

**Centra – 2013/14 General Rate Application
CAC Reply to Questions of the Public Utilities Board
June 5, 2013**

1 PUB/CAC I - 1

2 Reference: Evidence of J .D. McCormick, Page 6 Q. 8, PUB/Centra I-10 (a)

3 Please provide a summary table that details each of the directed changes in interest
4 rate forecasting in Order 128/09 and comment on Centra’s compliance.

5 Response:

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| <p>(i) Directive 9 (a) The use of all forecasts based on comparable average period data basis</p> | <p>Centra appears to be broadly compliant with respect to paragraph 9 (a).</p> <p>The caveats that I attach to this comment are, that: (1) based on the forecasters’ source documents presented in PUB/Centra I-6 and CAC/Centra I-6, I am unable to independently confirm, that the data points are end period or period average¹ for IHS Global, Conference Board, Informetrica; and; (2) mechanically, (i) there were problems with some missing data points² (which shorten the period for which one may calculate an average); (ii) a failure to use the same methodology to develop inputs³; and, (iii) in my view some confusion in the choice of the best method to bridge discontinuous data points⁴.</p> |
| <p>(ii) Directive 9 (b) The use and alignment of current date forecasts, excluding stale dated and superseded forecasts</p> | <p>With respect to the use and alignment of current date forecasts, Mr. McCormick notes that the dates of the forecasts used to develop Table 1 and Table 2, in PUB/Centra I-6, are much more contemporaneous to each other than in 2009, and he suspects, but cannot independently confirm that they were timely when the fall update was first prepared.</p> <p>Regrettably, the fall update is based upon many forecasts which today, with the passage of many months, can only be viewed as having been superseded. As such, Mr. McCormick would view Centra as currently non compliant.</p> |

¹ By way of example, many of the other forecasters provide a comment as to type of data presented, end period or period average, including Desjardins, Table 11, CAC/Centra I-6 (a) page 3 of 27, Laurentian CAC/Centra I-6 (a) page 11 of 27, National CAC/Centra I-6 (a) page 12 of 27, Royal CAC/Centra I-6 (a) page 16 of 27, Scotia CAC/Centra I-6 (a) page 19 of 27 and TD CAC/Centra I-6 (a) page 20 of 27.

² CIBC 1Q 2014 in table 1 and Table 2, and Conference Board 1 Q 2015 in Table 2, see CAC/Centra II-46 and CAC/Centra II-47

³ National 2 Q 2013 in Tables 1 & 2

⁴ National 3 Q and 4Q 2013 in Tables 1 & 2

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| <p style="text-align: center;">(iii) Directive 9 (c) Utilization of forecasted long term interest rates which align with the period in which Centra intends on issuing new or refinancing existing long term debt</p> | <p>Mr. McCormick’s reply on this particular clause of paragraph 9, hinges on the meaning of the word “period”. Had the Board intended “period” to refer to a financial year, Centra’s efforts seem broadly compliant.</p> <p>Had the Board intended to be more precise, so that “period” would refer to the particular calendar quarter in which Centra forecast that a financing might take place, Mr. McCormick would view the use of a forecast rate representing the average for the fiscal year, as less compliant, when the more precise forecast for the specific calendar quarter is readily available⁵ having been a necessary step to calculating the fiscal year forecast rate. So when Centra is refinancing a known maturity, for example May 15, 2015, and forecasts that it will undertake a new financing or reopen an existing financing in May of 2015, Mr. McCormick would prefer to use the 2Q 2015 forecast values, rather than the fiscal 2015/16 forecast value.</p> <p>If Centra is using the spread free 3 month T-bill based Short Term Debt facility and is amassing \$10 million, \$20 million or \$40 million in capital expenditures and the spending forecast creates uncertainty as to the specific quarter during which the new financing would be executed, Mr. McCormick would accept the use of the fiscal period forecast rates as reasonable.</p> <p>Please refer to Q. 30 in Mr. McCormick’s written evidence beginning at page 44.</p> |
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⁵ See Mr. McCormick’s evidence at page 44 and the response to Q. 30 which discusses that matter.

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| <p>(iv) Directive 9 (d)</p> <p>A process to retrospectively test the accuracy of forecasters to assess their inclusion in future forecasts</p> | <p>Centra appears not to be compliant with respect to directive 9 (d).</p> <p>In Mr. McCormick’s view, Centra is unwilling to undertake this task. Considering Centra’s financial advantage in the just last 4 years of over \$10 million, which was quantified in PUB/Centra I-42 (b), it seems perfectly reasonable from Centra’s viewpoint, as indicated in PUB/Centra II-141 (b), that “a process to retrospectively test the accuracy of forecasters to assess their inclusion in future forecasts is not beneficial at this time.”</p> <p>In PUB/Centra II-141 (b), Centra:</p> <ul style="list-style-type: none">(a) seeks to defer any retrospective testing, for a “full business cycle”;(b) fears that “retrospective testing ... could potentially weaken or bias the Corporation’s viewpoints in terms of understanding the spectrum of possibilities and mitigating the risk”; and,(c) seeks to rely on the “cost of service regulation” to mitigate “the need for retrospective testing for rate setting purposes” <p>In addition to these and other cautionary comments, Centra indicated that it considered matters “resolved” in page 4 of 5 Letter of April 1, 2013, Mr. Czarnecki to Mr. Singh.</p> <p>As a father, Mr. McCormick has some experience in reviewing the quality of performance when someone is compelled to undertake tasks which they are unwilling to undertake or do not consider beneficial at the time, such as household chores or homework. In those circumstances it is difficult to compel stellar performance.</p> <p>Mr. McCormick is of the view that a process to test retrospectively the accuracy of the interest rate forecasts is timely, beneficial and central to the function of determining the fair and reasonable rates. “Revenue requirement under a <i>Cost of Service</i> methodology takes into account forecasts of finance expense and net income by management based on management judgment as opposed to a formulaic approach. The forecasts have to be acceptable to the regulator, if not, the regulator amends the forecasts in establishing revenue requirement and rates. Allowable costs ... form the basis for determining revenue requirement.” See page 63 of Board Order 135/05</p> |
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| <p>(v) Directive 9 (e) The use of only statistically independent forecasts</p> | <p>Centra appears to be broadly compliant with respect to directive 9 (e), subject to the caveat that, with Centra’s initial desire to hide the identities of certain of the worthy forecasters, Centra could include statistically dependent forecasts, without that being discovered.</p> |
| <p>(vi) Directive 9 (f) A proposed process to update the forecast in advance of the hearing if warranted.</p> | <p>Centra appears not to be compliant with respect to directive 9 (f).</p> <p>Being unsure of the specific meaning of directive (f) which the Board intended, if the Board was only seeking to have Centra return with a proposed process, Mr. McCormick has been unable to identify any such proposal on the record.</p> <p>If the Board was seeking to put Centra on notice that the Board wanted Centra to provide an update in the interest rate forecasts when changes in financial markets warranted, at best it would appear that Centra has mandated a process to provide that update only after intervener evidence has been filed, which only serves to frustrate any testing of the updated material.</p> <p>Although, Mr. McCormick does not recall any statement in the record that Centra believes its fall update is the process, perhaps Centra considers its fall 2012 update to its spring forecast as being an adequate process to update the forecast in advance of the hearing. Mr. McCormick would not share that view.</p> <p>In undertaking the spring update, Centra, by its conduct, appears internally to have identified a change which it determined would be more than adequate to warrant an update. We attempted to engage Centra in discussion and quantification of the threshold change which it felt warranted an update, but were unsuccessful in getting that quantification.</p> <p>Mr. McCormick sees nothing to suggest that Centra has determined to share with us, its quantified thresholds of changes in forecast inputs, which would warrant an update nor the established period in which to deliver an update.</p> |

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1 **PUB/CAC I - 2**

2 Reference: Evidence of J.D. McCormick, Page 9 Q.10 PUB/Centra I-18 (2008/09 &
3 2009/10 GRA)

4 Please summarize the proposal to retrospectively test forecasters and the criteria to be
5 employed to improve interest rate forecasts.

6 Response:

7 Mr. McCormick's criteria for inclusion of a forecaster into the pool of worthy
8 forecasters is that the accuracy of the resulting near term interest rate forecast
9 be enhanced by the inclusion of that forecaster.

10 Applying the criteria to the existing pool, selected by Centra, changes the
11 question slightly to, 'does the inclusion of this forecaster enhance the accuracy
12 of the resulting near term interest rate forecast?'

13 Having been denied the opportunity to review Centra's proposed testing
14 process or analysis of the relative contributions of its selected worthy
15 forecasters, the development of which was ordered in Directive 9 (d) of Order
16 128/09, Mr. McCormick's proposal to address the persistent upward bias in the
17 interest rates forecasts is simply to remove at least one of the highest
18 forecasters from the pool of worthy forecasters selected by Centra.

19 The determination of whether to remove one, or more than one, forecaster
20 would relate to the degree of over forecasting and the relative impact of the
21 change in near term interest rate forecasts by removing one on the forecast
22 rates.

23 In the IR process, Centra, the proponent of this interest rate forecast
24 methodology, was afforded the opportunity to assist in the quantification of the
25 degree of error caused by various factors, but declined to do so⁶. Centra's reply
26 was to note variances that were "primarily associated with ... financial market
27 changes."

28 In the IR process, Centra, the sponsor of its selection of the most worthy
29 forecasters from the available pool of forecasters, was afforded the opportunity
30 to assist in the quantification of the degree of error caused by various factors,
31 but declined to do so by not providing any analysis on the various topics
32 requesting, including the process of including or excluding forecasters⁷.

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⁶ CAC/Centra II-52 (b) and (c).

⁷ CAC/Centra I-13 (b) through (e) and CAC/Centra II-51 (c)

1 **PUB/CAC 1-3**

2 Reference: Evidence of J.D. McCormick, Page 27 Q.19

3 a) What is the minimum and optimal number of forecasters Centra should utilize for
4 interest rate forecasting for rate-setting purposes?

5 Response:

6 Mr. McCormick is unable to identify a positive integer that would represent either
7 the minimum or optimal number of forecasters that Centra should utilize for
8 interest rate forecasting purposed.

9 Were there a single forecaster with a perfect track record of forecasting period
10 average interest rates⁸, Mr. McCormick would recommend that that forecaster be
11 relied upon to the exclusion of all others until its forecasts went amiss.

12 Failing perfection of a single forecaster, were there a single forecaster with a
13 track record of very low error rates in forecasting the period average interest
14 rates in various quarters, 'standing head and shoulders' above the rest of the
15 worthies, Mr. McCormick would recommend that that forecaster be relied upon to
16 the exclusion of all others until its forecasts went amiss.

17 In the event that there is no single forecaster with very low error rates, Mr.
18 McCormick would recommend that pairs of forecasters be tested to determine
19 the pair with the lowest aggregate error, and then a iterative process be
20 undertaken to determine which, if any, additional forecasters can be added to the
21 mix resulting in a reduction of overall error between forecast and actual results.⁹

22 Mr. McCormick notes that in his evidence in the Manitoba Hydro 2010/11 &
23 2011/12 GRA, as discussed on page 9 of his evidence in this proceeding, he
24 identified that for a particular period he found that the average of the Scotia and
25 National forecasts had a very small aggregate forecast error.

26 Mr. McCormick expects that a combination of several forecasters will be able to
27 provide diversity of opinion and lower forecast error than the large pool employed
28 by Centra currently.

29 Mr. McCormick also notes that it is not necessary that all forecasters contribute
30 to the t-bill forecast and the 10 year plus forecast. He would support
31 independently testing forecasters for each of the two tasks. In a similar manner,
32 in earlier proceedings, it appeared that certain forecasters were excluded from

⁸ Mr. McCormick would also embrace a forecaster of end period interest rates, if the averaging of which would lead to a perfect track record of forecasting period average interest rates.

⁹ Mr. McCormick also commented on this topic in PUB/CAC/MSOS I-19 in the 2009/10 Centra GRA.

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1 the 2 year forecast but employed in assisting in forecasts for 3 or more years.¹⁰
2 That segmentation seems to have been lost in the current forecast.

3 b) Please elaborate on the specific criteria that Centra should utilized to select a
4 forecaster.

5 Response:

6 Mr. McCormick would suggest that the ability to contribute to the accuracy of the
7 resulting forecast is the prime criteria. Clearly, in addition to contributing to the
8 accuracy of the resulting near term interest rate forecast, the forecaster's input
9 data should be consistently available so as to avoid data manipulation problems,
10 and, should cover the interest rates being forecast generally for the period of the
11 forecast.

12 c) Based on the specific criteria, what if any of the current forecasters should be
13 excluded from the forecast methodology?

14 Response:

15 In his evidence, Mr. McCormick indicates that in his opinion, Informetrica should
16 be removed from the calculation of near term interest rates. The criteria that Mr
17 McCormick employed in making this recommendation was accuracy.

18 As discussed in CAC/Centra II 52, the forecasts and actual interest cost
19 presented in the table in PUB/Centra I-42 varied by 8% to 23% in the periods
20 therein indicated. The average annual variance¹¹ was 14% of forecast interest
21 costs. In CAC/Centra II-52, Mr. McCormick attempted to have Centra identify
22 and quantify the several causes of the variance. Mr. McCormick is of the view
23 that in addition to the persistent upward bias of forecasters, certain other causes
24 may have contributed to the interest cost forecast variance. These other causes
25 may include factors such as undertaking a floating rate debt issue when a more
26 expensive fixed rate debt issue had been included in the forecast, and,
27 forecasting excess levels of debt. Centra did not provide the identification of
28 various contributing factors; but rather, noted without quantification that variances
29 “are primarily associated with these significant financial market changes”.

¹⁰ See CAC/MSOS/MH II 161 (c) from the 2010 Hydro GRA

¹¹ The February 2010 \$75 million refinancing and the March 2010 \$50 million financing were originally forecast to be done at 5.3% as 20 year maturities. See CAC/MSOS/Centra I-5 (f). These financings were done at 4.7260% and 4.6380%. In footnote 4 to CAC/Centra I-19, Centra notes the Board Order 128/09 authorized rate of 4%.

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1 Mr McCormick would seek to remove Informetrica, as the highest forecaster, so
2 as to bring the forecast into better line with recent historic experience. Mr.
3 McCormick is confident that removing Informetrica would not change the forecast
4 by the 23% variance recorded in 2011/12. Were forecast error the only factor,
5 clearly additional high forecasts would need to be removed to reduce the interest
6 rate forecast error component in the interest cost forecast error.

7 Mr. McCormick notes that, should Centra not be persuaded to adopt
8 retrospective testing to improve its forecast, the Board, with its understanding of
9 the persistent upward bias of the forecast methodology, can take that knowledge
10 and adjust the revenue requirement to reflect the uncorrected bias.

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1 **PUB/CAC I - 4**

2 Reference: Evidence of J.D. McCormick, Page 36 lines 5-15 Q.24

3 Please comment on the reasonableness of the 48.4 basis spread and provide
4 supporting analysis.

5 Response:

6 Mr. McCormick would view the spread or margin of 48.4 basis points from the
7 benchmark rate as unreasonable for a 5 year floating rate Manitoba credit
8 instrument issued in spring of 2010.

9 The table below provides the initial dates of issue and maturity for a number of
10 recently issued and currently outstanding series of Manitoba floating rate
11 instruments.

| Series | Principal | Issue | Maturity | Coupon | Years |
|-----------|----------------|------------|------------|------------------|-------|
| 56344znx3 | \$ 250,000,000 | 30/11/2009 | 31/10/2013 | M CDOR plus 20 | 3.9 |
| 56344zpa1 | \$ 145,000,000 | 18/01/2010 | 17/04/2014 | Q CDOR plus 18 | 4.2 |
| 10 | \$ 35,000,000 | 22/02/2010 | 22/02/2015 | BA plus 48.4 | 5.0 |
| 56344zpe3 | \$ 100,000,000 | 04/05/2010 | 04/05/2015 | Q CDOR plus 23 | 5.0 |
| 56344zpm5 | \$ 625,000,000 | 06/05/2011 | 15/09/2016 | Q CDOR plus 15 | 5.4 |
| 56344zpt0 | \$ 300,000,000 | 18/04/2012 | 03/04/2017 | Q CDOR plus 25.5 | 5.0 |
| 56344zpz6 | \$ 404,000,000 | 03/12/2012 | 02/04/2018 | Q CDOR plus 24 | 5.3 |
| 56344zqb8 | \$ 380,000,000 | 21/05/2013 | 02/04/2019 | Q CDOR plus 12 | 5.9 |

12 Mr. McCormick observes that there also were other Manitoba floating rate debt
13 instruments issued in 2010 and 2011, but for shorter maturities, ranging from 1.2
14 to 3.1 years, and which have since matured. Believing that the difference in term
15 would arguably make them less comparable, he has not collected their spread or
16 margin information.

17 Mr. McCormick also observes that the greatest spread or benchmark margin of a
18 5 year floating rate issue in 25.5 basis points, some 22.9 basis points less than
19 the rate allocated to Series 10. The average spread or margin over benchmark
20 of these 7 floating rate issues is approximately 20 basis points.

21 While lacking a specific precedent of identical term and identical issue date to
22 validate his opinion, but recognizing that Manitoba would likely choose to finance
23 within windows of market opportunity, Mr. McCormick is of the view that a
24 reasonable spread or margin over benchmark for an issue in the market similar
25 to series 10 would have been in the range of 18 to 23 basis points.

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1 To assist the Board in quantification of the impact of this unreasonable 48.4 basis
2 point spread or margin over benchmark, which is attached to a \$35 million
3 principal financing, Mr. McCormick estimates the annual excess interest cost is
4 between \$88,900¹² and \$106,400¹³ per year in each of the 5 years for an
5 aggregate excess interest cost of between \$444,500 and \$532,000.

6 Mr. McCormick also observes that a 45 basis point spread or margin over
7 benchmark is indicated for the floating rate portion of the financing intended for
8 March 2014. The indicated maturity of this issue is in 2034¹⁴, being
9 approximately 20 years. Mr. McCormick reviewed certain Bloomberg data on
10 over 40 floating rate issues undertaken by Manitoba in the last few years and
11 determined that the initial term was not longer than the 5.9 year term of 2019
12 series in the table above, and that the average maturity at issue was between 3
13 and 4 years¹⁵. As such, Mr. McCormick is of the view that Manitoba would enter
14 the capital markets for floating rate debt for a term materially shorter and at
15 spreads materially lower than the 20 year term and 45 basis point spread or
16 margin over benchmark indicated in CAC/Centra I-14 (p).

17 Mr. McCormick would suggest that rather than locking in a spread or margin over
18 benchmark of 45 basis points for 20 years, one might plan to undertake a series
19 of 5 year floating rate issues as it appears that spreads or margins over
20 benchmark between 12 basis points and 25.5 basis points are frequently
21 available.

22 Based on this analysis, Mr. McCormick is of the view that in calculating the
23 revenue requirement in respect of the forecast \$15,000,000 principal amount
24 2014 floating rate issue, the Board should include in the revenue requirement,
25 interest cost an amount reflecting a 20 basis point spread or margin over
26 benchmark, rather than a 45 basis point spread. The annual savings in respect
27 of this change would be \$37,500¹⁶, with an aggregate excess interest savings of
28 \$750,000, over the 20 year life of the instrument.

¹² (.00484-.0023)*\$35,000,000 = \$88,900.

¹³ (.00484-.0018)*\$35,000,000 = \$106,400

¹⁴ On page 10 of 10 in CAC/Centra I-19, Centra observes “Actual financing terms will vary from forecast ... it is not anticipated that the full \$30 million will be advanced with a 2033/34 maturity.” No other maturity date was provided for the unquantified portion which might be advanced with a different maturity.

¹⁵ Details of a 2009 floating rate MTN are found in CAC/MSOS/Centra I-8 (k) in the 2009 Centra GRA. That reply indicated “The initial coupon rate on the aforementioned floating rate note was 1.24152%.” and that “The one month banker’s acceptance rate on the date of issue was 1.14429%.

¹⁶ (.0045-.0020)*\$15,000,000 = \$37,500

1 **PUB/CAC I - 5**

2 Reference: Evidence of J.D. McCormick, Pages 37-38 Q.26 CAC/Centra I-14 (e)

3 a) Please provide your assessment of the level of refinancing risk faced by Centra
4 now given the changes in the debt issues since 2009.

5 Response:

6 Generally, my assessment of the level of refinancing risk has been lower and
7 continues to be lower than the views expressed by Centra. The one exception to
8 that general statement would be that Centra appears to be more willing than Mr.
9 McCormick would be to concentrate the maturity of high proportions of its long
10 term debt into relatively short time periods, while Mr. McCormick would prefer to
11 take advantage of the normal yield curve and stagger maturities¹⁷.

12 In CAC/MSOS/Centra I-6 (d) in the 2009 GRA, we inquired as to under “what, if
13 any circumstances would the applicant refinance maturing obligations with
14 floating rate debt?” Rather curiously, we were advised:

15 **“The additional floating rate exposure that would arise from refinancing**
16 **fixed long term debt with floating rate debt would subject Centra to**
17 **significant refinancing risk**, particularly during the period of build-up of gas
18 in storage. Given the variability of the cash flows, this increased floating rate
19 exposure would also increase the possibility of having floating rate debt in
20 excess of our 30% target at the fiscal year end. As such, Centra will continue
21 to deliver the economic benefits of floating rate debt by the revolving line of
22 credit and ensure that a prudent level of interest rate stability is maintained
23 for debt servicing costs through long-term fixed rate financing.” [Emphasis
24 added]

25 The curiosity arises as this answer was provided in March 2009, and in February
26 2010, Centra refinanced a maturing fixed rate series with \$35 million of floating
27 rate debt. Apparently, Centra willingly accepted in 2010 the risk that they identified
28 in 2009. In CAC/Centra I-19, at page 8 of 10, we are now advised that the very
29 thing that was a “significant refinancing risk” became “an opportunity ... to
30 rebalance its debt portfolio by introducing floating rate long term debt.”

31 Mr. McCormick notes that as Centra has entered into long date financings, the
32 near term risk ebb has been deferred. Mr. McCormick would also note that as
33 the most distant year forecast 10 Year + Canada rate has fallen from 6% to most

¹⁷ See Mr. McCormick’s evidence dated May 15, 2009, and in particular page 3 line 3, and the discussion at Q 14 beginning at page 15.

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1 recently 4.65%, the expectation of harm from a future refinancing has been
2 reduced by 135 basis points.

3 b) Please comment on the appropriateness of the policy to have 15% of the long
4 term debt portfolio maturing within a fiscal year to address refinancing risk.

5 Response:

6 Having a policy that will prevent having 39.5%¹⁸ of a corporation's debt maturing
7 in one year is a good step forward. This "good step forward" begins from what
8 appeared to Mr. McCormick to be a complete policy vacuum. This "complete
9 policy vacuum" allowed a disproportionate percentage of Centra's debt to mature
10 in short periods of time. While this "good step forward" was necessary, Mr.
11 McCormick does not think it is sufficient and would offer some suggested
12 improvements.

13 Using the documents now on the record to facilitate the discussion, the best
14 starting point is the chart on page 7 of 13 in the Debt Management Strategy
15 document which is part of CAC-Centra I-41. That chart shows a period of very
16 high interest rates beginning in the late 1970's and reaching a pinnacle in the
17 early 1980's. Clearly, it would have been painful to refinance any long term debt
18 during those years.

19 Using the Government of Canada Marketable Bonds, Average Yields, Over 10
20 Years, Monthly series, to help define that period of high interest rates, that series
21 crossed over the 10% level in August of 1979 and did not drop back into single
22 digits until February 1986, a period of over 6 years. During this period yields
23 reached a pinnacle of 17.66% in September 1981. The really ugly period in the
24 middle of those 6 years, in which interest rates for these bonds were over 12.5%,
25 ran from September 1980 to and including October 1982¹⁹.

26 The refinancing risk issue has at least two elements. In one respect, refinancing
27 risk can arise if one puts "too many eggs in one basket" or time period. Looking
28 at another facet of refinancing risk, it can simply be that there is a pending
29 maturity at some future date and currently the future level of interest rates is
30 unknown and may be higher.

¹⁸ See CAC/Centra/ I-14 (e) as at March 31, 2009.

¹⁹ There were a few months, during the six years of double digit interest rates in which bond yields in this series popped up to rates over 12.5% in advance of this September 1980 to October 1982 period, but within the September 1980 to October 1982 period they were consistently over 12.5% at month end.

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1 In respect of refinancing risk, the fiscal year is an artificial construct and largely
2 irrelevant to the issue of the number of “eggs” in the basket. The markets
3 respond to host of economic events, in our country and internationally, and pay
4 no attention to March, June or December year ends.

5 The table below sorts the data found in CAC/Centra/ I-14 (e) as at March 31,
6 2014, by actual or forecast maturity date, and shows the concentration of debt in
7 two interesting periods of not more than one year and a day.

| Series | Principal | Issue | Maturity | Coupon | % Debt | 1 Year+ |
|--------|-----------|------------|------------|----------------|--------|---------|
| 17 | \$20,000 | 18/09/2012 | 18/09/2042 | 3.41% | 6.2% | |
| 9 | \$30,000 | 01/09/2009 | 05/03/2040 | 5.1754% | 9.2% | |
| 13 | \$20,000 | 31/03/2010 | 30/09/2037 | 4.6380% | 6.2% | |
| 12 | \$10,000 | 22/02/2010 | 22/08/2037 | 4.6380% | 3.1% | |
| 7 | \$50,000 | 22/11/2006 | 05/03/2037 | 4.5055% | 15.4% | 24.6% |
| 14 | \$30,000 | 31/03/2010 | 31/03/2035 | 4.6290% | 9.2% | |
| New | \$15,000 | 15/03/2014 | 31/03/ | fixed | 4.6% | |
| New | \$15,000 | 15/03/2014 | 31/03/2034 | float | 4.6% | 18.5% |
| 16 | \$20,000 | 18/09/2012 | 18/09/2033 | 3.2810% | 6.2% | |
| 8 | \$30,000 | 29/10/2002 | 29/10/2032 | 6.3000% | 9.2% | |
| 11 | \$30,000 | 22/02/2010 | 22/02/2030 | 4.7260% | 9.2% | |
| 15 | \$20,000 | 18/09/2012 | 18/09/2022 | 3.1780% | 6.2% | |
| 10 | \$35,000 | 22/02/2010 | 22/02/2015 | BA plus 0.484% | 10.8% | |
| | \$325,000 | | | | 100.0% | |

8 As Centra’s new policy is a “fiscal year” policy, the fact that it has concentrated
9 24.6% of its debt into calendar 2037 is not a problem for it “policy wise”. In fact,
10 the 3 debt instruments maturing in 2037 mature in a period of a mere 209 days.

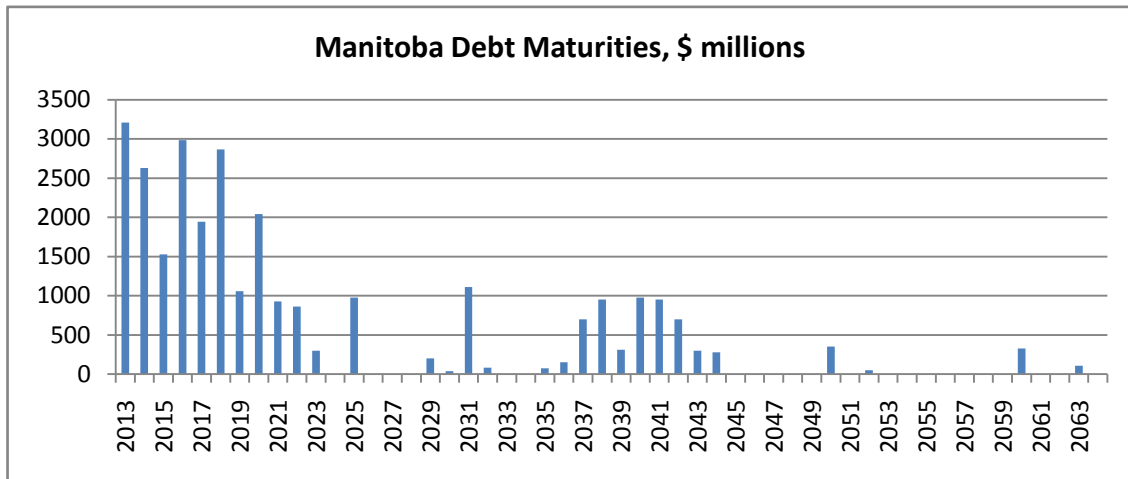
11 Similarly, the 18.5% of the outstanding debt, as at March 31, 2014, that may
12 mature in the year and a day between March 2034²⁰ and March 2035, is not an
13 issue “policy wise” as one of the issues is to mature, across the policy’s artificial
14 boundary, in a different fiscal year.

15 If we recall that the “ugly” period of the late 1970s and early 1980s lasted over 6
16 years, we might be distressed to learn that over 58% of Centra’s debt will mature
17 within a period of slightly less than 5 years between October 29, 2032 and

²⁰ On page 10 of 10 in CACC/Centra I-19, Centra observes “Actual financing terms will vary from forecast ... it is not anticipated that the full \$30 million will be advanced with a 2033/34 maturity.” No other maturity date was provided for the unquantified portion which might be advanced with a different maturity.

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1 September 30, 2037²¹. Mr. McCormick claims no special knowledge into the
2 interest rate environment in the mid 2030s. Manitoba has issues maturing out to
3 2060²² and 2063²³ participation in which would seem reasonable for a utility with
4 particularly long life assets²⁴. Manitoba also has issued debt maturing in 2020,
5 2021, 2025 and 2029. The chart below shows Manitoba’s debt distribution by
6 calendar year. Approximately 52% of the \$28 billion of debt will mature prior to
7 2019.



8
9 For comparison the chart below shows Centra’s debt distribution by calendar
10 year, including the forecast March 2014 issues which are forecast to mature in
11 2034²⁵. Approximately 51% of Centra’s debt will mature prior to 2035.

²¹ The table below provides the year in which Centra’s March 31, 2014 forecast debt matures. Approximately 51% of the \$325 million of debt will mature prior to 2035

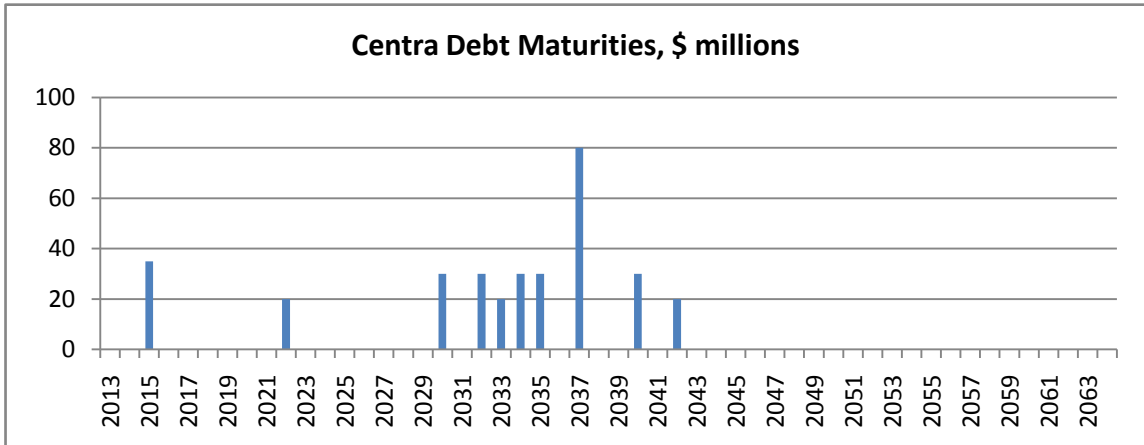
²² Mr. McCormick notes that Hydro has participated in Series C110 maturing in 2060, a period of 50 years at time of issue, while Centra Series 14 issue has an identical interest rate based on the same series but is outstanding for a materially shorter period, being only a 25 year maturity

²³ Mr. McCormick notes that Hydro has participated in Series C109 maturing in 2063, a period of 53 years at time of issue, while Centra Series 12 issue has an identical interest rate based on the same series but is outstanding for a materially shorter period, being only a 27.5 year maturity.

²⁴ The differences in the relative life of the Hydro and Centra assets appear to be recognized in that while both Hydro and Centra have had the interest rates from these ultra long financings assigned to the debt related to cash advanced to them, the advances to Hydro have been for longer terms.

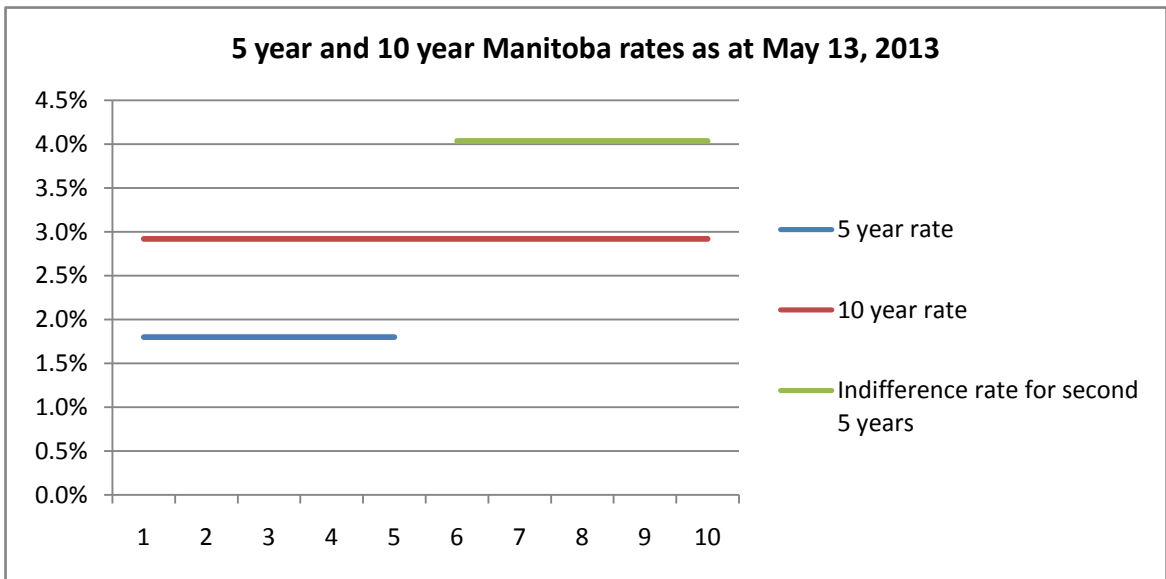
²⁵ On page 10 of 10 in CAC/Centra I-19, Centra observes “Actual financing terms will vary from forecast ... it is not anticipated that the full \$30 million will be advanced with a 2033/34 maturity.” No other maturity date was provided for the unquantified portion which might be advanced with a different maturity.

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The second element or facet of the refinancing risk issue is the risk of higher interest rates at that pending maturity date. In Q.34 of Mr. McCormick’s evidence he provided the May 13, 2014 5 year and 10 year Manitoba yields. At that time, 5 year money was yielding approximately 1.80%. A 10 year financing was indicated to yield 2.92%, a difference of 1.12%. As a periodic proponent of shorter and staggered debt maturities²⁶, for the first 5 years consumers would enjoy a certain 1.12% benefit over the then prevailing 10 year rate. The uncertain “risk” is that no one can know the prevailing 5 year rate 5 years out.



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Ignoring present value calculations, if the 5 year rate 5 years in the future were equal to 4.04%, the aggregate interest cost of the single 10 year financing would

²⁶ PUB/CAC/MSOS I-21 in the 2009 Centra GRA

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1 equal the cost of the two serial 5 year financings. An increase in 5 year rates
2 from 1.80% to 4.04% is substantial, about 2.24%.

3 We do not seem to have any forecasts of 5 year debt, 5 years out on the record.
4 The one long forecast included in PUB/Centra I-6 attachment 1, page 28 of 29
5 offers a 10 year + Canada rate for periods to 2030. The average 10 year +
6 Canada rate is 2.8% for 2013, and 5 years hence, the 10 year + Canada rate
7 forecast is 4.5%, an increase of 1.7%. The shorter end of the yield curve can be
8 more volatile than the longer end, but that does not seem to be forecast as 90
9 day commercial paper, over the same period is forecast to rise from 1.8% to 3%,
10 an increase of 1.2%. Using the 90 day commercial paper rate forecast, and the
11 10 year + Canada rate forecast as boundaries, Mr. McCormick would view the
12 serial or sequential 5 year financings as an attractive alternative to the 10 year
13 fixed rate financing.

14 In conclusion, Mr. McCormick would prefer a policy which, in addition to setting a
15 limit on maturities in a 12 month period, also placed a concentration limit on
16 some longer period, perhaps between 4 or 6 years.

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1 **PUB/CAC I - 6**

2 Reference: Evidence of J.D. McCormick, Page 40 lines 8-11 Q.27, footnote 102.

3 Please discuss the role of short-term debt, given current market conditions, and to what
4 extent should Centra look for more attractive future market conditions, before
5 committing to longer-term interest offerings.

6 Response:

7 Mr. McCormick views the short term debt facility as one of several routes to
8 obtain cash. It might be viewed as a tool to get the job done, or to continue with
9 the golf analogy, a club in the golfer's bag.

10 Recent pronouncements by the Bank of Canada seem to suggest that the
11 liquidity in the market will continue in the near term. As such, Mr. McCormick
12 does not see an urgency to lock in long term rates. He also notes that the
13 decline in rates the 2012 financings in series 15-17 was accomplished at better
14 rates than the 2010 financings. Forecasters are anticipating rising rates in the
15 near term, although with less rapid increases and targeting lower rates 2 years
16 out, than they were targeting in prior years.

17 As opposed to prefunding debt requirements, and having no balance
18 outstanding in short term debt, Mr. McCormick would suggest it may be
19 possible, and even one of the purposes of the short term debt facility, to use
20 short term debt to provide cash while awaiting an opportune market window.

21 CAC/Centra I-19, at page 5 of 10, provides a quote from an earlier Hydro
22 proceeding which spells out Hydro's then current view of the purpose of the
23 short term debt facility. "Manitoba Hydro uses its short term debt line to fund
24 seasonal working capital requirements and **to bridge the timing between long**
25 **term debt issues**. It is inappropriate to utilize the Corporation's overdraft credit
26 facilities and Commercial Paper Program to permanently fund capital
27 construction that should more appropriately be financed through debt."
28 [Emphasis added] Based on the data in CAC/Centra I-18, Hydro and Centra
29 appear to be leaving this short term debt "club" in the "golf bag". Mr.
30 McCormick, even as a very poor golfer, recognizes that if he leaves the right
31 "club" in the bag, it will cost him a stroke.

32 As attractive as recent rates have been, maintaining a short term debt balance
33 while awaiting a market opportunity may save the consumers some interest
34 costs, both in the near term while using the short term facility and in the longer
35 term, as and when, a market window provides a more beneficial long term rate.

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1 **PUB/CAC I - 7**

2 Reference: Evidence of J.D. McCormick, Page 43 Q.29 footnote 105.

3 Please provide a table of Centra debt issues and the respected linked Manitoba Hydro
4 debt series and coupon rate for those issues that appear to not have a clear link and
5 provide commentary with respect to the implications to Centra. Please also provide any
6 recommended interest rate that should be applied to the respective Centra debt issues.

7 Response:

8 Please see the tables in the body of this reply, which identify two major issues
9 that could make a further review of the ascribed interest rates relevant.

10 In attempting to assess issues “that appear to not have a clear link” it was
11 necessary to attempt to collect data on all the debt issues, but in some cases that
12 information was not readily available. As such, Mr. McCormick is unable to
13 advise the Board that further review would not lead to additional discoveries.

14 Mr. McCormick relied upon: (1) Appendix 48 in the 2010/11 GRA filed in
15 response to PUB/MH I-35 (f) which provides certain information related to Hydro
16 debt series occasionally funded from the same Manitoba financing; (2) term
17 sheets for the outstanding Centra issues contained in PUB Centra I-43, and, (3)
18 certain information drawn from the Manitoba 18K as at March 31, 2012. Mr.
19 McCormick would observe that certain information related to debt issues
20 undertaken since the date of those documents, was unavailable, as was certain
21 information requested in the IR process.²⁷

22 Mr. McCormick is of the view that series CG 10 and 15 present rates which,
23 based on his data sources, are not reasonable. Before addressing those
24 particular series, some general comments are in order.

25 In one case, CG8, it appears that the entire principal of the financing may have
26 been passed through directly to Centra. This may be inferred from the matching
27 of the principal amount in the term sheet and the 18 K disclosure. In other series,
28 the matter is not so simple as Centra only receives a portion of the proceeds of a
29 larger issue.

30 In several instances, advances from the same debt series appear to have been
31 made to Hydro and to Centra. While the interest rates that are ascribed to these
32 advances may be the same, the dates of the advances may vary. Clearly,
33 market conditions over periods of up to 4 months will also vary. The table below

²⁷ For example, see CAC/Centra I-12 (h and k) and 14 (j).

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1 provides the calculation of the variance of issue dates with respect to 5 series of
2 Centra debt.

| Series | Centra Principal | Centra Issue | Hydro Issue | Variance in Days | Rate | Source |
|--------|---------------------|-----------------|----------------|---------------------|---------|--------|
| 9 | \$ 30,000,000 | 01/09/2009 | 05/06/2009 | 88 | 5.1754% | FK 2 |
| 11 | \$ 30,000,000 | 22/02/2010 | 27/10/2009 | 118 | 4.7260% | FN |
| 12 | \$ 10,000,000 | 22/02/2010 | 13/11/2009 | 101 | 4.6380% | C109 |
| 13 | \$ 20,000,000 | 31/03/2010 | 23/11/2009 | 128 | 4.6380% | C109 |
| 14 | \$ 30,000,000 | 31/03/2010 | 13/11/2009 | 138 | 4.6290% | C110 |

3 Mr. McCormick observes that market conditions can change in over 4 months.
4 With the passing of time the rate at which the transaction was initially funded may
5 no longer be representative of the market conditions when Centra is funded.

6 Mr. McCormick also observes that certain Centra issues with identical coupons to
7 longer Hydro issues are funded from the same source. The table below provides
8 the calculation of the variance of maturity dates with respect to 4 series of Centra
9 debt.

| Series | Centra Principal | Centra Maturity | Hydro Maturity | Variance in Years | Rate | Source |
|--------|---------------------|--------------------|-------------------|----------------------|---------|--------|
| 11 | \$ 30,000,000 | 22/02/2030 | 05/03/2050 | 20.0 | 4.7260% | FN |
| 12 | \$ 10,000,000 | 22/08/2037 | 05/03/2063 | 25.6 | 4.6380% | C109 |
| 13 | \$ 20,000,000 | 30/09/2037 | 05/03/2063 | 25.4 | 4.6380% | C109 |
| 14 | \$ 30,000,000 | 31/03/2035 | 03/05/2060 | 25.1 | 4.6290% | C110 |

10
11 Mr. McCormick notes that these advances to Centra have materially shorter
12 maturities than those advances to Hydro. Mr. McCormick understands that some
13 categories of Hydro assets may have service lives beyond any of the Centra
14 assets. It is possible that there may be a justification for a slightly different
15 interest rate for Centra based on the shorter maturity, although yield curves are
16 often relatively flat at the long end. As there may also be slight changes in the
17 market conditions between the two different dates of advance, and the maturities
18 are different, these two factors may combine to suggest that Centra's interest
19 might warrant a different rate. In certain circumstances, these factors may also
20 cancel each other out.

21 In CAC/MSOS/MH II 144 (f), Hydro indicated that with respect to the C109
22 placement, there was a "pricing inversion in the financial markets at that time, the
23 all-in cost to Manitoba Hydro for this debt issue was 0.155% less than the

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1 indicative pricing for a 30 year fixed rate public issue on” the date of issue. A
2 pricing inversion may mean that in being allocated the same rate for a shorter
3 term, Centra got a bargain. The period during which this “pricing inversion” was
4 in effect was not specified, and as such the inversion may have impacted other
5 “parked” issues so as to make the rates ascribed to the Centra debt series
6 attractive.

7 In the time allowed to reply to these IRs, Mr. McCormick was not able to review
8 all the market data to arrive at a conclusion of beneficial, fair or unfair treatment
9 of Centra in each of the debt series. Mr. McCormick will not be offering a
10 recommendation, at this time, with respect to the rates assigned to Centra on the
11 5 series mentioned in the tables included to this point in this reply.

12 Mr. McCormick is interested in the “parking policy” under which debt terms are
13 locked in for a period of time, to be assigned to Centra. Perhaps Centra is being
14 granted an option on the particular series of debt, or perhaps Hydro is being
15 granted a put. The policies under which debt is “parked” waiting for assignment,
16 are not, to my knowledge on the record. Considering the fair and reasonable
17 test, Mr. McCormick would suggest that “parking” debt should not allowed for an
18 unlimited period. He also wonders whether and under what circumstances it
19 should be permitted after a significant market event.

20 Mr. McCormick is also interested in the decision by Centra to limit its choice of
21 maturity to a period much shorter than the financings being undertaken. A review
22 of the Centra annual financials indicates assets with service lives longer than
23 2042. Mr. McCormick wonders why a term matching Centra’s longest service life
24 asset category²⁸, perhaps for a \$5 or \$10 million principal amount, was not
25 undertaken.

26 Prior to these general comments, Mr. McCormick indicated that he wished to
27 address the rates ascribed to CG 10 and 15.

28 On page 21 and 22 of 31 of Appendix 48²⁹ in the 2010/11 Hydro GRA, filed in
29 response to PUB/MH I-35 (f), Hydro provides certain information related to Series
30 FM and FM-4, including an issue and swap dates in September 2009. FM-4 was
31 apparently used to fund Series 10. The various transactions were entered into to
32 address a previously undertaken forward interest rate swap extending to
33 September 2029, on debt series EL which was maturing. CAC/MSOS/MH II 144

²⁸ The March 31, 2012 Financial Statements for Centra indicate the “estimated service lives” of certain transmission and distribution assets extend to 65 years. See Appendix 5.4 in this application.

²⁹ Appendix 48 provides some details in addition to those provided in PUB/Centra I-43.

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1 (e) in the 2010/11 Hydro GRA also indicated that series FM secured an additional
2 \$100 million in new cash. Mr. McCormick observes that there is nothing on the
3 record to suggest that Centra was in any way connected with a Series EL, and
4 owing to Centra's focus on fixed rate debt he infers that such a connection
5 appears unlikely. In reply to PUB/Centra I-4 above, Mr. McCormick discusses
6 the comparable Manitoba floating rate debt issues, and he will not repeat that
7 analysis here. For these reasons, Mr. McCormick is of the view that a straight
8 pass through of a rate derived from a Manitoba BA based floating rate is more
9 appropriate. Mr. McCormick is of the view that a reasonable spread or margin
10 over the benchmark for an issue in the market similar to series 10 would have
11 been in the range of 18 to 23 basis points. As such, he would request that the
12 Board reflect a 25 to 30 basis point reduction to the interest costs in respect of
13 the annual interest costs in respect of the outstanding \$35,000,000 principal³⁰.

14 With respect to series 15, Mr. McCormick notes the very limited description of the
15 series from which the interest rate was assigned. Mr. McCormick observes that
16 there is a December 1, 2021 Manitoba maturity for which indicative yields are
17 available for September 2012, through Bloomberg. With \$600,000,000 principal
18 outstanding, there should be reasonable liquidity in this issue. During the week
19 of September 17, 2012, this issue was noted at an indicated yield of
20 approximately 2.65%. In light of the shorter maturity, Mr. McCormick would
21 suggest that an additional 10 basis points might be added to reflect a term of an
22 additional 9 months. Mr. McCormick would also add 5 basis points for an
23 allowance for issue costs. As such, Mr. McCormick would recommend 2.80% as
24 a reasonable rate for Series 15. To provide a reference point, Mr. McCormick
25 notes that Bloomberg provided a 10 year Canada yield at 1.91%, allowing for a
26 credit spread of approximately 85 basis points. For these reasons, he would
27 request that the Board reflect a 38 basis point reduction to the interest costs in
28 respect of the annual interest costs in respect of the outstanding \$20,000,000
29 principal³¹.

30 Mr. McCormick is of the view that the series CG 10 and 15 interest rates are not
31 be reasonable.

³⁰ $\$35,000,000 * 0.25\% = 87,500$ per annum, to $\$35,000,000 * 0.25\% = 105,000$ per annum

³¹ $\$20,000,000 * 0.38\% = 76,000$ per annum, or \$760,000 over the life of Series 15. As such, he would request that the Board reflect a 25 to 30 basis point reduction to the interest costs in respect of the annual interest costs in respect of the outstanding \$35,000,000 principal³¹.

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1 **PUB/CAC I - 8**

2 Reference: Evidence of J.D. McCormick, Page 20 Q.15 & Page 45 Q.30

3 a) Please provide a recommended forecast long-term interest rate for the 2013/14
4 test year with supporting methodology.

5 Response:

6 Mr. McCormick's recommended forecast long-term interest rate for the 2013/14
7 test year is 2.36%. Mr. McCormick has found it easier to describe the
8 methodology by explaining the T-bill calculation first. This also provides an
9 update to include certain May forecasts by several banks. The following table
10 provides the data points available from the named forecasters, each of which
11 supply end period forecasts.

| T bill | | Dec-12 | Mar-13 | Jun-13 | Sep-13 | Dec-13 | Mar-14 | Jun-14 | Sep-14 | Dec-14 | Mar-15 |
|------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| CIBC | 08/05/2013 | | | 0.95% | 0.95% | 0.95% | 0.95% | 0.95% | 0.95% | 1.05% | 1.25% |
| Dejardins | 30/05/2013 | 0.92% | 0.97% | 0.95% | 1.00% | 1.00% | 1.00% | 1.00% | 1.20% | 1.50% | |
| Laurentian | 11/04/2013 | 0.92% | 0.96% | 0.96% | 1.00% | 1.05% | 1.05% | 1.05% | 1.10% | 1.60% | |
| RBC | May-13 | 1.05% | 0.98% | 1.00% | 1.00% | 1.00% | 1.05% | 1.10% | 1.25% | 1.55% | |
| Scotia | 30/05/2013 | 0.93% | 0.98% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.10% | |
| TD | 02/05/2013 | | 0.98% | 0.95% | 0.95% | 0.95% | 0.95% | 0.95% | 1.05% | 1.40% | |

12 Opening and closing data points are averaged to estimate a period average T-bill
13 rate. The following table provides the averages of the data points above, and the
14 period average data points of the Bank of Montreal. It also provides the 2013/14
15 and 2014/15 T bill rates.

| T bill | | Mar-13 ³² | Jun-13 | Sep-13 | Dec-13 | Mar-14 | Jun-14 | Sep-14 | Dec-12 | Mar-14 |
|------------|-------------------|----------------------|--------|--------|--------|--------|--------|--------|--------|---------------|
| BMO | 31/05/2013 | 0.95% | 0.99% | 1.00% | 1.00% | 1.00% | 1.00% | 1.25% | 1.50% | ³³ |
| CIBC | Period average | 0.95% | 0.95% | 0.95% | 0.95% | 0.95% | 0.95% | 0.95% | 1.00% | 1.15% |
| Dejardins | Period average | 0.95% | 0.96% | 0.98% | 1.00% | 1.00% | 1.00% | 1.10% | 1.35% | |
| Laurentian | Period average | 0.95% | 0.96% | 0.98% | 1.03% | 1.05% | 1.05% | 1.08% | 1.35% | |
| RBC | Period average | 0.95% | 1.01% | 0.99% | 1.00% | 1.02% | 1.05% | 1.13% | 1.30% | |
| Scotia | Period average | 0.95% | 0.99% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.05% | |
| TD | Period average | 0.95% | 0.97% | 0.95% | 0.95% | 0.95% | 0.95% | 1.00% | 1.23% | |
| | Quarterly average | | 0.96% | 0.98% | 0.98% | 0.99% | 1.00% | 1.04% | 1.16% | 1.24% |
| | Annual average | | | | | 0.98% | | | | 1.11% |

³² The March 2013 values for each forecaster, are the actual period average value presented in the BMO forecast.

³³ Mr. McCormick notes that Centra has had access to longer forecasts than are available to the public.

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1 The calculation of the long forecast would use a similar process, but it would
2 require the averaging of the 10 year and 30 year forecasts to arrive at a 10 + rate
3 as the first step. The table below presents the averaged 10 and 30 year rates for
4 the quarters presented.

| 10 Year + | Jun-13 | Sept-13 | Dec-13 | Mar-14 |
|-------------------|--------|---------|--------|--------|
| CIBC | 2.16% | 2.22% | 2.45% | 2.71% |
| Dejardins | 2.18% | 2.28% | 2.44% | 2.61% |
| Laurentian | 2.20% | 2.33% | 2.54% | 2.69% |
| National | 2.18% | 2.29% | 2.44% | 2.62% |
| RBC | 2.17% | 2.19% | 2.26% | 2.40% |
| Scotia | 2.18% | 2.24% | 2.34% | 2.58% |
| TD | 2.13% | 2.21% | 2.39% | 2.58% |
| Quarterly Average | | | | 2.60% |
| Annual Average | | | | 2.36% |

5 To calculate the average for the June quarter we used the March period end data
6 point from one of the forecasts. As National Bank did not offer a current forecast
7 for June period end value, we averaged the March actual value and their
8 September forecast to estimate a June value.

9 The 2.36% 2013/14 10 year + value presented above, when rounded down to
10 2.35% would represent a 20 basis point reduction in forecast long term debt rates
11 compared with the values presented in PUB/Centra II-141 (a). Although not
12 requested, Mr. McCormick would expect the extension of the analysis to 2014/15
13 would result in a similar reduction of forecast long rates.

14 For comparative purposes, the T-bill rates for 2013/14 and 2014/15, of 0.98%
15 and 1.11%, could be compared with 1.3% and 2.1% for the respective years
16 found in Table 1 in PUB/Centra II-141. These updated forecasts would indicate a
17 change of approximately 30 basis points for 2013/14 and approximately 100
18 basis points for 2014/15.

19 b) For each of the new forecast long term debt issues (CAC/MSOS1-14(p)) please
20 provide the recommended forecast interest rate and supporting methodology.

21 Response:

22 Mr. McCormick is unclear as to the item referenced, but assumes that it is the
23 CAC/Centra i-14 (p) and refers to the \$15 million fixed rate 20 year maturity and
24 the \$15 million floating rate maturity.

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1 With respect to the floating rate instrument, Mr. McCormick can only address the
2 base rate and the spread or margin under which the instrument would be issued.
3 The application is premised upon a 2.1% forecast T-bill rate and a 45 basis point
4 spread or margin. That would suggest an interest rate in the range of 2.55%³⁴ for
5 the issue in 2014/15. Mr. McCormick, for believes the better view based on more
6 current forecasts would lead the Board to adopt a T-bill forecast of 1.1% and the
7 more typical spread or margin of observed Manitoba floating rate offerings of 18
8 to 23 basis points. This analysis would suggest an interest rate in the range of
9 1.3%.³⁵ As such, Mr. McCormick would anticipate that the full year interest cost
10 for the \$15 million floating rate issue contained in the application, might be
11 reduced by approximately half, or approximately \$187,500.

12 With respect to the forecast fixed rate \$15,000,000 financing, term matters a
13 great deal, as one can see from the range in May 13, 2013 Manitoba yields on
14 page 51 of Mr. McCormick's evidence. In that table, the then 5 year rate was
15 1.8% and the 20 year rate was 3.49%. On page 10 of 10 in CACC/Centra I-19,
16 Centra observes "Actual financing terms will vary from forecast ... it is not
17 anticipated that the full \$30 million will be advanced with a 2033/34 maturity." No
18 other maturity date was provided for the unquantified portion which might be
19 advanced with a different maturity. As such, there is some substantial
20 uncertainty as to when the fixed rate maturity would occur.

21 With that uncertainty, but recognizing that the ability to forecast accurately is
22 harder with a longer forecast, Mr. McCormick would recommend that rather than
23 using the fiscal 2013/14 forecast of 2.55% 10 year + Canada debt, plus the
24 appropriate credit spread, the Board should include in the rates, interest costs
25 based on the 2.60% March 2014 quarterly average rate which can be seen in the
26 table above, plus the appropriate credit spread. This 5 basis point change would
27 represent \$7,500 annual cost for consumers, until the actual rate for this
28 financing becomes known and integrated into the rates in the next GRA, perhaps
29 4 years in the future.

³⁴ This estimate ignores and variance between CDOR and T-bills and costs of issue.

³⁵ This estimate ignores and variance between CDOR and T-bills and costs of issue.

1 **PUB/CAC I - 9**

2 Reference: Evidence of J.D. McCormick, Page P 46-47 Q.32

3 To what extent should Centra incorporate short and medium term debt in its current
4 debt portfolio and provide the estimated impact on finance expense?

5 Response:

6 Mr. McCormick notes that it is management which gets to pick the various terms
7 and maturity under which it will finance the assets of its enterprise. Without
8 regard to management's choice of terms and maturity selected, the Board has
9 the ability and obligation to include in the rates, only that portion of the interest
10 costs which it views as appropriate to arrive at just and reasonable rates. As
11 such, Mr. McCormick would not seek to limit management authority in this
12 regard, but will offer his views on whether the interest rates ascribed to and
13 interest costs arising from the various debt instruments in the current and
14 forecast debt portfolio should be included in the rates.

15 Background

16 Centra, is indirectly owned by the Province of Manitoba, and pays a 1% fee in
17 respect of short and long term advanced to it through Hydro.

18 Hydro has a number of avenues to access the cash that it needs to fund its
19 operation. Hydro has a \$500 million short term facility³⁶. Hydro can and does
20 issue bonds to the public, including Hydro Builder bonds. Manitoba raises cash
21 through the sale of Debentures and MTNs of varying terms and varying rates.
22 Each of these avenues to access cash, are simply tools to get the job of financing
23 the utility done.

24 Three financing tools

25 For this discussion, Mr. McCormick will focus on the \$500 million short term
26 facility, floating rate debt, and long term fixed rate debt as three tools, available to
27 Centra to obtain the cash it needs to fund its assets.

28 The \$500 million short term facility has provided cash at the lowest cost of funds
29 of these three finance tools. The \$500 million short term facility once charged a
30 BA based reference rate³⁷, and as a result of some more recent analysis is now

³⁶ CAC/MSOS/Centra 2-78 (f) “Hydro and its subsidiaries are managed by Manitoba Hydro on a consolidated entity basis. Centra has a revolving line of credit with Manitoba Hydro and all cash requirements to fund Centra operations or capital programs are advanced from Manitoba Hydro as needed.”

³⁷ CAC/MSOS/Centra I-2 (a) in the 2009 GRA

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1 charged to Centra on a 3 month T-bill basis with a true up³⁸ that clicks in when
2 there is a precedent financing to compare to the benchmark.

3 Mr. McCormick's review of floating rate debt issues since 2000 has indicated the
4 floating rate debt generally undertaken by the Province was for maturities
5 averaging between 3 and 4 years, although there is a recent example of a
6 maturity of approximately 5.9 years. Currently outstanding floating rate debt
7 issues have been issued at BA based rates plus a spread or margin over
8 benchmark averaging of approximately 20 basis points, and as low as 12 basis
9 points.

10 The final financing tool, long term³⁹ fixed rate debt, has been issued by Manitoba
11 generally for maturities as short as five years or as long as five decades.

12 At the date of issue, in a normal yield curve environment, floating rate debt and
13 shorter maturities will be issued at lower yields than longer maturities.

14 In the prior proceedings, short term debt and floating rate debt have been lumped
15 together in certain discussions owing to the similarity of the interest rate
16 mechanism. In this discussion that approach may be appropriate as well. In
17 Centra's case, financing through the spread free short term debt based on the 3
18 month T-bill rate⁴⁰, will have a lower rate than financing through a 5 or 20 year
19 floating rate instrument based on 3 month BAs⁴¹ plus a spread or margin over
20 benchmark of 48.4 or 45 basis points.

21 Consumers with two credit cards with different interest rates would generally
22 prefer to carry a balance on the card with the lower rate. In recent history, Centra
23 seems to be selecting to finance using its "high rate credit card" at BAs plus 48.4,
24 rather than its "low rate credit card" using the 3 month T-bill rate, which it enjoyed
25 using until shortly after the 2009 GRA. Using the May 31, 2013 Bank of Canada
26 data as a proxy for the rate difference, the "high rate credit card" cost 65%⁴² more
27 than the "low rate credit card."

28 This somewhat counterintuitive choice also appears to have affected Hydro.
29 Were one to compare short term debt balances contained in the attachment to
30 CAC/Centra I-18, on page 1 of 8, one would see that Centra carried balances at
31 each quarter end from March 2004 to June 2006. Hydro's short term debt

³⁸ CAC/Centra I-11 page 3 of 3. See also CAC/Centra I-18 for tables showing short term debt quarter end balances for Hydro and Centra.

³⁹ Accountants segment debt into current and long term, categorizing all debt of greater than one year as long term.

⁴⁰ PUB/Centra I-6 page 4 of 5, May 31 2013 Bank of Canada Series V39065, indicates a 1.02% 3 month T bill rate

⁴¹ May 31 2013 Bank of Canada Series V39071, indicates a 1.19% 3 month BA rate.

⁴² $((1.19+0.484)-1.02)/1.02 = 64\%$

1 position for the comparable period is found on page 5 of 8. As Hydro, did not
2 have an adequate Canadian dollar balance to cover the Centra balance of short
3 term debt in each of the quarters, it would appear that Hydro had prefunded the
4 Centra short term balance with other more expensive debt. In 24 of the 41
5 quarters presented in CAC/Centra I-18, Hydro has lower balances in short term
6 debt than Centra, appearing to have prefunded the short term debt needs of
7 Centra.

8 At the time of the 2009 GRA, Centra had been allocated cash on the basis of
9 only two of the three financing tools, the short term debt facility, and long term
10 fixed rate financings. Today, access to the \$500 million short term debt facility
11 has been severely restricted; floating rate financings at unreasonably high
12 spreads have been used for the first time in a decade⁴³; and, the balance is
13 covered with long term fixed rate debt of extended maturities. The shortest fixed
14 rate maturity is 2022.

15 *Portfolio management*

16 This question brings together many of the aspects of the debt portfolio
17 management.

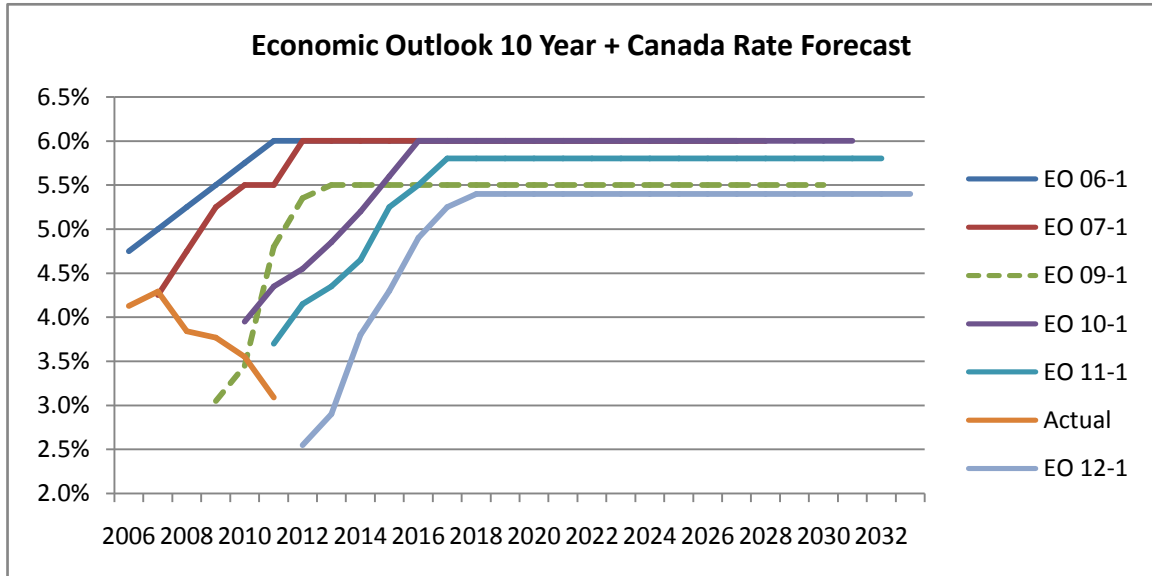
18 It implicitly raises the question of the price to be paid for the interest rate stability
19 of issuing longer term debt, as opposed to issuing debt with a shorter term and
20 facing, with some degree of concern or dread, the risk of higher interest rates at
21 the point of refinancing. Our degree of concern or dread should be in decline, as
22 the forecast of 10 year + Canada rates the fiscal years 2018/19 and beyond, in
23 Attachment 1 to CAC/Centra I-12, indicates a then constant forecast of 4.65% for
24 10 year + Canada rates, compared to the 5.5% rate that had been forecast in the
25 2009 Economic Outlook.

26 While Mr. McCormick, and the older folk among us, will remember the pinnacle
27 rates of the late 1970's and early 1980's, which are presented in a chart in the
28 most recent debt management strategy, let us now look to the long term interest
29 rate forecast information in some of the recent Economic Outlook documents.
30 The chart below provides the calendar year "10 year + Canada" forecast rates
31 from EO 06-1 through EO 12-1 with the exception of EO 08, which Mr.

⁴³ When such a change was suggested in 2009 in Centra's view it would represent a "significant refinancing risk" and later in 2010, after Centra had done the financing, it became "an opportunity ... to rebalance its debt portfolio by introducing floating rate long term debt."

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1 McCormick was unable to find quickly on line. The chart also provides the actual
2 data for the period 2006 to 2011, as the shorter declining slope line⁴⁴.



3
4 The message of the actual line is that, while the market may have looked
5 attractive in much of the last few years, an even more attractive reference rate
6 environment awaited issuers as time passes and the rates fell. While awaiting
7 the availability of the Economic Outlook for 2013, to estimate a 2012 actual
8 value, Mr. McCormick averaged the annual data for two Bank of Canada data
9 series. While slightly different in methodology, the average value for average
10 yield of the Bank of Canada data (a) series V39055 Government of Canada
11 marketable 10 years bonds, and (b) series V39056 long term bond for fiscal
12 2012/13 is 2.46%. Mr. McCormick views this value as suggestive that the trend
13 to lower rather than higher rates continued.

14 Like the other forecast charts Mr. McCormick has documented in his evidence,
15 each of these forecast lines shows increasing values over the early periods.
16 Depending on the forecast year, it might take between 5 and 7 years to reach the
17 ultimate value then forecast. In three of the Economic Outlooks, the maximum
18 long term interest rate is 6%. In the other years, it varies, and is 5.4%, 5.5% or
19 5.8%. So each of these forecasts⁴⁵ would agree that for any period they forecast

⁴⁴ As with many of the forecasts charted in this evidence, this actual line shows the persistent upward bias. The EO 07 2007 value of 4.25% was very close to the reported actual of 4.29%, and the EO 09 2009 and 2010 values of 3.05% and 3.45% were below the reported actual values of 3.77% and 3.55%. Actual calendar year data for 2012 awaits the publication of the EO 2013/14.

⁴⁵ Attachment 1 to CAC/Centra I-12, provides the fiscal years 2018/19 and beyond and indicates a then constant forecast of 4.65% for 10 year + Canada rates.

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1 in looking out into the future of 2018 and beyond, the 10 year + Canada rate will
2 range between 5.4% and 6%, a range of 60 basis points.

3 In other words, for any period beyond 7 years out from the time of our then
4 forecast, there is no incremental refinancing risk, other than changing credit
5 spreads and forecast error⁴⁶, as we would expect to finance off a long Canada
6 base rate of between 5.4% and 6%⁴⁷.

7 Owing to the constant forecast values after the seventh year, all of these
8 forecasts suggest, if we believe them, the refinancing risk does not change in the
9 period after 7 and continuing to 20 years. As such, based on our forecast of
10 constant future base rates, currently we should be indifferent to the refinancing
11 risk in our selection of a 10 year or 20 year maturity.

12 Clearly, the shape of the current yield curve would be a factor⁴⁸ that must be
13 considered. In considering setting a future maturity one would take note of the
14 difference between the current yields of the various terms. On May 13, 2013, Mr.
15 McCormick observed a term spread of approximately 57 basis points between 10
16 and 20 year Manitoba maturities.⁴⁹ The then term spread was approximately 112
17 basis points between 5 and 10 year Manitoba maturities.

18 Long term debt of intermediate maturities

19 Accountants separate debt into current and long term, categorizing all debt of
20 greater than one year as long term.

21 Among the recent Centra financings, the \$35 million 2015 floating rate maturity
22 and the \$20 million 2022 maturity are the shortest of the portfolio. Centra's other
23 financings mature between 2030 and 2042. The 2014 forecast issues are to
24 mature in 2034⁵⁰. The resulting weighted average term to maturity, will be
25 approximately 19 years, three years longer than Hydro, when in past Centra's
26 weighted average term to maturity was much lower in than that of Hydro⁵¹.

⁴⁶ The forecast error EO 06, 2008 forecast value of 5.25% compared to the actual 2008 value of 3.84% is 1.41%.
The forecast error EO 09, 2011 forecast value of 4.8% compared to the actual 2011 value of 3.09% is 1.71%. The
forecast error EO 06, 2011 forecast value of 6% compared to the actual 2011 value of 3.84% is 2.91%.

⁴⁷ 5.4% is the long term expectation found in EO 12-1 and 6% was the long term expectation found in EO 06, 07,
and 10.

⁴⁸ In CAC/MSOS/MH II 147 (a) Hydro lists a number of factors it considers in financing decisions.

⁴⁹ See page 51 of Mr. McCormick's evidence.

⁵⁰ On page 10 of 10 in CAC/Centra I-19, Centra observes "Actual financing terms will vary from forecast ... it is not
anticipated that the full \$30 million will be advanced with a 2033/34 maturity." No other maturity date was provided
for the unquantified portion which might be advanced with a different maturity. Mr. McCormick observes that
forecasting long and financing short can lead to variance between forecast interest cost and actual interest cost.

⁵¹ There is an unresolved discontinuity between the Hydro Weighted Average Term to Maturity values found in
CAC/MSOS/MH II-148 in the 2010 Hydro GRA, and CAC/Centra I-14 Attachment 3. The matter is unresolved due

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1 Under the asset matching principle,⁵² one arguably might seek to finance assets
2 with debt of similar term. In this way the business risk may be more congruent
3 with the financing risk.

4 While Centra's assets have some categories with long service lives, included in
5 those assets there will be some assets with short service lives. Those assets
6 with short service lives could include assets that are anticipated to be replaced in
7 near term having been installed perhaps 50 or 60 years ago and assets like
8 trucks or computers that have shorter service lives. Financing these assets with
9 3 year or 5 year debt instruments would seem to fit with the "asset matching
10 principle".

11 Centra has \$35 million of floating rate debt maturing in 2015; the \$20 million 2022
12 fixed rate maturity; and, forecasts a further \$15 million floating rate maturity and a
13 \$15 million fixed rate maturity in 2034⁵³. In Mr. McCormick's earlier appearances
14 before this Board, he has recommended staggered maturities to address
15 refinancing risk and shorter maturities to capture the benefit of the normal yield
16 curve.

17 As an alternative to 20 year financings, which will increase the concentration of
18 refinancing in the early 2030s, Mr. McCormick observes that a 5 year financing
19 maturing in 2018 or 2019 would reduce that concentration and also allow
20 consumers to benefit from the normal yield curve, which indicates lower rates for
21 shorter maturities.

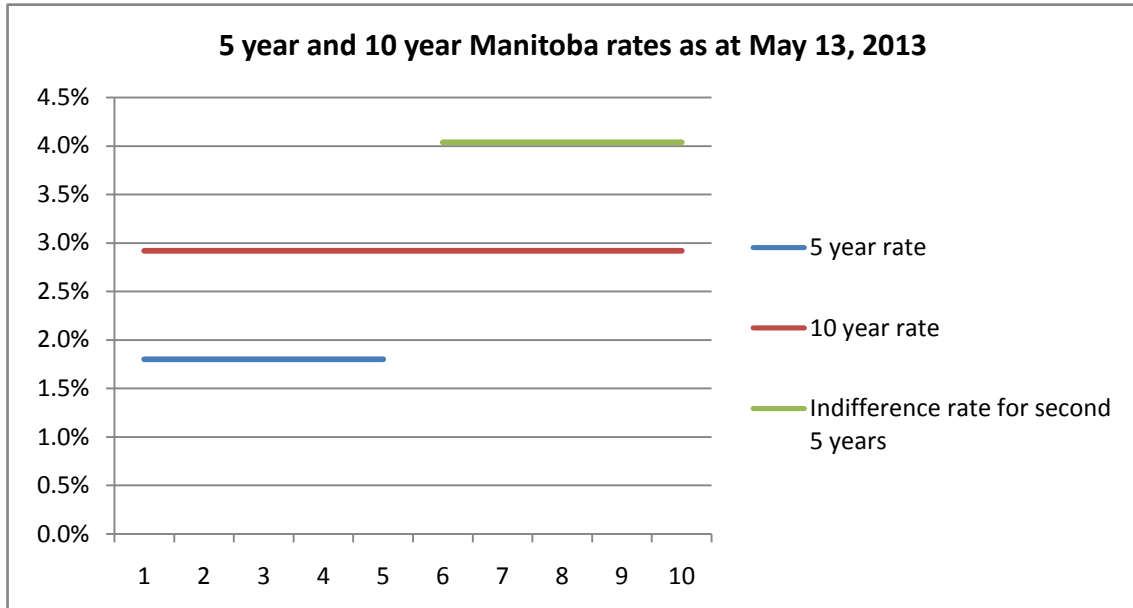
22 The chart below uses the interest rates found on page 51 of Mr. McCormick's
23 evidence. For periods 1 through 5, it provides a line showing the May 13, 2013,
24 1.80% five year Manitoba rate and, for periods 1 through 10, the 2.92% 10 year
25 Manitoba rate. During that period consumers would enjoy savings of 1.12% per
26 annum on the outstanding principal. As the rate for 5 year financing, 5 years in
27 the future is unknown, the line for periods 6 through 10, described as the
28 "indifference rate" is set at 4.04%, being the sum of the 2.92% 10 year rate which
29 might have applied throughout the term and the first 5 years of savings.

to the late delivery of the IR reply effectively preventing a subsequent series two question to resolve the issue. For example, the March 31, 2004 value in CAC/MSOS/MH II-148 is 10.1 years, as opposed to the 13.8 years indicated in CAC/Centra I-14 Attachment 3. All actual values through to an including 2010 fail to reconcile.

⁵² See CAC/MSOS/Centra I-5 (g) "The maturity of a financing instrument should be similar to the useful life of the asset being financed. A company can minimize its risk from financing and maximize its capacity to use borrowed funds if it can match up the cash flows on the debt to those on the assets being financed. Accordingly, long lived fixed assets should be financed with long term debt."

⁵³ On page 10 of 10 in CAC/Centra I-19, Centra observes "Actual financing terms will vary from forecast ... it is not anticipated that the full \$30 million will be advanced with a 2033/34 maturity." No other maturity date was provided for the unquantified portion which might be advanced with a different maturity.

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1

2 Should the issuer be able to finance at a rate below 4.04% consumers would
3 have benefited. If the future rate for 5 year money is above 4.04%, consumers
4 would bear the cost. With the most recent indication of future 10 year + Canada
5 yields at 4.65%; a persistent upward bias in forecasting; and, assuming a then
6 normal yield curve, a 5 year fixed rate issue in 2014 may represent a reasonable
7 choice, having regard to the relative weighted average term to maturity of long
8 term debt of Centra and Hydro.

9 Summary

10 With respect to floating rate debt, Mr. McCormick is of the opinion that the
11 spreads or margins over the benchmark rate of 48.4 basis points and forecast 45
12 basis points are unreasonable. Spreads of 18 to 23 basis points appear
13 reasonable in that they can be observed in the recent Manitoba floating rate
14 financings. These unreasonable spreads have affected interest cost on \$35
15 million of principal in the 2012/13 forecast year, and with the intended 2014 \$15
16 million financing, appear to be intended to affect the interest costs on
17 approximately \$50 million of principal in the 2014/15 financial year.

18 With respect to short term debt, Mr. McCormick would consider it reasonable to
19 see a higher weighting of short term debt in the capital structure. The short term
20 debt facility appears to provide the lowest cost of funds and based on recent

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1 market conditions would represent an interest saving to consumers of
2 approximately 17⁵⁴ basis points due to the spread between 3 month T bills and 3
3 month BAs, before giving effect to the 48.4 or 45 basis point spread or margin
4 over benchmark applied to floating rate borrowings.

5 Estimate

6 Mr. McCormick regrets that he cannot provide the Board with the impact on
7 finance expense of changes of short and medium term debt in Centra's debt
8 portfolio. This is due in part to the interrelated nature of some of the changes.
9 This is also due to the fact that Mr. McCormick concentrates on "Gross interest",
10 having observed in the 2010 Hydro GRA, that a reduction of \$8.1 million in Gross
11 interest can, somewhat counter intuitively, lead to an increase in finance expense
12 of \$2.6 million. Apparently, gross interest and finance expense need not move in
13 the same direction.

14 Mr. McCormick can assist the Board in estimating the change in gross interest,
15 and has attempted that in the preceding discussion of Series 10 and Series 15
16 interest rates and costs, and comments with respect to the changes in forecasts
17 in his evidence and these replies.

18 With respect to Centra's significant reduction in the use of the short term debt
19 facility, should the Board view that as unreasonable, the change in gross interest
20 would depend upon whether the Board indicated that the offsetting correction
21 was to the recent issues of floating rate debt or fixed rate long term debt. Mr.
22 McCormick discussed above, the variance in interest where the offsetting
23 correction was to the floating rate debt. If the offsetting correction is to fixed rate
24 long term debt, the adjustment would be based on the difference between the T-
25 bill rate and the fixed rate on the series of long term debt which the Board
26 considered unreasonable, in whole or in part, for Centra's debt portfolio.

⁵⁴ May 31 2013 Bank of Canada Series V39071, indicates a 1.19% 3 month BA rate, less, May 31 2013 Bank of Canada Series V39065, indicates a 1.02% 3 month T bill rate.