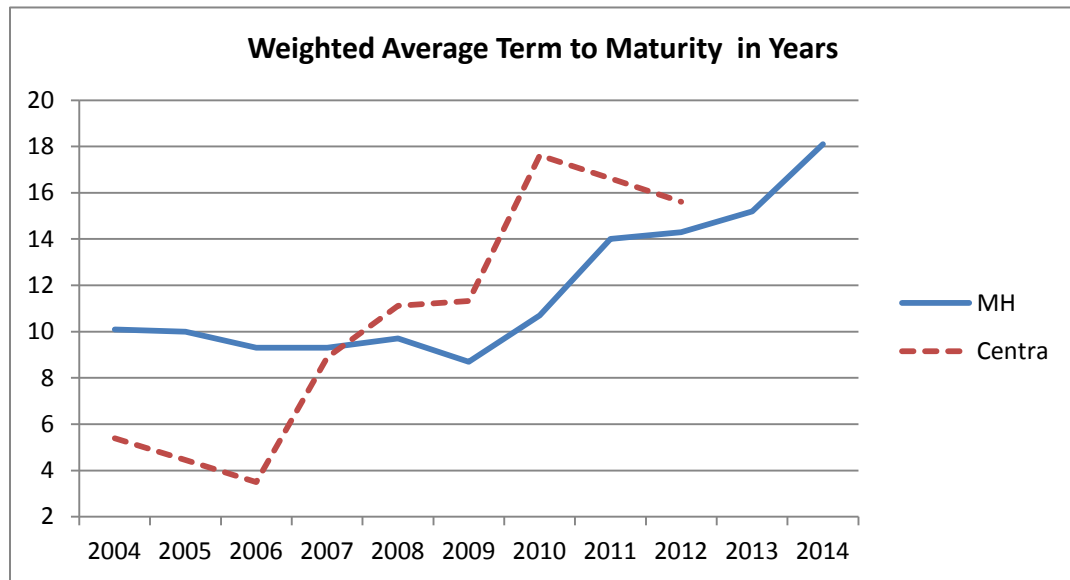
<sup>115</sup> See page 63 of the 61<sup>st</sup> Annual Report

<sup>116</sup> See page 8 of 22, of appendix 5.4.



1 curve environment, saves today's generation of consumers and ratepayers cash.  
2 The current benefit of short or medium term financing, assuming a normal yield  
3 curve, is certain. The future costs, if any, are uncertain. I would observe that  
4 terming out an obligation only changes the time at which the issuer faces the  
5 refinancing risk, it does not eliminate it.

6 The chart below presents actual and then forecast data points found in  
7 CAC/MSOS/MH II-148 (b) and CAC/MSOS/Centra I-5 (a) in prior proceedings.



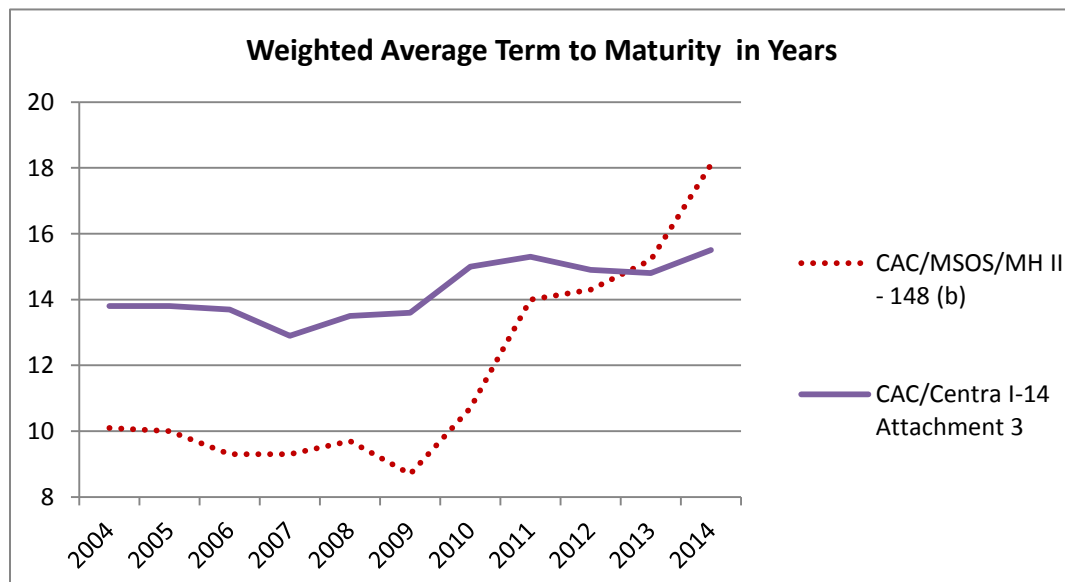
8  
9 This chart indicates that a dramatic change in Centra's weighted average term to  
10 maturity from a low of 3.49 years at March 31, 2006 to a forecasts level of over  
11 15 years for March 2012. Based on the information concerning series 7 through  
12 17 found in PUB/Centra I-43 (b), I would estimate a current weighted average life  
13 for those series of Centra's debt at just over 19 years.<sup>117</sup> With Centra, having now  
14 achieved what may be an unprecedented level of weighted average term to  
15 maturity and commensurate deferral of refinancing risk, one might wonder

<sup>117</sup> As I am uncertain of the methodology used to develop the values in the table above, I have not attempted to include the March 31 short term debt in this estimate.

1 whether it is now appropriate to investigate the lower current yield on available  
2 medium term debt.<sup>118</sup>

3 To better understand the changing levels of refinancing risk, access to lower cost  
4 financing alternatives and related Centra specific policies, CAC/Centra I-14  
5 sought details on these topic. As Centra's reply many of the CAC/Centra  
6 questions was not available until May 24, it was difficult to comment in the  
7 absence of the requested data, but with the recently available response some  
8 questions arise. It would have been helpful to address these questions in the  
9 second series of interrogatories.

10 The table below compares the weighted average term to maturity data for Hydro  
11 as presented in CAC/MSOS/MH II-148 (b) and CAC/Centra I-14, Attachment 3  
12 from this proceeding.



13  
14 Clearly, the difference in the values suggests a difference in calculation  
15 methodology which remains unexplained. It is unclear whether either of the  
16 series are Hydro specific or consolidated, but owing to the relative size of  
17 Centra's debt, that difference would not account for the 3.7 year difference  
18 between 10.1 year value and 13.8 year value in 2004. The chart above would also

<sup>118</sup> Order No. 128/09 September 16, 2009, page 56 of 139 "Centra acknowledged that the current yield on medium term debt is less expensive than long-term debt, however one must also consider refinancing risk."

1 suggest that during this period of significant investment, Hydro has not been as  
2 aggressive in increasing the term of its debt as was anticipated in an earlier  
3 hearing, and perhaps thereby benefiting from the lower rates available in the  
4 prevailing normal yield curve.

5 Chart 6, in CAC/Centra I-14, appears to establish that this is new revisionist data  
6 line, is consolidated data. That being the case, we would observe that the  
7 comparison of consolidated data with Centra data in that chart would operate to  
8 slightly reduce the apparent variance in each year as Centra data is included in the  
9 consolidated average.

10 **Q.33 Would you explain your interest in discussing Centra policies relating to**  
11 **short-term debt?**

12 A. The short answer to explain my interest in Centra's policies relating to short term  
13 debt is that much seems to have changed in since the last GRA.

14 At the time of the last Centra GRA, Centra did forecast healthy short term debt  
15 balances on a quarterly basis through to 4Q 2010/11, representing on average  
16 about 25.5% of total debt. Centra also indicated that it had "no floating rate long  
17 term debt outstanding during periods from 2004/05 to 2010/11."<sup>119</sup> Centra has  
18 since done one floating rate issue in February 2010<sup>120</sup> and is indicating another for  
19 March 2014<sup>121</sup>. As Centra provided that answer in March of 2009, clearly the  
20 comment with respect to 2010/11 must be considered prospective. I would also  
21 point out that forecasting a long term fixed rate debt instrument and issuing a  
22 shorter term floating rate instrument may be a factor in explaining the upward  
23 bias in Centra's forecasting of interest costs as measured in PUB/Centra I-42 (b)

24 At the time Centra commented disavowing "floating rate long term debt" to  
25 2010/11, Hydro had a policy to forecast its interest rate costs on 100% of its new  
26 debt at its various long term fixed forecast interest rate. Subsequently, Hydro

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<sup>119</sup> See CAC/MSOS/Centra I-1 (e) dated March 31, 2009 from the Centra 2009/10 GRA.

<sup>120</sup> See PUB/Centra I-43 for information about series 10.

<sup>121</sup> See Tab 9 page 59 and 60 of 63.

1 altered that forecast policy to reflect that at a minimum 20% of its new debt  
2 would be assumed to be financed using floating rate instruments<sup>122</sup>.

3 In looking at the calculation of “STD/Total” in CAC/MSOS/Centra 1-1(c) from  
4 the Centra 2009/10 GRA, one can see on a quarterly basis, “STD/Total” has  
5 varied from a low of about 3.7% to high of over 41.4% during the period 1Q  
6 2004/05 through the forecast for 4Q 2010/11. Series 10, the currently outstanding  
7 floating rate issue, represents about 11.9% of the principal identified in  
8 PUB/Centra I-43 (b). With the addition of a forecast \$15 million floating rate  
9 issue in 2014, the floating portion of long term debt would be approximately 15%  
10 of the then long term debt. With this background, schedules 9.7.1 through 9.7.5  
11 show very low levels of short term debt in the capital structure. As such, the  
12 proportion of floating rate and short term debt is forecast to be significantly  
13 reduced from the 25% average level that was being forecast in the last Centra  
14 GRA.

15 The information we received with respect to Centra’s short term borrowing policy  
16 in the 2009 proceeding was expressed in a number of ways in the various IR  
17 responses. In CAC/MSOS/Centra 1-6 b, c and d in the Centra 2009 GRA, we are  
18 told “Centra targets to keep the floating rate debt between 15-30% of the total  
19 debt portfolio at the fiscal year end”<sup>123</sup>. For 2012/13, it appears uncertain that  
20 minimum year end target may will be met. In 2009, in CAC/MSOS/Centra 2-72  
21 d, we learned that for certain periods, including “2010/11 there have been no  
22 changes in Centra’s risk tolerance with respect to short term or floating rate debt”.

23 The increase in the floating portion of long term debt does not seem to maintain

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<sup>122</sup> My evidence in the Manitoba Hydro 2010/11 & 2011/12 General Rate Application, beginning at page 8, drew attention to the discontinuity of Hydro forecasting all new debt as 30 year Canadian dollar fixed rate debt, while frequently issuing floating rate instruments at lower interest levels. I also recommended that a portion of forecast new debt be forecast based on Hydro’s policy to maintain a portion of floating rate debt. See also Q.11 on page 14.

<sup>123</sup> To underscore some of the subtle differences between Hydro and Centra policies relating to various aspect of their respective debt portfolios, in CAC/MSOS/MH II-119 (REVISED) in a prior hearing Hydro had a “longstanding corporate practice to be in compliance with the target range at year-end.” That target range was “15 -25%”.

1 the approximate 25% average level of floating and short term debt maintained  
2 between 2004/05 and 2008/09, perhaps suggesting a change in risk tolerance.

3 To better understand the changing levels of short term and floating rate debt, and  
4 related Centra specific policies, CAC/Centra I-17 and 18 sought details on these  
5 topics. As I have already reviewed the disclosure that the long standing practice  
6 of using relatively large amounts of short term debt was “ inappropriate”, I will  
7 not repeat that discussion.

8

9 **Q.34 Are there any facts relevant to the issues on the record of this proceeding**  
10 **that you would like to bring forward?**

11 A Yes. In our discussion of interest rates, I thought it might be helpful for the Board  
12 to have a table of recent Bloomberg data showing the indicated yield curve for  
13 Manitoba.

Term	Yield May 13, 2013
3 Months	1.0600%
6 Months	1.0838%
3 Years	1.3508%
5 Years	1.7992%
10 Years	2.9178%
15 Years	3.3348%
20 Years	3.4894%
30 Years	3.5103%

14 **Conclusion**

15 **Q.35 Please review your conclusions.**

16 A. I am of the opinion that the underlying data used to develop the financial forecasts  
17 for T-Bill and 10 Year + Canada rates is both outdated and materially different  
18 from current forecasts readily available in the market.

19 I am of the opinion that to attempt to base the interest component of the revenue  
20 requirement on financial forecasts of T-bill and 10 year + Canada rates which are

1 based on superseded data is unwise, and owing to the material difference between  
2 the original data inputs and those currently available, is prejudicial to consumers.

3 I am of the opinion that the Board should establish a policy that Centra would  
4 provide a update of its forecast interest rates, at each proceeding.

5 I am of the opinion that to reduce the degree of the upward bias in Centra's  
6 forecasting, the Board should remove Informetrica, the source of the highest  
7 forecasts in Table 1 and Table 2, in PUB/Centra I-6, from its calculation of  
8 forecast interest rates used to derive near term interest costs.

9 **Q.36 Does this conclude your evidence?**

10 A. Yes.

## **ATTACHMENT 1**

## **PROFESSIONAL QUALIFICATIONS OF JOHN D. McCORMICK**

### *Academic Training*

LL.B. from the University of Alberta (1978)  
M.B.A. in Accounting from the University of Alberta (1975)  
B.A. in Political Science, from the University of Calgary (1972)

### *Professional Organizations*

Law Society of Alberta [Inactive]

### *Professional Experience*

September 1975 - May 1978 - Sessional Lecturer for the Department of Accounting, the Faculty of Business Administration and Commerce, the University of Alberta

June 1978 - March 1983 – Barrister & Solicitor and Articling Student, Parlee, Irving, Henning, Mustard & Rodney, Edmonton

September 1980 - May 1982 - Sessional Lecturer (M.B.A. Tax) for the Department of Legal and Industrial Relations, the Faculty of Business Administration and Commerce, the University of Alberta

March 1983 - October 1991 – Associate rising to Vice-President and Director, ScotiaMcLeod, Toronto and Calgary

In this capacity, Mr. McCormick represented the firm in transactions ranging from small private placements to major financings including the initial public offerings of Telus and Petro-Canada. The transactions included the issuance of preferred and common shares, special warrants, rights, warrants, partnership units, and trust and royalty units . . . domestic deals and crossborder financings. He executed approximately \$5 billion of financing, wrote five trust deeds for major borrowers in the energy industry covering secured and unsecured obligations in the domestic and European markets, and assisted a major airline to renegotiate the terms of its convertible debentures with key financial institutions. In the utility area, he provided coverage of a number of western Canadian utility issuers including Nova, Alberta Natural Gas and Foothills Pipe Lines. He developed expertise in a number of industries including Canadian energy and petroleum services, pipelines, basic and specialty chemicals, airlines, pulp and forest products, telephone and telecommunications, and magnesium.

November 1991 – January 1994 – President, J. D. McCormick Financial Services, Inc., Calgary

January 1994 – January 1997 – Vice-President & Director, Levesque Beaubien Geoffrion, Calgary



In this capacity, Mr. McCormick was responsible for account coverage of over 125 account relationships in Alberta, British Columbia and Saskatchewan. He gained additional expertise in the banking, gold and satellite communications industries.

January 1997 – October 1997 – President, J. D. McCormick Financial Services, Inc., Calgary

October 1997 - May 1998 – Sprott Securities, Calgary

May 1998 – present – President, J. D. McCormick Financial Services, Inc., Calgary

In this capacity, Mr. McCormick secured and executed valuation and financial advice assignments with junior and senior public companies and government. He assisted a senior issuer in a securitization transaction. He provided financial advice with respect to the recapitalization of Sunoma and Barrington, which had over \$400 million in debt, fairness opinions to directors of TSE, CDNX and ASE listed companies. He provided financial advice in respect of several oil and gas industry merger and acquisition assignments, including advice to Tappit in respect of its attempted \$13 million hostile takeover of Backer, and expert testimony or reports in three securities cases in Alberta and Saskatchewan. Among other things, he was retained to provide, strategic advice with respect to several corporate reorganizations, a valuation of a U.S. corporation with equity valued at over \$200 million and strategic advice to its owner, advice in respect of a \$15 million equity financing, the negotiation of a long term joint venture, disposition of an oil services firm, and, advice in respect of software company concerning a private placement by a major industry partner.

#### *Previous Expert Reports*

Mr. McCormick was retained by the Alberta Energy and Utilities Board to give evidence at the 2000 Pool Price Deferral Accounts Proceeding, which resulted in Decision 2001-092.

He was also retained by the Canadian Association of Petroleum Producers to give evidence at the TransCanada Pipelines 2001 and 2002 Fair Return Application proceeding, which resulted in Decision RH-4-2001.

Mr. McCormick was retained by The City of Calgary to give evidence before the Alberta Energy and Utilities Board in respect of the AltaLink proceeding, which resulted in Decision 2003-061, the ATCO Gas proceeding which resulted in Decision 2003-072, the ATCO Electric proceeding which resulted in Decision 2003-071, and the ATCO Pipelines proceeding which resulted in Decision 2003-100. Mr. McCormick was retained by the Canadian Association of Petroleum Producers and The City of Calgary in respect of the Generic Cost of Capital proceeding which resulted in Decision 2004-052.

Mr. McCormick was retained by the B. C. Old Age Pensioners Organization to give evidence before the British Columbia Utilities Commission in respect of the Application of Pacific Northern Gas to Recapitalize under an Income Trust Ownership Structure, which resulted in a decision dated September 9, 2005.

Mr. McCormick was retained by AltaGas Utilities Inc. to file evidence in respect of its review and variance application related to the cost of funds allowed in respect to a \$30,000,000 financing.

In the Province of Manitoba, Mr. McCormick was retained to provide evidence in the Centra Gas Manitoba 2009/10 & 2010/11 Rate Application which resulted in Order 128/09, and the Manitoba Hydro 2010/11 & 2011/12 Rate Application.

Mr. McCormick was also retained by the East Coast Producer Group, [Encana, Imperial, Exxon Mobil, Mosbacher, Pengrowth and Shell], whose gas production from the east coast offshore fields was transported on Maritimes & Northeast Pipeline, to give evidence before the National Energy Board, related to a claim for additional equity return as a result of triggering an escrow provision in a 1999 debt financing, and which resulted in Decision RH-4-2010, issued in June 2011.

He has provided expert reports in respect of a number of lawsuits related to securities matters.