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Opinion on Capital Structure, Return on Equity and the
Automatic Adjustment Formula for

Newfoundland Power Inc.

November 2012



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November 28, 2012

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Dear Mr. Byrne:

OPINION ON CAPITAL STRUCTURE, RETURN ON EQUITY AND THE AUTOMATIC ADJUSTMENT FORMULA

We enclose our independent expert report as to the reasonableness of Newfoundland Power Inc.'s capital structure and the determination of a fair return on equity for 2013 and 2014. Furthermore, our report also considers the future use or replacement of the Automatic Adjustment Formula.

Our expert report along with supporting calculations, details the methods, considerations, analyses and conclusions that underlie our opinion. We believe that our analysis must be considered as a whole. Selecting portions of our analysis or the factors we considered, without considering all factors and analyses together could create a misleading view of the process underlying the conclusions. The preparation of an expert report is a complex process and is not necessarily susceptible to partial analysis or summary description. Any attempt to do so could lead to undue emphasis on any particular factor or analysis.

We thank you for the opportunity to provide our services and will be pleased to discuss the foregoing with you at your convenience.

Yours sincerely,

Troy MacDonald, CA, CBV
Partner, Advisory Service

Table of contents

	Page
Introduction and summary of conclusions	1
Introduction and purpose	1
Independence and qualifications	1
Summary of conclusions	2
Capital structure	2
Return on equity	2
Automatic Adjustment Formula	3
Regulated returns – recent history	5
Fair return standard	6
Cost of capital	6
Canadian regulatory overview	8
ROE methodology	8
Allowed ROEs and equity ratios	9
Automatic adjustment formulas	11
Risk profile and capital structure	13
Business profile	14
Economics and demographics	14
Operating environment	15
Supply	15
Regulatory environment	15
Regulatory mechanisms	16
Credit ratings	17
Credit metrics	18
DBRS	18
Moody's	19
Conclusions	21
Total risk profile	21
Capital structure	21

Economic and capital market conditions	22
Government of Canada bond yields	22
Gross domestic product, inflation and unemployment	23
S&P/TSX composite index	23
Bank of Canada reports	24
Monetary Policy Report (October 2012)	24
Financial Systems Review Report (June 2012)	24
Conclusion	25
Fair return on equity	26
Summary of advantages/disadvantages of selected methodologies	26
Common return on equity elements	27
Risk free rate	27
Adjustment for flotation cost and financial flexibility	28
Market to book ratios	28
Overview of ROE methodologies selected	28
Equity risk premium - ERP	28
Capital asset pricing model - CAPM	30
Discounted cash flow – DCF	33
Fair ROE conclusion	37
Automatic adjustment formula	38
Formula and recent results	39
Conclusions	40
Restrictions and qualifications	42
Restrictions	42
Qualifications	42
Scope of work	43
Scope	43
Assumptions	45
Appendix A: Exhibits	46
Appendix B: Troy MacDonald's curriculum vitae	48

1 Introduction and summary of conclusions

2 **Introduction and purpose**

3 The Board of Commissioners of Public Utilities (“Board”) has requested, in connection with the
4 upcoming 2013-2014 general rate (“GRA”) proceeding of Newfoundland Power Inc. (“Company”),
5 that we prepare an independent expert report (“Report”) on the reasonableness of the Company’s
6 capital structure and the determination of a fair return on equity (“ROE”) for 2013 and 2014.
7 Furthermore, you have asked us to consider the future use or replacement of the Automatic
8 Adjustment Formula (“Formula” or “AAF”).

9 We reserve the right, but are under no obligation, to review all comments and conclusions included in
10 or referred to in this Report and, if we consider it necessary, to revise our conclusions in light of any
11 information existing at the Report date that subsequently becomes known to us following the date of
12 our Report.

13 You have agreed that you will use our Report only for the purpose stated above. No other use is
14 intended or permitted without the prior written consent of Grant Thornton LLP.

15 All amounts contained in this Report are expressed in Canadian dollars unless otherwise stated.

16 **Independence and qualifications**

17 The Report has been prepared by qualified Chartered Accountants and Chartered Business Valuers.
18 The professional work to prepare this Report and the attached analyses was performed by Troy
19 MacDonald, CA, CBV, with the assistance of qualified professional staff. The conclusions expressed
20 herein are the opinions of Troy MacDonald. Mr. MacDonald’s curriculum vitae is attached as
21 **Appendix B.**

22 We confirm that Mr. MacDonald and other professional staff assisting in this engagement prepared this
23 Report acting independently and objectively. We confirm we are aware that, in giving an opinion to the
24 Board, we have a duty to assist the Board and not be an advocate for any party. We confirm this
25 Report has been prepared in accordance with that duty and if we are called to give oral or written
26 testimony, we will give testimony in conformity with that duty.

27 To the best of our knowledge, we have no conflicts of interest. Our fees were not contingent on the
28 conclusions of our Report or on an action or event resulting from the use of our Report.

29 **Summary of conclusions**

30 Our conclusions are based on the scope of our review and subject to the assumptions, restrictions, and
31 qualifications noted herein.

32 **Capital structure**

33 We conclude that the Company's forecast common equity ratio of 45% for 2013 and 2014 is reasonable
34 in light of its business, regulatory and financial risks (total risk on a combined basis). In forming this
35 conclusion, we also considered the stable trend in the equity ratios of its investor-owned Canadian
36 utility peers for the period of 2010-2012, the importance of maintaining existing investment grade
37 credit ratings and being positioned to continue attracting debt capital on reasonable terms. A decrease
38 in the Company's equity ratio could be negatively viewed as the Board becoming less supportive, which
39 in turn could impact credit ratings.

40 **Return on equity**

41 Based upon our research, there is no common, widely accepted methodology to estimate the cost of
42 capital. All methodologies are imperfect and cost of capital estimation is much more of an art than a
43 science. Each methodology is more or less reliable depending on the prevailing economic and capital
44 market conditions and each has its own strengths and weaknesses. In our view it is best to estimate the
45 cost of capital by considering multiple methodologies.

46 We estimated a fair ROE for the Company for 2013 and 2014 at 8.91% in light of the Company's total
47 risk profile, and allowed common equity ratio of 45% and its credit metrics. The estimated ROE is
48 based on the results of applying the Capital Asset Pricing Model ("CAPM"), discounted cash flow test
49 ("DCF") and equity risk premium test ("ERP"), see **Table 1** below. All three methodologies have been
50 used in recent cost of capital decisions made by Canadian regulators. We have weighted the CAPM,
51 ERP and DCF conclusions equally, as each methodology has its strengths/limitations. While these
52 methods are each impacted by the prevailing economic and capital market conditions, we believe they
53 all merit consideration when determining a fair ROE. Our fair ROE conclusion is also based on our
54 assessment that the Company is an average risk (average total risk) Canadian utility.

Table 1 - Fair ROE conclusion		
Methodology	Conclusion	Weighting
CAPM	6.84%	33.33%
DCF	9.63%	33.33%
ERP	10.26%	33.33%
		100.00%
Conclusion	8.91%	

55

We also compared our fair ROE conclusion to recent cost of capital decisions made by other Canadian regulators as a further reasonableness check. We note that our fair ROE conclusion of 8.91% falls between the low and high points of allowed ROEs for 2012¹.

In **Table 2** below we compare our fair ROE conclusions to those developed by the other experts (known as of the date of our report) to the GRA proceeding.

Table 2 - Fair ROE conclusions 2013-2014	
Expert	Conclusion
Grant Thornton LLP	8.91%
Kathleen C. McShane*	10.50%
James H. Vander Weide**	10.40%
Sources:	
*Newfoundland Power Inc.'s 2013-2014 GRA Volume III, <i>Opinion on Capital Structure and return on equity for Newfoundland Power Inc. prepared by Kathleen C. McShane dated September 2012, page 3.</i>	
**Newfoundland Power Inc.'s 2013-2014 GRA Volume III, <i>Written evidence of James H. Vander Weide for Newfoundland Power Inc. dated September 2012, page 45 of 124.</i>	

Although we have compared our fair ROE conclusion to recent cost of capital decisions made by other Canadian regulators and to the other experts to the GRA, our fair ROE conclusion is based entirely on our own independent calculations using market-based cost of equity tests.

Automatic Adjustment Formula

There is no regulatory consensus on the use of AAFs by other Canadian regulators.

The use of the Formula is only appropriate when it results in returns that meet the fair return standard. In recent years, many Canadian regulatory authorities have reviewed the use of such AAFs, which has led to a range of outcomes including eliminating, suspending or adjusting existing AAFs.

In assessing the Formula, we compared its current results to our report findings. We concluded that the Formula, in its current form, does not estimate a fair ROE for 2013 since the Formula indicates an estimated ROE of 7.47%² that is well below our conclusion of fair ROE of 8.91%. This is a reflection of the decline in long-term bond yields since the 2010 GRA.

¹ 2012 regulated equity returns range from a low of 8.75% in Alberta and a high of 9.9% in British Columbia (excluding gas distribution utilities), see Table 3 for more information.

² The pro forma 2013 forecast cost of equity based upon the October 2012 Consensus Forecasts is calculated as follows: $9\% + (0.80(2.59\% - 4.50\%)) = 7.47\%$. The October Consensus Forecasts is used to establish the risk-free rate in Formula.

74 We recognize the Formula has value as a regulatory tool, but it has had challenges meeting the fair
75 return standard as a result of the current interest rate environment. We believe these challenges relate
76 to utilizing a single variable to adjust the return on equity, which is influenced by multiple
77 considerations. The directness of the correlation between movements in the traditional measures of the
78 risk free rate and the return on equity has been less clear in light of the recent interest rate environment.

79 Based on these considerations, we have outlined adjustments that should be incorporated to address
80 these concerns. These adjustments moderate the impact of movements in the risk free rate on the
81 ROE by introducing control mechanisms. The objective of these adjustments is to preserve the
82 Formula as a useful regulatory tool that allows for adjustment to the ROE for movements in the risk
83 free rate, while reducing the regulatory costs incurred to do so. This objective is balanced with the
84 recognition that ROE is impacted by multiple factors and a single adjustment mechanism must be
85 carefully moderated to be effective during times of significant financial uncertainty, such as those we
86 have experienced during the past few years.

87 Regulated returns – recent history

88 The Board used a public hearing to consider the issue of fair return on rate base in the context of the
89 2010 GRA. In Order Nos. P.U. 43 (2009) and P.U. 46 (2009), the Board determined the allowed return
90 on rate base for 2010 at 8.23% with a range of 8.05% to 8.41%, incorporating a regulated ROE of
91 9.00%. The ROE was established by the Board (mainly on the application of CAPM). Furthermore,
92 the Board determined that the returns for 2011 and 2012 would be set using the Formula.

93 In Order No. P.U. 12 (2010), the Board approved the continuation of the Formula however; the risk
94 free rate used to establish the ROE rate was adjusted. The risk free rate was adjusted to include
95 forecast long-term bond yields as opposed to actual long-term bond yields.

96 The 2011 return on rate base was approved in Order No. P.U. 32 (2010) at 7.96% in a range of 7.78%
97 to 8.14%. This reflected a ROE of 8.38% and this was established by the use of the Formula.

98 In Order No. P.U. 25 (2011), the Board suspended the operation of the Formula for 2012 and it
99 approved the continued use of the 2011 rate of return on an interim basis until further order.

100 On March 30, 2012, the Company filed a cost of capital application where it proposed a fair return on
101 rate base for 2012 and proposed to discontinue the use of the Formula. In its cost of capital
102 application the Company filed evidence from two experts. Ms. Kathleen C. McShane and Dr. James H.
103 Vander Weide concluded that a fair ROE for 2012 was 10.50% and 10.40% respectively.

104 In May 2012, the Consumer Advocate filed expert evidence by Dr. Laurence Booth which stated that in
105 his opinion a fair ROE for 2012 would be 8.15% within a range of 7.65%-8.70%.

106 A negotiated settlement was subsequently reached and approved in Order No. P.U. 17 (2012), which
107 established a 2012 return on rate base of 8.14% with a range of 7.96% to 8.32%, incorporating a
108 regulated ROE of 8.80% for 2012.

109 On September 14, 2012 the Company filed its GRA for 2013-2014 where it proposed a fair ROE of
110 10.40% to 10.50% for 2013 and 2014 and proposed that the Formula be discontinued. Included in the
111 GRA was evidence from two experts. Ms. Kathleen C. McShane and Dr. James H. Vander Weide
112 concluded that a fair ROE for a two-year period was 10.50% and 10.40% respectively.

113 Fair return standard

114 The Company is regulated on a cost of service basis. Section 80 (1) of the Public Utilities Act (“Act”) provides that a public utility is entitled to earn annually a just and reasonable return on rate base as determined by the Board.

117 Section 3 (a) (iii) of the Electrical Power Control Act, 1994 (“EPCA”) provides that the rates to be charged for the supply of power within the province should provide sufficient revenue to the producer;

119 *“...to enable it to earn a just and reasonable return as construed under the Public Utilities Act so that it is able to achieve and maintain a sound credit rating in the financial markets of the world...”*.

121 The principles underlying the determination of a fair return are articulated in key legal decisions in Canada and the US³. In summary, a fair return allows a regulated utility the opportunity to:

- 123 a. Maintain its financial integrity;
- 124 b. Attract capital on reasonable terms; and
- 125 c. Earn a return equal to what investors expect to earn on other investments of comparable risk.

126 The fair return standard was also confirmed in Order Nos. P.U. 19 (2003) and P.U. 43 (2009) in which the Board stated that regulated utilities should be provided with the opportunity to earn a fair rate of return. Furthermore, the Board noted that to be considered fair, the return must be commensurate with the return on investments of similar risk and sufficient to assure financial integrity and to attract necessary capital.

131 **Cost of capital**

132 Historically regulators have determined whether an allowed return is fair by comparing it to one or more estimates of the Company’s overall cost of capital. Cost of capital is a key parameter in regulatory settings as it represents the expected rate of return investors require based on the risk-adjusted alternatives available in capital markets. Cost of capital represents the weighted average cost of the

³ (1) *Northwestern Utilities Ltd. V. Edmonton (City)*, [1929] S.C.R. 186; (2) *Bluefield Water Works and Improvement Co. v. Public Service Commission of West Virginia*, (262 U.S. 679, 692 (1923)); and (3) *Federal Power Commission v. Hope Natural Gas Co.* (320 U.S. 591 (1944)).

136 various sources of capital (debt, common equity and preferred equity) that are used to finance a
137 company's assets and the cost of which is dependent on a company's level of business (including
138 regulatory) and financial risk. The various components of the cost of capital are linked; therefore it is
139 impossible to estimate a fair ROE without also considering capital structure. This is because debt
140 holders' claims on a company's cash flow take priority over those of equity holders. As the company's
141 debt ratio increases so does its cost of equity due to the rise of potential variability of equity holder
142 returns.

143 Although the key legal decisions provide the overall framework to be followed we note that they do not
144 prescribe for example how to determine utility comparability, how to estimate the cost of capital, or
145 how to apply those estimates when setting a fair return.

146 Canadian regulatory overview

147 We have reviewed the cost of capital decisions of other Canadian regulators since the Company's 2010
148 GRA. We acknowledge that looking to cost of capital decisions of other Canadian regulators to assess
149 the reasonableness of our conclusions may have an aspect of circularity. However, we believe that the
150 recent decisions of other Canadian regulators can provide another check on the reasonableness of our
151 conclusions. Our fair ROE conclusions are based entirely on our own independent calculations using
152 market-based cost of equity tests.

153 We have excluded Canadian jurisdictions that mainly regulate Crown corporations as we believe their
154 figures are not comparable. Investor-owned utilities are more relevant as market information (such as
155 debt ratings) is based on a function of a utility's risk on a stand-alone basis and not of one being directly
156 or indirectly supported by government ownership.

157 The Company believes that FortisBC Inc. is the only Canadian investor-owned utility of reasonable
158 comparable size, considering size of rate base, number of customers and load⁴. The Company believes
159 that FortisBC Inc. is a comparable average risk utility⁵.

160 **ROE methodology**

161 The most widely used ROE estimation techniques used by Canadian regulators are CAPM, DCF, ERP
162 and to a lesser extent comparable earnings ("CE"). As examples, we note that the British Columbia
163 Utilities Commission ("BCUC") in their 2009 decision used CAPM, DCF, ERP and CE methodologies
164 to determine a fair ROE however a very small amount of weight was given to the CE approach⁶. The
165 Alberta Utilities Commission ("AUC") in both the 2009 and 2011 decisions used CAPM and DCF
166 methodologies⁷. The Ontario Energy Board ("OEB") in 2009 determined that the use of multiple tests
167 to directly or indirectly estimate the equity risk premium is superior than relying on one approach⁸. As
168 noted above, in Order No. P.U. 43 (2009) the Board determined the allowed ROE for 2010 mainly on
169 the application of CAPM. We note that only one of the expert reports (known as of the date of this
170 Report) to the GRA proceeding has used the CE methodology and a lesser weighting was given to its

⁴ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-056.

⁵ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-014.

⁶ BCUC 2009 Decision, page 65.

⁷ AUC 2009 Decision, page 86-88; AUC 2011 Decision, page 27-28.

⁸ OEB EB-2009-0084, page 36.

171 results versus market based approaches being ERP and DCF⁹. We note that Ms. McShane is of the
172 view that the CE methodology should be entitled to significant weight, although she acknowledges that
173 regulators have afforded it a small amount or no weight in recent years¹⁰. The Company noted that the
174 CE approach has not been widely accepted in recent years although it was used in the 2009 BCUC
175 decision albeit a small amount of weight was given to it¹¹.

176 **Allowed ROEs and equity ratios**

177 In **Table 3** and **Table 4** below we have compiled the allowed ROEs and equity ratios approved by
178 other Canadian regulators in 2010, 2011 and 2012.

Table 3 - Allowed ROEs			
Entity	2010	2011	2012
British Columbia Utilities Commission			
Benchmark utility	9.50%	9.50%	9.50%
FortisBC Energy Inc. - <i>gas distribution</i>	9.50%	9.50%	9.50%
FortisBC Energy (Vancouver Island) Inc. - <i>gas distribution</i>	10.00%	10.00%	10.00%
FortisBC Energy (Whistler) Inc. - <i>gas distribution</i>	10.00%	10.00%	10.00%
FortisBC Inc. - <i>integrated electric</i>	9.90%	9.90%	9.90%
PNG - West Division - <i>gas distribution</i>	10.15%	10.15%	10.15%
PNG - Fort St. John/Dawson Creek - <i>gas distribution</i>	9.90%	9.90%	9.90%
PNG - Tumbler Ridge - <i>gas distribution</i>	10.15%	10.15%	10.15%
Alberta Utilities Commission			
Generic cost of equity	9.00%	8.75%	8.75%
Ontario Energy Board			
Generic cost of equity	9.75%, 9.85%	9.85%, 9.58%	9.42%, 9.12%
Quebec Regie de l'Energie			
Gaz Metro - <i>gas distribution</i>	9.20%	9.20%	8.90%
Nova Scotia Utility and Review Board			
Nova Scotia Power Inc. - <i>integrated electric</i>	9.35%	9.20%	9.20%
Prince Edward Island Regulatory & Appeals Commission			
Maritime Electric - <i>integrated electric (note 1)</i>	9.75%	9.75%	9.75%
National Energy Board (note 2)	N/A	N/A	N/A
Board of Commissioners of Public Utilities, NL			
Newfoundland Power Inc. - <i>integrated electric</i>	9.00%	8.38%	8.80%
Note 1: The allowed ROEs do not take into account the legislature reduced electricity rates by 14%.			
Note 2: NEB has not issued an ROE decision since 2009. The NEB reported that the RH-2-94 formula would have resulted in ROEs of 8.52%, 8.08% and 7.58% for 2010, 2011 and 2012 respectively.			
Sources:			
BCUC Order No. G-158-09; Fortis 2011 annual report; BCUC Order No. G-47-12; FortisBC Inc. Application for 2012/2013 Revenue Requirements and Review of 2012 Integrated System Plan; AUC Generic Cost of Capital Decisions 2009 & 2011; OEB Cost of Capital Parameter Updates 2011 and 2012; Regie D-2009-156 & D-2011-182; 2010 NSUARB 6, 2011 NSUARB 184; IRAC Order UE10-03; NEB RH-1-2008 Decision; NL PUB Orders Nos. P.U. 43 (2009), P.U. 32 (2010), P.U. 17 (2012).			

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⁹ Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Opinion on Capital Structure and return on equity for Newfoundland Power Inc. prepared by Kathleen C. McShane dated September 2012, page 5.

¹⁰ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-064.

¹¹ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-065.

180 During this period we observe that the regulated ROEs in other Canadian jurisdictions have been
181 relatively stable. Although not mentioned above, we note that Nova Scotia Power Inc. has negotiated
182 an ROE of 9% for 2013-2014 (range of 8.75% to 9.25%) however; the settlement filed in September
183 2012 with the Nova Scotia Utility and Review Board ("NSUARB") is not yet approved¹².

Table 4 - Allowed equity ratios				
Entity	2010	2011	2012	
British Columbia Utilities Commission				
Benchmark utility	40.00%	40.00%	40.00%	
FortisBC Energy Inc. - <i>gas distribution</i>	40.00%	40.00%	40.00%	
FortisBC Energy (Vancouver Island) Inc. - <i>gas distribution</i>	40.00%	40.00%	40.00%	
FortisBC Energy (Whistler) Inc. - <i>gas distribution</i>	40.00%	40.00%	40.00%	
FortisBC Inc. - <i>integrated electric</i>	40.00%	40.00%	40.00%	
PNG - West Division - <i>gas distribution</i>	45.00%	45.00%	45.00%	
PNG - Fort St. John/Dawson Creek - <i>gas distribution</i>	40.00%	40.00%	40.00%	
PNG - Tumbler Ridge - <i>gas distribution</i>	40.00%	40.00%	40.00%	
Alberta Utilities Commission				
Electric and gas distribution (except Altas Gas)	39-41.0%	39-41.0%	39-41.0%	
AltaGas - <i>electric and gas distribution</i>	43.00%	43.00%	43.00%	
Electric transmission	36-37.0%	36-37.0%	36-37.0%	
ATCO Pipelines - <i>gas distribution</i>	45.00%	45.00%	38.00%	
Ontario Energy Board				
Enbridge Gas/Union Gas - <i>gas distribution</i>	36.00%	36.00%	36.00%	
Hydro One/Electric Distribution (<i>note 1</i>)	40.00%	40.00%	40.00%	
Quebec Regie de l'Energie				
Gaz Metro - <i>gas distribution</i>	38.50%	38.50%	38.50%	
Nova Scotia Utility and Review Board				
Nova Scotia Power Inc. - <i>integrated electric</i>	37.50%	37.50%	37.50%	
Prince Edward Island Regulatory & Appeals Commission				
Maritime Electric - <i>integrated electric (note 2)</i>	N/A	N/A	N/A	
National Energy Board (<i>note 3</i>)	N/A	N/A	N/A	
Board of Commissioners of Public Utilities, NL				
Newfoundland Power Inc. - <i>integrated electric</i>	45.00%	45.00%	45.00%	
Note 1: Hydro One is a Crown Corporation.				
Note 2: IRAC does not provide a deemed capital structure.				
Note 3: NEB allows a WACC on the rate base rather than an ROE and a deemed capital structure. NEB has not issued an ROE decision since 2009.				
Sources:				
BCUC Order No. G-158-09; AUC Generic Cost of Capital Decisions 2009 & 2011; OEB EB-2005-0520, OEB EB-2006-0034; OEB EB-2009-0084, OEB EB-2010-002; Regie D-2009-156, Regie D-2011-182; 2010 NSUARB 6, 2011 NSUARB 184; IRAC Order UE10-03; NEB RH-1-2008 Decision; NL PUB Orders Nos. P.U. 43 (2009), P.U. 32 (2010), P.U. 17 (2012).				

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¹² 2013-2014 General Rate Application, Settlement Agreement, September 14, 2012, page 1.

The Company's allowed equity ratios for 2010, 2011 and 2012 were at the high end of those allowed by other Canadian regulators and during this period we observe that the allowed equity ratios in other jurisdictions have been stable. Although not shown in the table above, we note that some jurisdictions implemented increases in their allowed equity ratios for 2009¹³.

Automatic adjustment formulas

There is no regulatory consensus on the use of AAFs. In 2009, BCUC, AUC and National Energy Board ("NEB") chose to discontinue or suspend the operation of their AAFs¹⁴. These changes were primarily due to the perceived inability (in their view) of the AAFs based on long-term Government of Canada bond yields to establish a fair ROE in the then current market conditions. The Prince Edward Island Regulatory & Appeals Commission ("IRAC") and NSUARB have never adopted AAFs to establish returns. The OEB, Quebec Regie de l'Energie ("Regie") and the Board continue to maintain their use of AAFs.

In **Table 5** below we have summarized the components of the AAFs for Canadian jurisdictions which historically have used such mechanisms, past and present.

Table 5 - Formulas past and present	
Suspended/discontinued automatic adjustment formulas:	
British Columbia Utilities Commission	$ROE = \text{Base ROE} + (0.75(\text{LCBF} - \text{Base LCBF}))$
Alberta Utilities Commission	$ROE = \text{Base ROE} + (0.75(\text{LCBF} - \text{Base LCBF}))$
NEB	$ROE = ROE_{py} + (0.75(\text{LCBF}_{cy} - \text{LCBF}_{py}))$
In use automatic adjustment formulas:	
Ontario Energy Board	$ROE = \text{Base ROE} + (0.50(\text{LCBF} - \text{Base LCBF})) + (0.50(\text{Util Bond Spread} - \text{Base Util Bond Spread}))$
Quebec Regie de l'Energie	$ROE = \text{Base ROE} + (0.75(\text{LCBF} - \text{Base LCBF})) + (0.50(\text{Util Bond Spread} - \text{Base Util Bond Spread}))$
Board of Commissioners of Public Utilities, NL	$ROE = \text{Base ROE} + (0.80(\text{LCBF} - \text{Base LCBF}))$
where:	
$ROE = \text{Allowed return on equity}$	
$\text{Base ROE} = \text{Allowed return on equity per the base year}$	
$\text{LCBF} = \text{Long Canada bond forecast}$	
$\text{Base LCBF} = \text{Base long Canada bond forecast}$	
$\text{Util Bond Spread} = \text{Utility bond yields less long Canada bond forecast}$	
$\text{Base Util Bond Spread} = \text{Utility bond yields less long Canada bond forecast per the base year}$	
$ROE_{py} = \text{Allowed return on equity in the prior year}$	
$\text{LCBF}_{cy} = \text{Long Canada bond forecast in the current year}$	
$\text{LCBF}_{py} = \text{Long Canada bond forecast in the prior year}$	
Sources:	
BCUC Decisions 2006; AUC Generic Cost of Capital Decision 2004; NEB RH-2-94 Decision; OEB EB-2009-0084; Regie D-2011-182; Newfoundland Power Inc.'s 2013-2014 GRA Volumes I dated September 14, 2012.	

¹³ For example, equity ratios were increased in BC (BCUC 2009 Decision, p.68) and Alberta (AUC Decision 2009, page 106-107).

¹⁴ BCUC 2009 Decision, p. 73; AUC Decision 2009, page 110; National Energy Board, Press Release: "National Energy Board Drops 94 Return on Equity Formula", October 8, 2009.

200 We observe that Canadian regulators have historically used somewhat similar AAFs. Differences arise
201 in the size of the adjustment coefficient for the change in long-term bond yields as well some
202 jurisdictions have introduced a second adjustment factor which reflects changes in the spread between
203 utility bond yields and long-term bond yields. We note that Newfoundland and Labrador has the
204 highest adjustment coefficient factor of all past and present AAFs.

205 Risk profile and capital structure

206 The Board used a public hearing to consider the issue of overall investment risk encompassing business
207 (including regulatory) and financial risk in the context of the 2010 GRA. In Order No. P.U. 43 (2009),
208 the Board noted that the Company continued to be viewed as an average risk Canadian utility. The
209 Board also agreed and accepted a regulated common equity component no greater than 45% which was
210 consistent with the capital structure established previously by the Board. In fact, the Company's target
211 45% common equity ratio has remained unchanged since 1990¹⁵.

212 In its 2013-2014 GRA, the Company stated that although it considers financial market conditions to
213 have materially changed in recent years, its principal business, regulatory and financial risks have not
214 changed materially. The Company is requesting the Board accept its forecast capital structure that
215 includes a common equity ratio of 45% for both years. The Company has noted that it views itself as
216 an average risk utility¹⁶. The Company also believes its cost of equity has increased from 2009 solely
217 due to changes in financial markets¹⁷.

218 Utilities face business and financial risk. Business risk relates to the uncertainty around the level of
219 profits expected to be generated influenced by volume, unit-price, input costs, competition, regulation
220 and overall economic climate. Financial risk relates to financial leverage measured by the percentage of
221 debt in a company's capital structure.

222 We define regulatory risk (included in business risk) as relating to the quality of regulation decisions in
223 terms of fairness and transparency. Quality of regulation extends beyond the availability of regulatory
224 mechanisms and refers to a regulators willingness to set allowed rates of return that provides a utility
225 with the ability to earn a fair return on investment.

226 We have assessed the Company's total risk (business, regulatory and financial) relative to other
227 Canadian utilities.

¹⁵ Newfoundland Power Inc.'s 2013-2014 GRA Volume I dated September 14, 2012, page 3-30.

¹⁶ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-020.

¹⁷ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-068.

Business profile

The Company is a regulated electric utility that operates an integrated generation, transmission and distribution¹⁸ system throughout the island portion of Newfoundland and Labrador¹⁹. It mainly serves residential and commercial markets. The Company serves approximately 247,000 customers (over 85% of which are residential)²⁰. The Company services the Avalon, Burin and Bonavista Peninsulas and the major centres along the Trans Canada Highway, including: Gander, Grand Falls-Windsor, Corner Brook, Stephenville, and Port aux Basques²¹. The Company does not service the Great Northern Peninsula, smaller communities along the coastline and Labrador as these areas are serviced by Newfoundland and Labrador Hydro (“Hydro”)²². Several large industrial customers are also served by Hydro. Hydro is also the Company’s main supplier of power generation. The Company is a wholly owned subsidiary of Fortis Inc. (“Fortis”), the largest investor-owned distribution utility in Canada, serving more than 2,000,000 gas and electricity customers. Its regulated holdings include electric utilities in five Canadian provinces and two Caribbean countries, as well as a natural gas utility in British Columbia. It owns non-regulated hydroelectric generation assets across Canada and in Belize & Upstate New York. It also owns hotels & commercial real estate in Canada²³.

Economics and demographics

As outlined in the Company’s 2013-2014 GRA, provincial service sector Gross Domestic Product (“GDP”) growth is forecasted on a long-term basis to be 1-2%²⁴. Furthermore, Newfoundland and Labrador’s population growth is expected to be minimal²⁵, increasingly urbanized and aging²⁶. These trends indicate that increased investments will be recovered from a smaller and older customer base in the future. As well, Newfoundland’s economy is heavily reliant on natural resources, and in particular oil discovery, extraction, and production.

In its latest credit rating report, DBRS Limited (“DBRS”) continued to view the Company’s limited growth potential as a challenge²⁷. DBRS also noted growth in earnings has benefited from new home construction and strong economic growth mainly as a result of increased activity in nickel and iron ore mining as well as oil and gas activities²⁸. Moody’s Investors Services (“Moody’s”) noted that the

¹⁸ We note that the Company is predominately a transmission and distribution electric utility with only a small amount of its supply coming from its own generating stations.

¹⁹ Newfoundland Power Inc. Annual Information Form, March 2012, page 1.

²⁰ Ibid.

²¹ <http://www.newfoundlandpower.com/AboutUs/Profile.aspx>

²² Ibid.

²³ www.fortisinc.com

²⁴ Newfoundland Power Inc.’s 2013-2014 GRA Volume I dated September 14, 2012, page 3-17.

²⁵ <http://www.economics.gov.nl.ca/pdf/Popbyagemedium-web.pdf>

²⁶ Ibid.

²⁷ Newfoundland Power Inc.’s 2013-2014 GRA Volume II Exhibit 4, DBRS rating report, Newfoundland Power Inc., September 10, 2012, page 2.

²⁸ Newfoundland Power Inc.’s 2013-2014 GRA Volume II Exhibit 4, DBRS rating report, Newfoundland Power Inc., September 10, 2012, page 1.

254 Newfoundland and Labrador market was mature and has tended to grow at a relatively low and
255 predictable rate of 1-2% annually.²⁹

256 The Company believes its long-term business risk profile largely relates to the demographic and
257 economic outlook of its service territory.³⁰ In terms of relative population and long-term economic
258 growth, Newfoundland & Labrador's growth outlook is weak compared to other provinces that are
259 served by other utilities.³¹

260 **Operating environment**

261 The Company's main operating risk continues to be weather-related service disruption as the
262 Company's service territory is subject to severe weather conditions. These conditions increase
263 operating and capital cost volatility. As noted below, the Company does utilize a weather normalization
264 reserve which stabilizes customer rates.

265 **Supply**

266 The Company relies on Hydro for approximately 93%³² of its power supply and it generates the balance
267 from its own small generating stations³³. The Company recovers its power supply costs through a
268 combination of customer rates and regulatory mechanisms (as noted below).

269 In its latest credit rating report, DBRS continued to view the Company's reliance on Hydro for most of
270 its supply as a challenge as higher rates driven by the high cost of oil could make it more difficult for
271 the Company to get approval for its own rate increases³⁴.

272 **Regulatory environment**

273 Under provision of the Act, the Company is regulated by the Board that is responsible for setting
274 electricity rates, approving capital expenditures, and deciding on the appropriate capital structure and
275 ROE for rate-setting purposes. The Act and EPCA govern the recovery of costs and the establishment
276 of returns for the Company.

277 The Company's allowed rate of return on rate base is typically set within +/- 18 bps³⁵. Any earnings
278 that exceed the upper limit of the allowed range of return on rate base set by the Board are credited to
279 an excess earnings account for the benefit of ratepayers and earnings shortfalls are borne by the
280 Company's shareholders.

²⁹ Newfoundland Power Inc.'s 2013-2014 GRA Volume II Exhibit 4, Moody's rating report, Newfoundland Power Inc., July 18, 2011, page 2.

³⁰ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-027.

³¹ *Ibid.*

³² Newfoundland Power Inc. Annual Information Form, March 2012, page 3.

³³ <http://www.newfoundlandpower.com/AboutUs/Profile.aspx>

³⁴ Newfoundland Power Inc.'s 2013-2014 GRA Volume II Exhibit 4, DBRS rating report, Newfoundland Power Inc., September 10, 2012, page 2.

³⁵ For example, in Order No. P.U. 17 (2012), the Board established a 2012 return on rate base of 8.14% with a range of 7.96% to 8.32%.

281 **Regulatory mechanisms**

282 The Company has a number of regulatory assets and liabilities approved by the Board that are currently
283 in use.³⁶ Furthermore, not all regulatory assets/liabilities are regulatory cost recovery mechanisms³⁷.
284 The principal cost recovery regulatory mechanisms ensure reasonable recovery of (1) supply costs,
285 including those due to variances in weather and (2) employee future benefits. The principal cost
286 recovery mechanisms are as follows:

287 **Supply costs**

- 288 - Weather Normalization Reserve (“WNR”)
- 289 - Rate Stabilization Account (“RSA”)
- 290 - Demand Management Incentive Account (“DMIA”)

291 **Employee future benefits**

- 292 - Pension Expense Variance Deferral Account (“PEVDA”)
- 293 - Other Post Employment Future Benefits (“OPEB”)

294 These principal cost recovery mechanisms are also the same as listed by DBRS in its latest credit rating
295 report³⁸. Within the listing above, the OPEB is the only new cost recovery mechanism approved since
296 the 2010 GRA³⁹.

297 The cost recovery mechanisms noted above are commonly used by Canadian and US utilities. For
298 example we note that there are many Canadian investor-owned distribution utilities that have
299 mechanisms that permit recovery of energy supply costs⁴⁰. We also note there are a number of BC and
300 Alberta utilities that have approved recovery mechanisms for employee future benefit costs⁴¹. Also, in
301 Order No. P.U. 43 (2009), the Board noted mechanisms that allow for recovery of actual annual
302 pension costs are in place in other jurisdictions in Canada and the US. Based on the evidence provided,
303 which has been referenced in our Report, we are satisfied that supply and employee future benefits cost
304 recovery mechanisms utilized by the Company are not unique. As previously noted there has been only
305 one new cost recovery mechanism approved by the Board since the 2010 GRA. In our view the
306 existence of regulatory mechanisms does not eliminate risk and any assessment of the importance of a
307 specific regulatory mechanism should be made in the overall regulatory context. Specifically, we have
308 not weighted the lack thereof or the existence of cost recovery mechanisms any more or less than any
309 other business and financial risk factor. Our assessment of risk profile is based on total risk which is a
310 relative concept that is based on professional judgement only after taking into consideration all known
311 risks.

³⁶ Newfoundland Power Inc.’s 2013-2014 GRA, PUB-NP-022; CA-NP-399.

³⁷ Newfoundland Power Inc.’s 2013-2014 GRA, PUB-NP-023.

³⁸ Newfoundland Power Inc.’s 2013-2014 GRA Volume II, Exhibit 4, DBRS rating report, Newfoundland Power Inc., September 10, 2012, page 7.

³⁹ Order No. P.U. 31 (2010).

⁴⁰ 2013-2014 General Rate Application, Volume II Appendix B Report 7, Supply Cost Mechanisms, prepared by Newfoundland Power Inc. dated September 2012; PUB-NP-050; PUB-NP-035.

⁴¹ Newfoundland Power Inc.’s 2013-2014 GRA, PUB-NP-036.

In its latest credit rating report, DBRS continued to view the Company as operating in a stable and supportive regulatory environment that is based on cost-of-service regulation⁴². Moody's noted that it considers the regulatory environment in Canada to be supportive relative to those in other jurisdictions and that it views the Board as being one of the more supportive regulators in Canada⁴³.

Credit ratings

DBRS and Moody's both assess the Company's credit worthiness on a stand-alone basis. In our view, an examination of credit ratings provides some insight to the Company's strength relative to its peers, trends over time and to the reasonableness of its capital structure. However, we caution that bond ratings are not necessarily a good indicator of the risks face by a company's equity holders. The Company's primary source of long-term debt financing is its first mortgage bonds⁴⁴. The Company's investment grade bond ratings and ratings outlook have remained unchanged since the 2010 GRA.

Table 6 below, summarizes DBRS's and Moody's most recent credit ratings for the Company. Exhibit 1 and Exhibit 2 to the report outline the debt rating scales used by both DBRS and Moody's.

Table 6 - Credit ratings			
Agency	Issuer rating	Bond rating	Date
DBRS	-	A, Stable	Sept. 10, 2012
Moody's	Baa1	A2, Stable	July 19, 2011
<i>Note: DBRS does not rate the issuer of securities but only rates the securities issued.</i>			

From our review of the Company's most recent credit rating reports, we highlight the following:

- a. DBRS confirmed that its rating reflects the Company's low business risk, which results from the regulated nature of the business, supported by a reasonable regulatory framework, stable financial profile and strong customer base. DBRS considers the Company to have a strong balance sheet due to its high allowed equity component. The Company's credit rating is unchanged since 2010⁴⁵.
- b. Moody's confirmed that its rating reflects the Company's low business risk as a cost-of-service and predominantly transmission and distribution regulated utility. Moody's also mentioned that they view the Board as being one of the more supportive regulators in Canada (even though it had one of the lowest allowed ROE in Canada for 2011) where decisions are timely

⁴² Newfoundland Power Inc.'s 2013-2014 GRA Volume II, Exhibit 4, DBRS rating report, Newfoundland Power Inc., September 10, 2012, page 2.

⁴³ Newfoundland Power Inc.'s 2013-2014 GRA Volume II, Exhibit 4, Moody's rating report, Newfoundland Power Inc., July 18, 2011, page 2.

⁴⁴ The Company has in addition to the first mortgage bonds, credit facilities that include a syndicated \$100 million committed revolving term credit facility and a \$20 million uncommitted demand facility, Newfoundland Power Inc.'s 2013-2014 GRA Volume II, Exhibit 4, DBRS rating report, Newfoundland Power Inc., September 10, 2012, page 5.

⁴⁵ Newfoundland Power Inc.'s 2013-2014 GRA Volume II, Exhibit 4, DBRS rating report, Newfoundland Power Inc., September 10, 2012.

336 and balanced. Moody's considers the Company to have one of the highest common equity
337 ratios in Canada at 45%. The Company's credit rating is unchanged since 2010⁴⁶.

338 **Credit metrics**

339 **DBRS**

340 In **Table 7** we have outlined key financial metrics used by DBRS to assess financial risk. These metrics
341 do not represent the entire universe of considerations used by DBRS when evaluating the financial risk
342 profile of a regulated utility. DBRS's credit ratings depend on both its business and financial risk
343 profile.

Table 7 - North American utilities (electric and natural gas) industry financial ratios				
Key ratio	AA	A	BBB	BB
Cash flow to debt	>17.5%	12.5% to 17.5%	10% to 12.5%	<10%
Debt to capital	<55%	55% to 65%	65% to 75%	>75%
EBIT interest coverage	>2.8x	1.8x to 2.8x	1.5x to 1.8x	<1.5x
<i>Source: DBRS Industry Study, Canadian Utilities, H1 2012, October 2012, page 77.</i>				

344

345 In **Table 8**, we have summarized the Company's credit metrics for 2013 and 2014 under existing
346 customer rates that reflect a ROE of 8.38%⁴⁷ and under proposed customer rates that reflect a ROE of
347 10.4% along with the associated implied ratings for each.

⁴⁶ Newfoundland Power Inc.'s 2013-2014 GRA Volume II, Exhibit 4, Moody's rating report, Newfoundland Power Inc., July 18, 2011.

⁴⁷ In Order No. P.U. 17 (2012), the Board approved a 2012 ROE of 8.80% for the Company; however customer rates were not adjusted to reflect this ROE. Instead the Board approved a 2012 cost recovery deferral to reflect the forecast difference for 2012 between a ratemaking ROE of 8.38% and 8.80%. Existing customer rates reflect the 2011 ROE of 8.38% that was determined by the Formula and approved by the Board in Order No. P.U. 32 (2010). The disposition of this deferral account will be subject to a future order of the Board.

Table 8 - Credit metrics existing and proposed				
Key ratio	2013E	2013P	2014E	2014P
Cash flow to debt*	15.50%	18.30%	13.70%	16.40%
Debt to capital**	54.33%	54.08%	54.74%	54.20%
EBIT interest coverage*	2.2x	2.6x	2.1x	2.7x
Implied DBRS rating	2013E	2013P	2014E	2014P
Cash flow to debt	A	AA	A	A
Debt to capital	AA	AA	AA	AA
EBIT interest coverage	A	A	A	A
Sources:				
*Newfoundland Power Inc.'s 2013-2014 GRA Volumes I dated September 14, 2012, page 3-40.				
** Newfoundland Power Inc.'s 2013-2014 GRA Volumes II dated September 14, 2012, Exhibit 6.				

348

349 We observe that under both existing and proposed customer rates for 2013 and 2014 the implied
350 DBRS credit rankings would be the same with the exception of the cash flow to debt ratio in 2013
351 which would improve under the proposed rates.

352 **Moody's**

353 In its more recent ratings report, Moody's assigned the following ratings to the Company, see **Table 9:**

Table 9 - Moody's July 2011 rating		
Factor	Weighting	Rating
Regulatory framework	25%	A
Ability to recover costs and earn returns	25%	A
Market position	5%	Baa
Generation and fuel diversity	5%	A
Liquidity	10%	A
CFO interest coverage	7.50%	Baa3
CFO to debt	7.50%	Baa3
CFO less dividends to debt	7.50%	Baa2
Debt/Capital	7.50%	Baa2
Indicated rating from methodology grid		A3
Actual rating		Baa1
Source: Newfoundland Power Inc.'s 2013-2014 GRA Volume II, Exhibit 4, Moody's, credit opinion: Newfoundland Power Inc., July 19, 2011.		

354

355 Moody's noted that while the assigned rating of Baa1 is one notch lower than the rating implied in the
356 table above, the difference in part reflects that the Company's future financial metrics will be modestly
357 weaker in 2011 versus 2010 due primarily to the reduction in the allowed ROE to 8.38% in 2011 from

358 9.00% in 2010. As well, Moody's noted that the Company's financial metrics are somewhat weaker
359 than those of its Baa1 rated peers in North America⁴⁸. We also observe that although the Company has
360 one of the highest equity ratios in Canada, some of its financial ratios are at the low end of what is
361 considered investment grade.

362 For the four credit metrics noted in the table above, Moody's indicative ranges for A, Baa and Ba
363 ratings are as follows, see **Table 10**:

Table 10 - Moody's credit metrics			
Key ratio	A	Baa	Ba
CFO interest coverage	4.5-6.0x	2.7-4.5x	1.5-2.7x
CFO/debt	22-30%	13-22%	5-13%
CFO less dividends to debt	17-25%	9-17%	0-9%
Debt/total capital	35-45%	45-55%	55-65%
<i>Source: Moody's, Rating Methodology: Regulated Gas and Electric Utilities, August 2009, page 13.</i>			

364

365 In **Table 11**, we have summarized the Company's credit metrics under existing customer and under
366 proposed customer rates for 2013 and 2014.

Table 11 - Credit metrics existing and proposed				
Key ratio	2013E	2013P	2014E	2014P
CFO interest coverage*	3.2x	3.6x	3.0x	3.4x
CFO/Debt*	15.50%	18.30%	13.70%	16.40%
CFO less dividends to debt*	N/A	N/A	N/A	N/A
Debt/total capital**	54.33%	54.08%	54.74%	54.20%
Implied credit ranking	2013E	2013P	2014E	2014P
CFO interest coverage	Baa	Baa	Baa	Baa
CFO/Debt	Baa	Baa	Baa	Baa
CFO less dividends to debt	N/A	N/A	N/A	N/A
Debt/total capital	Baa	Baa	Baa	Baa
<i>Source:</i>				
<i>*Newfoundland Power Inc.'s 2013-2014 GRA Volumes I dated September 14, 2012, page 3-40.</i>				
<i>** Newfoundland Power Inc.'s 2013-2014 GRA Volumes II dated September 14, 2012, Exhibit 6.</i>				

367

368 We note that under both existing and proposed customer rates for 2013 and 2014 that the implied
369 Moody's credit ratings would be the same.

⁴⁸ Newfoundland Power Inc.'s 2013-2014 GRA Volume II, Exhibit 4, Moody's rating report, Newfoundland Power Inc., July 18, 2011, page 1.

370 **Conclusions**

371 **Total risk profile**

372 We conclude that the Company's main business, regulatory and financial risks have not materially
373 changed since its 2010 GRA. We also conclude that the Company is an average risk Canadian utility.

374 The assessment of total risk is a relative concept that is based on professional judgement only after
375 taking into consideration all known risks. We do not believe the risk assessment should be based on
376 the review of specific risk factors viewed in isolation. We also note that both DBRS and Moody's debt
377 rating reports contain statements that are made from a credit opinion context and not from a cost of
378 equity analysis.

379 **Capital structure**

380 We conclude that the Company's forecast common equity ratio of 45% for 2013 and 2014 is reasonable
381 in light of the following:

- 382 a There have been no material changes in business, regulatory or financial risk since the 2010
383 GRA;
- 384 b The allowed equity ratios of its investor-owned Canadian utility peers have remained constant
385 since its 2010 GRA; and
- 386 c The Company's credit metrics have been sufficient to achieve and maintain investment grade
387 ratings by Moody's and DBRS. If the common equity ratio were lowered, credit metrics could
388 weaken. Any reduction could also negatively impact the debt ratings agencies' perception of
389 the regulatory environment which for Moody's for example carries a 25% weighting, see **Table**
390 **9**.

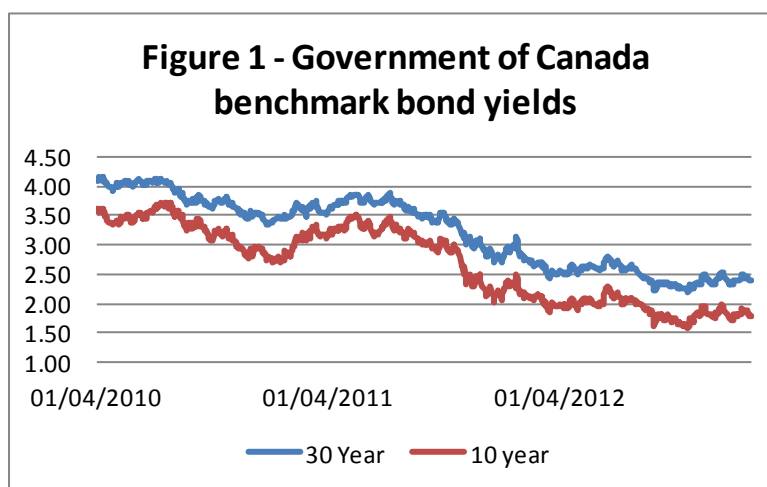
391 In our view, the Company with a common equity ratio of 45% and its current credit ratings would be
392 viewed by investors as an average risk Canadian utility i.e. one which is in the middle of total risk
393 (including business, regulatory and financial) compared to other Canadian utilities.

394 Economic and capital market conditions

395 This section summarizes the changes in select Canadian economic and capital market indicators since
396 the 2010 GRA.

397 **Government of Canada bond yields**

398 Current and forecast long-term Government of Canada bond yields are below those used to establish
399 the Company's regulated ROE as part of the 2010 GRA. The reduction in long-term bond yields
400 reflects a weakened global economy, the inflow of money from safety-seeking investors, and decisions
401 to keep short-term interest rates low. The Bank of Canada ("BoC") has noted that low interest rates in
402 advanced economies partly reflect the monetary response to protracted economic weakness in the wake
403 of the financial crisis⁴⁹. **Figure 1**⁵⁰ below shows the daily Government of Canada benchmark 30 and 10
404 year bond yields from January 2010 to October 2012. Between January 2010 and October 2012, both
405 the 30 and 10 year bond yields have decreased significantly from 4.1% and 3.6% to 2.4% and 1.8%
406 respectively.



407

408 At October 2012, the 3 and 12 month 10 year bond yield forecasts were 1.8% and 2.2% according to
409 Consensus Forecasts (October 2012).

⁴⁹ Bank of Canada, *Financial Systems Review*, June 2012, page 29.

⁵⁰ Source: Bank of Canada.

As shown in **Table 12**, 10 year bond yields are expected to increase on a long-term basis.

Table 12 - 10 year Government of Canada benchmark bond yields						
2012F	2013F	2014F	2015F	2016F	2017F	2018-2022F
1.8%	2.2%	2.7%	3.6%	4.2%	4.5%	4.5%

Source: Consensus Forecasts, October 2012.

Gross domestic product, inflation and unemployment

In **Table 13** we have summarized historical and forecast real GDP growth, the Consumer Price Index (“CPI”) and unemployment rates.

Table 13 - Key economic indicators									
	2010A	2011A	2012F	2013F	2014F	2015F	2016F	2017F	2018-2022F
Real GDP growth*	3.20%	2.60%	2.00%	2.00%	2.30%	2.50%	2.30%	2.10%	2.00%
CPI*	1.80%	2.90%	1.80%	1.90%	2.00%	2.00%	2.00%	2.00%	2.00%
Unemployment %	8.00%	7.50%	7.30%	7.20%	N/A	N/A	N/A	N/A	N/A

**change from previous year*
Source: Consensus Forecasts, October 2012.

We observe that annual real GDP growth has decreased since 2010 however; it is forecast to stabilize between 2-2.5% on a long-term basis. Historical and forecast annual changes in total CPI are within the BoC’s target range of 1 to 3%. Since 2010, the unemployment rate has declined which reflects the continued economic recovery.

In its 2010 Annual Report⁵¹, the BoC noted that economic recovery in Canada became firmly entrenched in 2010, with aggregate output surpassing its pre-recessing levels. Despite challenging economic conditions, total CPI averaged 1.8%.

In its 2011 Annual Report⁵², the BoC noted that the Canadian economy grew at a moderate pace and inflation expectations remained well anchored in 2011, despite the challenging and uncertain global economic environment.

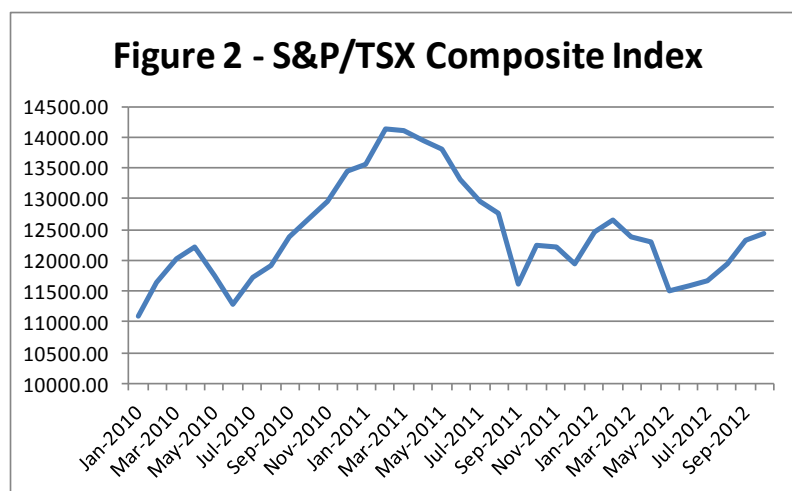
S&P/TSX composite index

The S&P/TSX Composite Index has risen by 12% between January 2010 and October 2012 reflecting the continued economic recovery; however the increase has been far from linear as shown in **Figure 2**⁵³.

⁵¹ Bank of Canada 2010 Annual Report, page 8.

⁵² Bank of Canada 2011 Annual Report, page 4.

⁵³ Source: Capital IQ.



430

431 **Bank of Canada reports**

432 We reviewed and summarized the following recent BoC pronouncements in regards to current
433 Canadian economic and capital market conditions.

434 **Monetary Policy Report (October 2012)**

435 In this report, the BoC noted the following:

- 436 – The economic expansion in the US is progressing at a gradual pace. Europe is in recession and
437 recent indicators point to a continued contraction. In China and other major emerging
438 economies, growth has slowed somewhat more than expected, though there are signs of
439 stabilization.
- 440 – Global financial conditions have improved, supported by aggressive policy actions of major
441 central banks, but sentiment remains fragile.
- 442 – In Canada, while global headwinds continue to restrain economic activity, domestic factors are
443 supporting a moderate expansion. The Bank projects real GDP growth of 2.2% in 2012, 2.3% in
444 2013 and 2.4% in 2014.
- 445 – Core CPI inflation is expected to increase gradually over coming quarters, reaching 2% by the
446 middle of 2013. Total CPI inflation has fallen noticeably below the 2% target, as expected, and is
447 projected to return to target by the end of 2013.
- 448 – The Bank has decided to maintain the target for the overnight rate at 1%.

449 **Financial Systems Review Report (June 2012)**

450 In this report, the BoC noted the following:

- 451 – Conditions in the international financial systems are fragile. Canada's financial system continues
452 to be robust despite the challenging global environment.

453 – The risks to the stability of Canada’s financial system remain high. Key risks are as follows:

- 454 i A further escalation of the euro-area sovereign debt crisis;
- 455 ii An economic slowdown in other advanced economies;
- 456 iii Financial stress in the Canadian housing sector;
- 457 iv A disorderly resolution of global current account imbalances; and
- 458 v Excessive risk-taking as a result of a prolonged period of low interest rates.

459 **Conclusion**

460 We conclude that the Canadian economy continues to be challenged by an uncertain global economic
461 environment and risk remains relatively high. As well, long-term Government of Canada bond yields
462 are significantly lower in October 2012 than in January 2010 and this has been partly influenced by the
463 BoC’s monetary policy encouraging low interest rates in these challenging economic conditions.

464 Fair return on equity

465 The concept that an investor-owned utility is entitled to earn a fair return has been in place in Canada
466 for over 80 years dating back to the 1929 Northwestern Utilities case. Despite the relatively long
467 history of the fair return concept there is as of yet, no single universally accepted method to determine
468 a fair return on equity for an investor-owned utility. All methodologies are imperfect and cost of
469 capital estimation is much more of an art than a science. Each methodology is more or less reliable
470 depending on the prevailing economic and capital market conditions and each has its own strengths
471 and weaknesses. In our view it is best to estimate the cost of capital using more than one methodology,
472 as the return determined by any model or test will not perfectly capture all of the variables that might
473 be considered in determining a fair return. Other key elements in determining a fair return include the
474 estimation of a risk free rate of return as well an estimate of the adjustment required for flotation cost
475 and financial flexibility.

476 As previously noted the most widely used ROE estimation techniques used by regulators in Canada are
477 CAPM, DCF, ERP and to a lesser extent CE.

478 In determining a fair ROE we have selected the ERP, CAPM, and DCF methodologies which we have
479 summarized below, and as noted before the CE methodology has not been widely accepted in the
480 Canadian regulatory environment in recent years and therefore was not used.

481 In the application of our three methodologies we have utilized Canadian data where sufficient
482 information existed. Where sufficient Canadian information did not exist we have relied on data from
483 our US comparable data set (such as that used in our DCF approach below).

484 **Summary of advantages/disadvantages of selected methodologies**

485 The CAPM model has the advantage of being based on an economic model and readily available
486 market data. However, CAPM requires the use of estimates; for the market risk premium (“MRP”) and
487 beta which measures the volatility of an asset in relation to the market as a whole, referred to as the
488 asset’s non-diversifiable risk, its systematic risk, or market risk. The beta coefficient indicates the
489 following relationships:

490 Beta > 0 – asset returns move in the same direction as the market
491 Beta < 0 – asset returns move in the opposite direction to the market
492 Beta = 0 – asset returns are not correlated with market returns.

493 The coefficient also signifies the strength of the relationship with a beta >1 or < -1 indicating an asset
494 that is higher risk and that will move by more than the corresponding move in the market. A beta
495 coefficient between 0 and 1 indicates the asset is less volatile than the market as a whole. In practice
496 most utility betas are observed to be between 0 and 1 as utilities are positively correlated with the
497 market as a whole but exhibit lower risk than the overall market. These estimates are backward looking
498 and the model is sensitive to the risk-free rate and MRP relied upon. While CAPM provides an
499 expected return relationship between an asset's beta and the MRP, one of the fundamental challenges
500 to the CAPM is that low beta stocks tend to have higher average returns than predicted by the CAPM
501 and high beta stocks have lower average returns⁵⁴. That is CAPM is better at predicting the returns of
502 stocks with beta closer to one and its predictive ability weakens for stocks with higher or lower betas.

503 The DCF model has the advantage of being a forward looking methodology that relies on forecasted
504 growth rates and current stock prices. However, the reliance on a forecasted growth rate that
505 necessarily needs to be forecasted to the indefinite future is inherently difficult. There is no source data
506 on the long-term growth rate of dividends and thus growth rates are typically derived by looking at
507 investment analyst's growth forecasts. Canadian data suitable for DCF analysis is limited, thus the
508 model relies on US comparable utilities. As well, there is debate on the accuracy of investment analyst
509 forecasts as the measure of investor expectations of growth.

510 The ERP model has the advantage of being easy to understand and implement. However, it only
511 captures the difference between equity and debt returns over a period of time and not the expected
512 changes in the economy, industry or for the company in question. Although the ERP model is a
513 derivative of the CAPM, the ERP model does not have the same level of theoretical support. The
514 reference interest rate in the ERP model does not necessarily need to be the risk free rate and the risk
515 premium is not explicitly based upon the product of the investment's beta and the market risk
516 premium.

517 **Common return on equity elements**

518 **Risk free rate**

519 To determine a risk free rate for use with the ERP and the CAPM methodologies we have relied on the
520 Consensus Forecasts long-term forecast from October 2012. To determine a long-term risk free rate
521 we have taken the average of the 2013 and 2014 forecasts for the Canadian 10 year long-term Canada
522 bond yields, plus the observed average daily difference between the 30 and 10 year long-term Canada
523 bond yields in October 2012 (59bps). This results in an estimate of 3.04% for the 30 year risk free rate
524 over the next two years.

⁵⁴ Fischer Black, Michael C. Jensen, Myron Scholes; "The Capital Asset Pricing Model: Some Empirical Tests"

Table 14 - Risk Free Rate Estimate 2013-2014

Consensus Forecast*	
10yr Canadian Bond Yield 2013	2.20%
10yr Canadian Bond Yield 2014	2.70%
Avg. of 2013-2014 forecast	2.45%
Observed spread between 10yr and Long Bond**	0.59%
Estimated Risk Free Rate	3.04%
Sources:	
*Consensus Economics October 2012 Forecast pg. 28.	
**Bloomberg data for October 2012	

525

526 **Adjustment for flotation cost and financial flexibility**

527 In the Canadian regulatory environment public utilities are often given an adjustment above their basic
528 fair return on equity level to reflect the incremental costs of obtaining financing and issuing securities.
529 We believe an adjustment of 50bps is reasonable and this is the level we have used in our analysis.⁵⁵
530 The concept of financing flexibility allowance is supported by financial theory and regulatory practice.

531 We note that Dr. Vander Weide has also used an adjustment of 50bps for flotation cost and financial
532 flexibility.⁵⁶ Ms. McShane includes an adjustment of 100bps which is higher than what has typically
533 been the historical norm in relation to Newfoundland Power as well as in other Canadian jurisdictions.
534 This is due in part to her consideration of market to book ratios.⁵⁷

535 **Market to book ratios**

536 To our knowledge fair ROE in Canada has generally been determined with reference to book values
537 rather than market values. It is important to note that the market to book ratio is determined by
538 dividing the current market price of a stock by the company's current book value per share. The
539 current stock price is determined by market forces that lie outside the control of regulators making it
540 difficult to factor such ratios into the determination of a fair ROE for rate making purposes. In light of
541 this we do not factor a market to book adjustment into our analysis.

542 **Overview of ROE methodologies selected**

543 **Equity risk premium - ERP**

544 ERP analysis is based on the understanding that it is riskier to hold equity compared to holding bonds.
545 Financial theory holds that investors are rational and will therefore require a higher return or premium
546 to compensate them for holding assets with higher risk relative to bonds. If the rate of return on a risk

⁵⁵ We note that both the AUC and the Board used 50 bps adjustment for an allowance for financing flexibility in their 2009 decisions, see AUC Decision 2009, page 255 and Order No. P.U. 43 (2009), page 25. Also see CA-NP-379.

⁵⁶ Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Written Evidence of James H. Vander Weide, Ph. D, dated September 2012 page 36.

⁵⁷ Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Opinion on Capital Structure and return on equity for Newfoundland Power Inc. prepared by Kathleen C. McShane dated September 2012, pages 98-100.

547 free asset can be determined and the equity premium to hold risky assets observed and established, the
548 required return on equity can be estimated.

549
$$\text{ERP} = \text{Return on Stocks} - \text{Return on Bonds}$$

550 Although seemingly simple in appearance there are a number of ways to determine the ERP including;
551 Historical, Consensus, Demand and Supply models. There are sufficient choices available within these
552 methods in terms of time period and other inputs such that significant differences can arise whereby

553 *"Researchers and investors often have confusing conversations with each other. Even when they might agree on the same*
554 *historical time interval and dataset, the ERP historical measure can be anywhere in the range of 4.4–8.2 percent,*
555 *depending on which definition of ERP is used."*⁵⁸

556 To determine the ERP we used the Historical method with stock return data from two indices; the
557 S&P/TSX Canadian Utilities Index and the Bank of Montreal Utilities Index compared to the Canadian
558 Long Bond. The time period was set from beginning of the indices starting in 1956 and 1983
559 respectively.

560 The Historical method for the ERP was selected as it indicates the premium amount by which the
561 selected utility stock indices have outperformed bonds for the period under investigation. This
562 provides an observed premium which investors in Canadian utilities have earned over an investment in
563 a risk free asset. In our professional judgement it is appropriate to use the entire period for which the
564 index returns are available as this covers a variety of economic cycles and eliminates the difficulty of
565 attempting to select an appropriate sub-period. As investment returns are observed to exhibit mean
566 reversion the future ERP should tend towards the historical level over time. As such investors in
567 Canadian utilities may anchor their return on equity expectations to this observed premium over the
568 expected return on the Canadian Long Bond.

569 The observed ERP for the two indices were averaged to arrive at a risk premium of 6.72%. The two
570 indices were used and the results averaged to increase both the breadth and depth of the data available.
571 The inclusion of the S&P data from 1956 onwards provides a significantly longer period than using the
572 Bank of Montreal data alone, while the Bank of Montreal composites include companies with a higher
573 percentage of regulated activities which improves the quality of data as a proxy for Newfoundland
574 Power Inc. It is worth noting that three companies (Canadian Utilities, Emera and Fortis) are
575 represented in both data sets. We note that this approach is comparable to the Ex-Post Risk Premium
576 method used by Dr. James H. Vander Weide in his written evidence.⁵⁹ Combined with the estimated
577 risk free rate of 3.04% and flotation costs of 0.50% the resulting required ROE under the ERP
578 methodology is 10.26%, see **Table 15**.

⁵⁸ *The Equity Risk Premium*, Roger G. Ibbotson, from pg 20 *Rethinking the Equity Risk Premium 2011 The Research Foundation of the CFA Institute*.

⁵⁹ *Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Written Evidence of James H. Vander Weide, Ph. D., dated September 2012, pages 32-36.*

Table 15 - Historical ERP for Canadian Utilities

	Average Stock Return	Average Bond Yield	Risk Premium
S&P/TSX Utilities 1956-2011	11.99%	7.33%	4.66%
BMO Capital Markets Utilities 1983-2011	16.01%	7.24%	8.77%
Avg. of S&P and BMO Risk Premiums	6.72%		
Estimated Risk Free Rate	3.04%		
Adjustment for Financial Flexibility	0.50%		
ERP ROE	10.26%		
Sources:			
<i>Bloomberg Data and Bank of Canada</i>			

579

580 We note that it is possible to determine an ERP on a go forward or Ex-Ante basis as described by Dr.
581 Vander Weide.⁶⁰ However, doing so requires the use of a DCF approach and the introduction of non-
582 Canadian data due to the lack of analyst growth forecast for Canadian utilities. While it is possible to
583 construct a small group of comparable US companies to calculate a DCF as part of the ERP process,
584 we believe that the Historical method provides a meaningful ROE on its own due the length of the
585 time frame of observed returns in the Canadian market. Ms. McShane also utilizes the Historical
586 method, incorporating US data into her approach in addition to determining a Canadian ERP.⁶¹

587 **Capital asset pricing model - CAPM**

588 The CAPM is one of the most widely used methods for determining an appropriate required rate of
589 return for an asset held as part of a diversified portfolio and is one of the most common pricing models
590 used by Canadian regulators. The expected cost of equity is a function of the risk-free rate of interest
591 plus the product of a measure of systematic risk (beta), and the expected market risk premium on the
592 market portfolio.

593 The CAPM considers an asset's relationship with systemic risk, the expected return of the market as
594 well as the return on a riskless asset expressed as:

$$\begin{aligned}
 595 \quad R_A &= R_F + \beta * MRP \\
 596 \quad R_A &= \text{Required Rate of Return on the Asset} \\
 597 \quad R_F &= \text{Expected Return on a Riskless Asset} \\
 598 \quad \beta &= \text{Sensitivity of the Asset to Systemic Market Risk (Beta)} \\
 599 \quad MRP &= \text{Market Risk Premium (Expected Return of the Market above the Riskless Asset)}
 \end{aligned}$$

⁶⁰ Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Written Evidence of James H. Vander Weide, Ph. D., dated September 2012, pages 36-39.

⁶¹ Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Opinion on Capital Structure and return on equity for Newfoundland Power Inc. prepared by Kathleen C. McShane dated September 2012, pages 63-71.

600 Although algebraically simple, there are a number of methods to determine each of these components
601 and calculate the required rate of return. Choosing one method over another to determine the inputs
602 to the CAPM can potentially result in material differences in the required rate of return.

603 Beta relates the movement in the price of an individual asset with the movement in the entire market.
604 A beta >1 indicates that the asset is more sensitive to movements in the market while a beta < 1
605 indicates that the asset is less sensitive to such movements. In the Canadian market, beta is generally
606 determined using the correlation between the return on the S&P/TSX Composite Index and individual
607 stocks, while in the US a broad based index such as the S&P 500 Index is used. In the case of the
608 Company, which does not have publicly traded stock, we have used a beta of 0.60. This beta was
609 determined by using the components of the BMO Utility Index ETF to create an estimate of the beta
610 an investor in Canadian utilities might apply to the Company. Using 3 year beta data, the average beta
611 of the 13 stocks in the ETF is 0.40, which is below historical norms although not to the extent that was
612 observed immediately following the financial crisis. Applying a Blume adjustment to the betas (2/3 raw
613 beta + 1/3) results in a beta estimate of 0.60. The Blume adjustment is applied to reflect the tendency
614 of betas to move toward 1.0 over time.⁶² As a reasonableness check, the 3 year beta of Fortis is 0.41.
615 Applying a Blume adjustment to Fortis's beta results in an adjusted beta of 0.61 indicating a similar
616 level of systemic risk. The US comparable Value Line betas which include a Blume adjustment average
617 0.68.

Table 16 - Estimated Beta	
BMO Utility Index ETF Avg Beta*	0.40
Blume Adjusted Beta	0.60
Fortis Inc Beta*	0.41
Blume Adjusted Beta for Fortis	0.61
Estimated Beta	0.60
* 3 year Beta from www.FinancialPost.com	

618

619 We note that Dr. Vander Weide has referenced a beta of 0.73 based on the average Value Line betas,
620 which are adjusted, for his large proxy utility group of US companies⁶³ In addition Ms. McShane has
621 also used adjusted betas to determine a Relative Risk Factor of 0.65-0.70.⁶⁴

622 The current market environment reflects significant recovery from the recent global financial crisis,
623 however with ongoing global macroeconomic concerns such as the European debt crisis there are still

⁶² *Betas and Their Regression Tendencies*, by Marshall E. Blume, *Journal of Finance* 30, June 1975

⁶³ *Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Written Evidence of James H. Vander Weide, Ph. D., dated September 2012, page 39.*

⁶⁴ *Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Opinion on Capital Structure and return on equity for Newfoundland Power Inc. prepared by Kathleen C. McShane dated September 2012, page. 82.*

external issues affecting the Canadian market. Overall there remains an unusual level of risk aversion in the financial markets as reflected by the historically low yield on risk free assets. Canadian utility stocks are perceived to be relatively low risk compared to the broader market and recently the correlation between the returns on these stocks and the market have weakened

The MRP is the premium that the market demands over and above the risk free rate to hold a risky asset. The MRP needs to be estimated by a proxy for the market as a whole; often a broad based equity index such as the S&P/TSX Composite or S&P 500 indexes. In the Canadian market, we believe that the MRP should be in the range of 5%-6%. This can be observed in the responses to the Fernandez study *Market Risk Premium used in 82 countries in 2012: a survey with 7,192 answers*⁶⁵ where the mean and median were 5.4% and 5.5% respectively. For the US where the MRP is generally felt to be similar due to the significant integration with the Canadian economy and financial market the mean and median were 5.5% and 5.4% respectively. Professor Aswath Damodaran at New York University's Stern School of Business is the author of several widely used financial textbooks and numerous peer reviewed articles on finance including risk premiums. Professor Damodaran calculates global equity risk premiums on an annual basis; he most recently updated his work in June 2012 with Canada having a 6% risk premium. He also notes that according to the Credit Suisse Global Investment Returns Sourcebook 2012⁶⁶, the historical arithmetic mean Canadian Equity Risk Premium from 1900-2011 is 5.0%-5.5%⁶⁷ based on the historical return on equities above government bond returns. This information leads us to support a mid-point 5.5% MRP for use in the CAPM. It reaching our view, we place particular emphasis on the empirical evidence gathered from over a century of Canadian investment returns. We do not feel that there is sufficient evidence to support MRP estimates significantly outside of our range.

Table 17 - Canadian Market Risk Premium

Source	Canadian Market Risk Premium
Market Risk Premium used in 82 countries in 2012: a survey with 7,192 answers. Pablo Fernandez et al.	5.4%
Aswath Damodaran	6.0%
Credit Suisse Global Investment Returns Sourcebook 2012	5.0%-5.5%

⁶⁵ Pablo Fernandez, Javier Aguirreamalloa and Luis Corres, *Market Risk Premium used in 82 countries in 2012: a survey with 7,192 answers*.

⁶⁶ Based on 112 years of international evidence Credit Suisse's Global Investment Returns Sourcebook is produced in association with the London Business School and is a widely used investment reference source.

⁶⁷ See - *Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2012 Edition, Updated: March 2012*, Aswath Damodaran pg. 30 and <http://www.stern.nyu.edu/~adamodar/pc/datasets/ctrypremJune2012.xls>

647 We note that Dr. Vander Weide and Ms. McShane reference MRPs of 6.6% and no less than 8%
648 respectively.⁶⁸ These MRP estimates fall above our range of 5.0%-6.0%.

649 Using the CAPM we have calculated a required rate of return on equity including a 50bp adjustment for
650 flotation costs and financial flexibility of 6.84%:

651
$$\text{ROE} = \text{RF} + \beta * \text{MRP} + \text{adj.} = 3.04 + (0.60 * 5.5\%) + 0.50\% = 6.84\%$$

652 Using the CAPM return of 6.84% on a standalone basis would result in a required return that is below
653 what we believe is a fair ROE for the Company. However, CAPM provides a clear method of
654 calculating a ROE that is well supported by financial theory. The current results from the CAPM are
655 low in large part due to the continuing low rate of return on the risk free asset. The result from the
656 CAPM in the current low interest rate environment supports our view that no one method will
657 determine a perfect answer to the fair ROE question. With the current low interest rate environment
658 believed to be unusual, it is possible to attempt to normalize the CAPM result. A number of
659 adjustments could be made in relation to the economic factors that are responsible for the current low
660 interest rate environment. We have observed arguments for a number of individual adjustments
661 including the following:

- 662 1. Liquidity adjustments
663 2. Financial crisis adjustments
664 3. Operation twist adjustments
665 4. Adjustments to consider the results of other models

666 Any adjustments made to the CAPM results introduce further estimates and increase the subjectivity of
667 the results. Although there may be merit in attempting to adjust the CAPM to the “perfect answer” it
668 is inherently difficult to determine the nature and level of adjustments to be used. Any methodology
669 used will have weaknesses and depending on the result achieved under current economic conditions
670 may appear to need adjustment at times. It is our view that it is better to let the result of a
671 methodology stand on its own, rather than introduce potentially arbitrary adjustments. We have used
672 multiple methodologies including the CAPM in conjunction with the ERP and DCF approaches to
673 mitigate weaknesses in the methodologies and reduce our reliance on additional estimates.

674 **Discounted cash flow – DCF**

675 The DCF is the most widely used method to determine the allowed return on equity for regulated
676 utilities in the US. This is based on the ease of use in the US market where there is a large universe of
677 comparable public companies that are widely followed by investment analysts to draw upon. As a
678 result there are readily available estimates of growth rates for utility proxy groups. In the Canadian
679 context the DCF is more problematic because not only are the number of possible proxies significantly
680 smaller, but reliable estimates of growth rates are not available publicly.

⁶⁸ Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Written Evidence of James H. Vander Weide, Ph. D, dated September 2012, page 81 and Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Opinion on Capital Structure and return on equity for Newfoundland Power Inc. prepared by Kathleen C. McShane dated September 2012, page 67.

681 As there is a lack of Canadian data it is useful to look to a DCF estimate based on a proxy group of
682 comparable US companies. Regardless of the cost of equity estimation methodology used, the selection
683 of comparable companies (and the use of US comparables) is one of the most controversial issues in
684 the determination of an appropriate ROE. The importance of the selection of comparable utilities
685 stems from the fact that estimations of cost of equity are largely based on estimates of the cost of
686 equity of comparable risk utilities.

687 Cost of equity estimates should be referenced to companies that have comparable total risk (business,
688 regulatory and financial). In that, a utility with greater business risk can be comparable to a utility with
689 lower business risk as long as that first utility's greater business risk is offset by its lower financial risk.
690 Therefore it is important to identify companies that have similar total risk to the Company.

691 There has historically been disagreement between experts on whether Canadian and US utilities are
692 comparable in terms of business and regulatory risk. In our view, US comparisons are informative as a
693 consideration in determining a fair ROE. Given the strong degree of economic and financial market
694 integration between Canada and the US, we believe it is possible to construct a proxy group of US
695 companies that are similar in total risk to Newfoundland Power. The proxy group of comparable
696 companies were selected on the following basis⁶⁹:

- 697 1. Rated Baa1 by Moody's – equivalent to Newfoundland Power
698 2. *Value Line* classification as a gas or electric utility
699 3. *Value Line* dividend growth forecast available
700 4. Regulated utility assets greater than or equal to 85% of total assets
701 5. Consistent dividend history from 2002-2011
702 6. Not undergoing a transformative event such as an acquisition or merger

703 The criteria above yields a small set of utilities that are comparable to Newfoundland Power. This
704 group has a majority of regulated assets and identical credit rating to Newfoundland Power.

705 Based on our selection criteria the following seven companies comprise the proxy group for
706 Newfoundland Power:

- | | | |
|-----|-----------------------------|------------------------|
| 707 | 1. ALLETE | 2. Alliant Energy |
| 708 | 3. Atmos Energy Corporation | 4. Consolidated Edison |
| 709 | 5. Integrys | 6. Southern Company |
| 710 | 7. Xcel Energy Inc | |

711 It is necessary to incorporate data on US comparables as there are a limited number of Canadian
712 publicly traded utilities with predominately regulated operations.⁷⁰ The Canadian utilities are diverse in

⁶⁹ Note these selection criteria are similar to those of used by Kathleen c. McShane in her Opinion on Capital Structure and Return on Equity for Newfoundland Power, September 2012. However certain differences most notably in terms of credit rating criteria result in a smaller subset of 8 US comparables from Ms. McShane's larger group of 13 US comparables.

⁷⁰ Canadian Utilities Limited, Emera Inc., Enbridge Inc., Fortis Inc., TransCanada Corporation and Valener Inc.

713 nature with different credit ratings and asset composition. Use of these six companies as a proxy group
714 for Newfoundland Power is inherently difficult for a number of reasons:

- 715 1. As a group they do not have comparable credit ratings to Newfoundland Power.
716 2. Reliable analyst data is not available for the group as a whole.
717 3. The group includes companies with non-utility interests and significant
718 international operations.
719 4. There are large differences in the scale of operations.

720 Given these limitations we did not consider it possible to create a Canadian proxy group for
721 Newfoundland Power that would be comparable in terms of total risk. The US comparable group has
722 been drawn from a much larger universe of utilities which allows for a better quality proxy group.

723 The proxy group of comparable companies was then used to create a DCF model of the required ROE
724 for Newfoundland Power.

725 The DCF model states that a company's stock price at any point in time is equal to the sum of
726 discounted (at a rate that reflects the level of risk) cash flows (dividends) that are expected to accrue to
727 the shareholders. Investors value an investment in a firm's stock because they expect to receive a
728 sequence of dividend payments and perhaps expect to sell the stock at a higher price sometime in the
729 future. In essence, if the stock price is known, and expected cash flows can be reasonably estimated,
730 then the expected return can also be estimated. The DCF formula is represented as follows:

731
$$ROE = d_1/P + g$$

732 d_1 = Forecast Dividends

733 P = Share Price

734 g = Long-term Growth Rate

735 This is referred to as a constant growth rate model; however, the DCF is not limited to the simple view
736 of one constant state for the model. If the assumption of constant growth is not considered reasonable
737 in the near term before settling down to a constant rate, variations of the general present value formula
738 can be used instead. Additional stages may be added to the analysis to reflect information that is
739 known or reasonably estimated for specific periods in time. This is done by incorporating two or more
740 stages into the model along with a constant growth estimate at a future point in time. In our analysis
741 we have also used a two stage DCF as a check on the constant growth model. Under the two stage
742 model, the first stage incorporated a three year estimate of the proxy group's dividends and growth
743 before using a constant growth estimate for the second and final stage as shown in the formula below:

744
$$P = \frac{d^*(1+g)}{(1+R)} + \frac{d^*(1+g)^2}{(1+R)^2} + \frac{d^*(1+g)^3}{(1+R)^3} + \frac{d^*(1+g)^3(1+g^2)}{(1+R)^3(R-g^2)}$$

We note that Ms. McShane has utilized a three stage DCF in her written evidence to the board⁷¹. It is possible to introduce additional stages into a DCF model and this is an appropriate approach if the estimated dividend growth rate changes from the initial growth rate used in the first stage. By incorporating varying growth rates before utilizing an estimate of GDP growth for the final stage it would be possible to have a model with three or more stages. We have used Value Line dividend growth estimates for the next three years in the first stage of our DCF. It becomes more difficult to estimate a growth rate further out in time from today. As over time a firms growth will trend towards overall economic growth we use the October 2012 Consensus Forecasts long term average real GDP and inflation forecast for the period from 2018-2022 as an estimate of our constant growth rate.

We have averaged the results of our constant growth DCF model and our two stage model with a resulting return on equity of 9.63%, see **Table 18** below.

Table 18 - Discounted Cash Flow ROE					
Company	D ₀	P ₀	Value Line Dividend Growth	Constant Growth ROE	Two Stage ROE
ALLETE	1.83	41.30	3.0%	9.45%	9.30%
Alliant Energy	1.78	44.22	5.5%	9.13%	9.18%
Atmos Energy Corporation	1.38	35.69	1.5%	8.82%	8.59%
Consolidated Edison	2.41	59.85	1.0%	8.97%	8.69%
Integrus Energy	2.72	53.58	0.5%	10.00%	9.61%
Southern Company	1.91	45.88	4.0%	9.22%	9.15%
Xcel Energy Inc	1.05	27.98	5.0%	8.84%	8.85%
			Average	9.21%	9.05%
Average of Constant Growth and Two Stage ROE				9.13%	
Adjustment for Financial Flexibility				0.50%	
DCF ROE				9.63%	
P ₀ = Average Monthly Closing Price for July to October					
D ₀ = Annualized Dividends for last 12months					
Constant Growth rate = 4.9% - Forecast Long Term US GDP Growth (2.5%) plus Expected Inflation (2.4%) per Consensus Economics October 2012					

⁷¹Newfoundland Power Inc.'s 2013-2014 GRA Volume III, Opinion on Capital Structure and return on equity for Newfoundland Power Inc. prepared by Kathleen C. McShane dated September 2012, pages 93-97.

The Canadian and US economies exhibit a high level of integration forming the world's largest bilateral trading relationship. The relationship is supported by the 1988 US-Canada Free Trade Agreement and the 1994 North American Free Trade Agreement. For 2013 Consensus Economics is forecasting identical real GDP growth of 2.0% and 10 year Treasury bond yields of 2.2% for both countries. In addition the Consensus Forecasts for 2013 consumer price inflation is almost identical at 1.9% for Canada and 2.0% for the U.S.⁷² As previously discussed both countries share regulatory similarities through the application of the fair return standard.

Within the context discussed above the proxy group is comprised of companies with identical credit ratings to the Company (Moody's Baa1). We consider the debt ratings to be an objective indicator of total risk. Since we did not find significant differences in total risk between our proxy group and the Company, we did not make any further adjustments to our results.

Fair ROE conclusion

We estimate a fair ROE for the Company for 2013 and 2014 at 8.91% in light of the Company's total risk profile, an allowed common equity ratio of 45% and its credit metrics, see **Table 19** below. Our fair ROE conclusion is based on our assessment that the Company is an average risk (average total risk) Canadian utility.

Table 19 - Fair ROE conclusion		
Methodology	Conclusion	Weighting
CAPM	6.84%	33.33%
DCF	9.63%	33.33%
ERP	10.26%	33.33%
		100.00%
Conclusion	8.91%	

We have weighted the CAPM, ERP and DCF conclusions equally, as each methodology has its strengths/limitations. While these methods are each impacted by the prevailing economic and capital market conditions, we believe they all merit consideration when determining a fair ROE. All three methodologies have been recently used in cost of capital decisions made by other Canadian regulators.

Our equal weighting of the methodologies has been based on the following key considerations:

- Each method has been recently accepted by Canadian regulatory authorities and there has been recognition that a multiple methodology approach is more or less reliable depending on the prevailing economic conditions;
- Each method has strengths and limitations, therefore consideration of multiple accepted methodologies assists in overcoming these limitations while reducing the use of adjustments that may require more subjectivity; and
- We did not believe there was a compelling rationale to support providing one methodology a greater weighting than the others.

⁷² Consensus Economics, Consensus Forecasts, October 2012 pages 3 & 28.

Automatic adjustment formula

Formulas have been used in Canada to determine the cost of equity for regulated purposes since 1994⁷³. The Board first adopted the Formula in 1998⁷⁴. The Formula is used by the Board as a mechanism to establish customer rates in between GRAs with the main benefits being reduced costs from fewer cost of capital hearings and reduced regulatory uncertainty.

In Order No. PU 16 (1998-1999) the Board acknowledged the possibility that there may be circumstances which would render the use of the Formula inappropriate. One of the circumstances noted is financial market conditions that suggest the Formula is not accurately reflecting the appropriate return on equity.

The validity of AAFs was examined in many jurisdictions in Canada during 2009, with growing concern about the reliance on a single variable, the Government of Canada long-term bond yield. As previously mentioned, the BCUC, AUC and NEB either eliminated or suspended their use of AAFs in 2009. In 2009, the OEB reset and refined its AAF; changing the allowed ROE by 50% of the change in forecast long-term Canada bond yields and 50% of the change in observed “A” rated utility bond index over the 30 year Canada bond yield⁷⁵. The Regie maintained its AAF in 2009 however, it was later modified in 2011 where it also introduced a second variable based on utility bond yields similar to the OEB⁷⁶.

As previously noted, in its 2013-2014 GRA, the Company proposed that the Board discontinue the use of the Formula for setting the allowed return on rate base. The Company believes the Formula does not establish a fair ROE since significant changes in financial market conditions (which include such features as substantial government intervention aimed at keeping interest rates low⁷⁷) have impacted the fairness of the ROE yielded by the Formula.

⁷³ BCUC adopted a formula to determine ROE in 1994 Decision., page 39-40.

⁷⁴ Order Nos. P.U. 16 (1998-99).

⁷⁵ OEB EB-2009-0084, page 46, 49 and Appendix B.

⁷⁶ Regie D-2011, Appendix 2.

⁷⁷ Newfoundland Power Inc.’s 2013-2014 GRA, PUB-NP-019.

808 The Company is not aware of any other alternatives to the current Formula that would be workable in
809 the Newfoundland & Labrador context⁷⁸. The Company also believes that there are no changes that
810 can be made to could make the Formula more reliable in determining a fair ROE⁷⁹.

811 **Formula and recent results**

812 The Formula has two main parts (1) an estimate of the Company's cost of equity in a specific year and
813 (2) an automatic adjustment formula that adjusts the cost of equity in subsequent years for changes in
814 the forecast interest rates on long-term Government of Canada bonds. The Formula as approved by
815 the Board is as follows⁸⁰:

816
$$\text{Forecast cost of equity} = 9.00\% + (0.80 (\text{RFR} - 4.50\%))$$

817 where:

- 818 i 9.00% is the cost of equity approved for ratemaking purposes in the 2010 GRA;
819 ii 0.80 is the adjustment coefficient for the change in the forecast risk-free rate;
820 iii RFR is the forecast risk free rate⁸¹;
821 iv 4.50% is the risk free rate approved by the Board for the 2010 test year.

822 The Formula is re-based every four years to include the ROE and risk free rate as determined in the test
823 year (from a full cost of capital hearing)⁸².

824 For 2011, the Formula indicated an estimated ROE of 8.38% which was used by the Board in setting
825 the allowed return on rate base. The Company had the lowest regulated ROE of all investor-owned
826 Canadian utilities in 2011.

827 For 2012, the Formula indicated an estimated ROE of 7.85%⁸³ however; the Formula was not used by
828 the Board in setting the allowed return on rate base. If used, the Company would have had the lowest
829 regulated ROE of all investor-owned Canadian utilities in 2012.

830 For 2013, the Formula indicated an estimate ROE of 7.53% based on the August 2012 Consensus
831 Forecasts⁸⁴. Using the October 2012 Consensus Forecasts we note the Formula would indicate an
832 estimate ROE of 7.47%⁸⁵.

833 The continued decline in Formula estimated ROEs reflects the decline in forecast long-term
834 Government of Canada bond yields.

⁷⁸ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-016.

⁷⁹ Newfoundland Power Inc.'s 2013-2014 GRA, PUB-NP-017.

⁸⁰ Newfoundland Power Inc.'s 2013-2014 GRA Volumes I dated September 14, 2012, page 3-33.

⁸¹ The risk free rate is determined by adding (i) the average of the 3 month and 12 month forecast of 10 year Government of Canada bonds as published by Consensus Forecasts in the preceding November and (ii) the average observed spread between 10 and 30 year Government of Canada bonds for all trading days in the preceding October.

⁸² Order No. P.U. 36 (1998-99), page 101.

⁸³ Newfoundland Power Inc.'s 2013-2014 GRA Volumes I dated September 14, 2012, page 3-34.

⁸⁴ Ibid.

⁸⁵ The pro forma 2013 forecast cost of equity based upon the October 2012 Consensus Forecasts is calculated as follows:
 $9\% + (0.80(2.59\% - 4.50\%)) = 7.47\%$. The October Consensus Forecasts is used to establish the risk-free rate in Formula.

835 **Conclusions**

836 The use of the Formula is only appropriate when it results in returns that meet the fair return standard.

837 In assessing the Formula, we compared its current results to our report findings. We concluded that
838 the Formula in its current form does not estimate a fair ROE for 2013 since the Formula indicates an
839 estimated ROE of 7.47% which is well below our conclusion of fair ROE of 8.91%. This is a reflection
840 of the decline in long-term bond yields since the 2010 GRA.

841 We recognize that the Formula has value as a regulatory tool, but it has had challenges meeting the fair
842 return standard as a result of the current interest rate environment. We believe these challenges relate
843 to utilizing a single variable to adjust the return on equity, which is influenced by multiple
844 considerations. The directness of the correlation between movements in the traditional measures of the
845 risk free rate and the return on equity has been less clear in light of the recent interest rate environment.

846 Based on these considerations, we have outlined adjustments that should be incorporated to address
847 these concerns. These adjustments moderate the impact of movements in the risk free rate on the
848 ROE. The objective of these adjustments is to preserve the Formula as a useful regulatory tool that
849 allows for adjustment to the ROE for movements in the risk free rate, while reducing the regulatory
850 costs incurred to do so. This objective is balanced with the recognition that ROE is impacted by
851 multiple factors and a single adjustment mechanism must be carefully moderated to be effective during
852 times of significant financial uncertainty, such as those we have experienced during the past few years.
853 In our view, there is no “perfect” AAF that can produce a fair ROE under every possible economic
854 scenario. Based on these considerations, we recommend to the Board that all of the following
855 adjustments should be implemented::

856 a Mandate a full cost of capital review if the Formula’s estimated ROE annually increases or
857 decreases by +/- 100 bps over the base level. A set ceiling and floor trigger would limit the
858 effects of volatile and abnormal markets as the Formula may produce inappropriate results
859 under certain market conditions. For example, if the base level ROE is set at 8.91% for Year 1,
860 and the Formula in Year 2 estimates a ROE of 9.92%, then a full cost of capital review would
861 be required in Year 2.

862 b Lower the adjustment coefficient to 0.50 from 0.80 which will lower the sensitivity in forecast
863 changes in long-term bond yields which is supported by changes made by the OEB as noted
864 above which were based on empirical evidence testing the relationship between long-term
865 bond yields and ROE. For example, if the base level risk free rate is set at 3.0% in Year 1, and
866 the risk free rate is determined to be 4% in Year 2, the Year 2 ROE would increase by
867 $(0.5 \times (4\% - 3\%)) = 0.5\%$ keeping all else equal as opposed to the current Formula which would
868 result in an increase of $(0.8(4\% - 3\%)) = 0.8\%$.

869 c Implement a dead band with a specified range of +/-25 bps where no change in ROE will
870 occur. For example, if the base level ROE is set at 8.91% for Year 1, and the Formula in Year
871 2 estimates a ROE of 9%, then the ROE in Year 2 would remain at 8.91%. The use of a dead
872 band would eliminate the need to adjust the Formula driven ROE for small annual changes.

873 d Introduce a second adjustment factor reflecting the change in spreads between utility bond
874 yields and long-term Government of Canada bond yields which is supported by changes made
875 by the OEB and the Regie which were based on empirical evidence testing the relationship
876 between corporate bond yields and ROE. The addition of second variable to the Formula
877 would be as follows(see items in bold):

878
$$\text{ROE} = \text{Base ROE} + (0.50(\text{LCBF} - \text{Base LCBF})) + \mathbf{(0.50(\text{Util Bond Spread} - \text{Base Util Bond Spread}))}$$

879 where:

- 880 i **Utility Bond Spread** = Utility bond yields (as defined below) less Canada long bond
881 yields; and
882 ii **Base Utility Bond Spread** = Utility bond yields less Canada long bond yields per the base
883 year.
884

885 We suggest using the Bloomberg Fair Value 30-year Canada A rated utility Bond Index (Series 29530Y)
886 to determine utility bond yield which is also used by both the OEB and Regie. For example, the utility
887 bond spread in Year 1 would be the difference between the observed spreads between the Bloomberg
888 Fair Value 30 year Canada A rated utility bond index yield and the 30 year Government of Canada long
889 term bond yield for each business day during the month immediately preceding that of which is used to
890 establish the forecast risk free rate (which is currently set as November). The introduction of a second
891 variable would lessen the Formula's dependence solely on changes in the risk free rate.

892 Restrictions and qualifications

893 **Restrictions**

894 This Report is not intended for general circulation or publication nor is it to be reproduced or used for
895 any purpose other than that outlined herein without our prior written permission in each specific
896 instance. Notwithstanding the above we understand that our Report will be disclosed as part of a
897 public rate hearing process and we have given the Board our consent to the use of our Report for this
898 purpose. We will not assume any responsibility or liability for losses occasioned to the intended users
899 or any third party as a result of the circulation, publication, reproduction or use of this Report contrary
900 to the provisions of this paragraph.

901 The liability of Grant Thornton LLP and any of our employees or other personnel for any claim in tort
902 or contract related to the professional services provided pursuant to our agreement is limited to the
903 amount of professional fees actually paid for those services.

904 We reserve the right, but are under no obligation, to review all comments and conclusions included in
905 or referred to in this Report and, if we consider it necessary, to revise our conclusions in light of any
906 information that subsequently becomes known to us following the date of our Report.

907 **Qualifications**

908 This Report has been prepared in conformity with the Practice Standards of the Canadian Institute of
909 Chartered Business Valuators ("CICBV"). The CICBV professional standard 310 defines an expert
910 report as:

911 *"any written communication other than a Valuation Report, containing a conclusion as to the quantum of financial*
912 *gain/loss, or any conclusion of a financial nature in the context of litigation or a dispute, prepared by an Expert*
913 *acting independently."*

914 In preparing this Report, we have relied upon the documents and information listed herein.

915 We are not guarantors of the information upon which we have relied in preparing our Report, and
916 except as stated, we have not audited or otherwise attempted to verify any of the underlying
917 information or data contained in this Report.

918 We certify that we have no active or contemplated interest in the Company nor is our fee contingent
919 upon our conclusion.

920 A copy of the valuator's curriculum vitae is attached in **Appendix B** of this report.

921 Scope of work

922 **Scope**

923 In completing this assignment, we reviewed and relied upon the following information, documents and
924 data:

- 925 a Newfoundland Power Inc.'s 2013-2014 GRA Volumes I, II and III dated September 14, 2012.
- 926 b Written evidence of Laurence D. Booth for Newfoundland Power Inc. dated May 2012.
- 927 c Newfoundland Power Inc.'s 2012 Cost of Capital Application dated March 30, 2012 and
928 amended Application dated June 7, 2012.
- 929 d DBRS credit rating report dated July 18, 2012, January 24, 2012, and January 31, 2011.
- 930 e Section 80 of the Public Utilities Act and Section 3(a)(iii) of the Electrical Power Control Act,
931 1994.
- 932 f Newfoundland Power Inc., Annual Information Form for the year ended December 31, 2011,
933 dated March 12, 2012.
- 934 g Northwestern Utilities Ltd. V. Edmonton (City), [1929] S.C.R. 186; Bluefield Water Works and
935 Improvement Co. v. Public Service Commission of West Virginia, (262 U.S. 679, 692 (1923));
936 Federal Power Commission v. Hope Natural Gas Co. (320 U.S. 591 (1944)).
- 937 h Population projections as prepared by the Province of Newfoundland and Labrador.
- 938 i Bank of Canada, Monetary Policy Report, October 2012.
- 939 j Bank of Canada Financial Systems Review Report, June 2012.
- 940 k Various orders/decisions of the Board as referenced in our Report.
- 941 l Consensus Economics, Consensus Forecasts monthly report, October 2012.
- 942 m Capital IQ S&P/TSX Composite index results 2010-Oct 2012.
- 943 n Bank of Canada long-term bond yield information 2010-Oct 2012.
- 944 o Bank of Canada 2010 and 2011 Annual Reports.

- 945 p Newfoundland Power Inc.'s and Fortis Inc's websites.
- 946 q Moody's, Rating Methodology: Regulated Gas and Electric Utilities, August 2009.
- 947 r DBRS Industry Study, Canadian Utilities, H1 2012, October 2012.
- 948 s Various orders/decision/press releases from other Canadian regulators as referenced in our
949 Report.
- 950 t Fischer Black, Michael C. Jensen, Myron Scholes; "The Capital Asset Pricing Model: Some
951 Empirical Tests".
- 952 u *The Equity Risk Premium, Roger G. Ibbotson, from pg 20 Rethinking the Equity Risk Premium 2011 The*
953 *Research Foundation of the CFA Institute.*
- 954 v Pablo Fernandez, Javier Aguirreamalloa and Luis Corres, Market Risk Premium used in 82
955 countries in 2012: a survey with 7,192 answers.
- 956 w *Betas and Their Regression Tendencies* by Marshall E. Blume, Journal of Finance 30, June 1975
- 957 x *Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2012 Edition, Updated:*
958 *March 2012, Aswath Damodaran and*
959 <http://www.stern.nyu.edu/~adamodar/pc/datasets/ctrypremJune2012.xls>
- 960 y Various requests for information and responses filed by the consumer advocate and the Board
961 in relation to the 2013-2014 GRA as referenced in our Report.
- 962 We did not audit or otherwise verify the data and information contained in these documents.

963 Assumptions

964 In preparing our Report, we have made a number of assumptions that may affect our conclusions.
965 The major assumptions are as follows:

966 – Our estimate of a fair ROE is based on the premise that the allowed ROE will remain unchanged
967 for the proposed test period (2013-2014).

968 It should be noted that if the assumptions on which this Report was based are found to be incorrect,
969 our conclusion might be rendered invalid.

970 Appendix A: Exhibits

Exhibit 1 - DBRS long-term debt rating scale	
Symbol	Credit quality
AAA	Highest
AA	Superior
A	Satisfactory
BBB	Adequate
BB	Speculative
B	Highly Speculative
CCC	Very Highly Speculative
CC	Very Highly Speculative
C	Very Highly Speculative
D	Default

Source: DBRS Industry Study, Canadian Utilities, H1 2012, October 2012, page 69.

971

Exhibit 2 - Moody's long-term debt rating scale	
Symbol	Credit quality
Aaa	Highest quality with minimal risk
Aa	High quality with very low risk
A	Upper medium credit with low credit risk
Baa	Medium grade with moderate credit risk; may possess certain speculative elements
Ba	Have speculative elements and are subject to substantial credit risk
B	Speculative and subject to high credit risk
Caa	Of poor standing and subject to very high credit risk

For ratings in each category, a modifier of 1 to 3 is attached, with 1 meaning that the obligation ranks in the upper end of its generic category and 3 means that the obligation ranks at the lower end. Ratings of Baa3 or higher are considered investment grade.

Source: Moody's, Rating Methodology: Regulated Gas and Electric Utilities, August 2009, page 5.

972

Exhibit 3.0 Comparable Utilities				Return on Equity			Equity Ratio		
Company Name	Moody's Credit Rating	% of Regulated Assets	Geographic Location	2011	Forecast 2012	Forecast 2013	2011	Forecast 2012	Forecast 2013
ALLETE	Baa1	90%	Minnesota Wisconsin	8.70%	8.50%	8.50%	55.70%	53.50%	52.00%
Alliant Energy	Baa1	95%	Wisconsin Iowa Minnesota	10.10%	10.00%	10.00%	50.90%	51.50%	51.00%
Atmos Energy Corporation	Baa1	93%	Texas Louisiana Mississippi Kentucky Colorado Kansas	8.80%	8.00%	8.00%	50.60%	55.00%	55.00%
Consolidated Edison	Baa1	98%	New York Westchester County New Jersey	9.20%	9.00%	9.50%	52.50%	53.50%	54.00%
Integrus	Baa1	87%	Wisconsin Illinois Minnesota Michigan	7.70%	8.00%	9.00%	60.60%	60.00%	57.50%
Southern Company	Baa1	92%	Georgia Alabama Florida Mississippi	12.50%	12.50%	13.00%	47.10%	45.50%	45.00%
Xcel Energy Inc	Baa1	95%	Minnesota Wisconsin North Dakota South Dakota Michigan Colorado Texas New Mexico	9.90%	10.00%	9.50%	48.90%	46.50%	47.50%

974 Appendix B: Troy MacDonald's curriculum vitae



975
976
977

CURRICULUM VITAE
Troy MacDonald, C.A., C.B.V
Partner, Grant Thornton LLP - Toronto

978 **Education and Professional Affiliations:**

- 979 • Bachelor of Commerce from Saint Mary's University (1994), major in accounting
980 • Qualified as a Chartered Accountant and admitted to the Institute of Chartered Accountants
981 of Nova Scotia in 1997
982 • Qualified as a Chartered Business Valuator and admitted to the Canadian Institute of
983 Chartered Business Valuators in 2002

984 **Professional History:**

- 985 • Grant Thornton LLP Chartered Accountants
986 • *National Corporate Finance Leader (January 2010 to date)*
987 • *Partner, Corporate Finance & Infrastructure, Toronto, Ontario (January 2008 to date)*
988 • *Senior Manager, Capital Markets, London, England (September 2006 to December 2007)*
989 • *Senior Manager, Corporate Finance, Halifax, Nova Scotia (March 2003 to September 2006)*
990 • Emera Inc.(TSX:EMA), Halifax, Nova Scotia
991 • *Corporate Development (December 2000 to March 2003)*
992 • *Financial Planning (December 1999 to December 2000)*
993 • WBLI LLP Chartered Accountants
994 • *Various positions, including Manager, Corporate Finance (March 1994 to December 1999)*

995 **Infrastructure and Power Experience:**

- 996 • Over 16 years of experience in corporate finance, with a focus on power sector and
997 infrastructure.
998 • Power sector experience in regulated utilities, merchant or regulated power transmission and
999 power generation (hydro, biomass, wind, natural gas and coal)
1000 • Regulatory support engagement for the City of Edmonton in regards to the Epcor Water
1001 Services Inc. – Review of 2012 to 2016 PBR submission
1002 • Valuation engagements for assets or companies operating in infrastructure, wastewater and
1003 power.
1004 • Financial advisory engagements for public and private sector clients in relation to
1005 infrastructure / public private partnerships and power assets
1006 • Financial Model review engagements in relation to power and infrastructure assets (gas fired
1007 power plants, solar power generation, transmission lines and social infrastructure assets)
1008 • Capital Markets engagements in relation to power assets (biodiesel power generation, hydro
1009 power generation, alternative energy)

