

OPINION
ON
COST OF CAPITAL

FOR
ENBRIDGE GAS NEW BRUNSWICK

Prepared by

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June 2010

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1 **I. INTRODUCTION AND SUMMARY OF CONCLUSIONS**

2
3 **A. INTRODUCTION**

4
5 My name is Kathleen C. McShane and my business address is 4550 Montgomery Avenue, Suite
6 350N, Bethesda, Maryland 20814. I am President of Foster Associates, Inc., an economic
7 consulting firm. I hold a Masters in Business Administration with a concentration in Finance
8 from the University of Florida (1980) and am a Chartered Financial Analyst (1989). I have
9 testified on issues related to cost of capital and various ratemaking issues on behalf of local gas
10 distribution utilities, pipelines, electric utilities and telephone companies in more than 200
11 proceedings in Canada and the U.S., including the New Brunswick Energy and Utilities Board
12 (“the Board”), formerly the New Brunswick Public Utilities Board. My professional experience
13 is provided in Appendix F.

14
15 I have been asked by Enbridge Gas New Brunswick (“EGNB”) to review its cost of capital,
16 including the capital structure, cost of debt and return on equity (“ROE”) and to recommend any
17 changes that are required, in light of changes in EGNB’s business risk and in the capital markets
18 since the adoption of the existing cost of capital parameters in the Board’s June 23, 2000
19 Decision *IN THE MATTER OF an Application by Enbridge Gas New Brunswick Inc. for*
20 *Approval of its Rates and Tariffs* (NBPUB 299).

21
22 **B. SUMMARY OF CONCLUSIONS**

23
24 My conclusions are as follows:

- 25
26 1. The focus of EGNB’s business risks has shifted from initial market development to
27 recovery of invested capital since the capital structure and ROE were adopted in 2000,
28 but the level of business risk faced does not suggest that an investor would require any

29 less of an incremental risk premium relative to a mature gas distribution utility than was
30 incorporated into the allowed return in the NBPUB 299 Decision.

31
32 2. EGNB's common equity ratio of 50% remains reasonable and appropriate in light of its
33 business risks, the capital structures of other gas distribution utilities and the credit
34 metrics that EGNB has achieved and that are potentially achievable, but uncertain, at the
35 existing capital structure.

36
37 3. The determination of EGNB's regulated cost of debt as the cost that Enbridge Inc. incurs
38 plus one percent remains reasonable, if conservative, in light of the beneficial terms and
39 conditions that EGNB's ability to raise debt through Enbridge Inc. entails and the
40 potential cost to EGNB if it were issuing debt to an arms' length third-party lender on a
41 stand-alone basis.

42
43 4. An analysis of changes in the returns allowed for both Canadian and U.S. gas distribution
44 utilities between NBPUB 299 and today provides a perspective on the magnitude of the
45 change in ROE that would be warranted for EGNB. Based on a similar incremental risk
46 premium (200 to 300 basis points) to the allowed returns for mature gas distribution
47 utilities, the analysis supports an ROE for EGNB in the range of 12.0% to 12.5%.

48
49 5. A comprehensive "from first principles" cost of equity study was undertaken to estimate
50 the required return on equity for a benchmark mature Canadian gas distribution utility.
51 To account for EGNB's higher total risk relative to a benchmark Canadian distribution
52 utility, a risk premium to the benchmark ROE was estimated. The analysis shows:

53
54 a. The fair return on equity for a benchmark Canadian distribution utility is based on
55 the results of discounted cash flow and equity risk premium tests.

56
57 b. Constant growth and multi-stage discounted cash flow tests, applied to a sample
58 of benchmark low risk U.S. distribution utilities, indicate a cost of equity for a

59 benchmark Canadian distribution utility of approximately 9.6%, before
60 adjustment for financing flexibility.

61
62 c. The equity risk premium test results are based on three separate approaches. The
63 equity risk premium tests indicate the following costs of equity, before adjustment
64 for financing flexibility:

65

Equity Risk Premium Test	Cost of Equity
Risk-Adjusted Equity Market	9.6%
DCF-Based	9.5%
Historic Utility	11.5%
Average	10.2%

66
67 d. The “bare-bones” cost of equity for a benchmark Canadian distribution utility
68 based on the discounted cash flow and equity risk premium tests is 9.6% to
69 10.2%.

70
71 e. The “bare bones” cost of equity needs to be adjusted for financing flexibility. A
72 reasonable allowance for financing flexibility is in a range of 0.50% to 1.0%, or a
73 mid-point of 0.75%. The addition of a 0.75% financing flexibility adjustment to
74 the “bare bones” cost of equity results in a fair return on equity for a benchmark
75 Canadian distribution utility of 10.35% to 10.95%, or approximately 10.5% to
76 10.75%.

77
78 6. An analysis of the difference in the cost of equity for the benchmark sample and a sample
79 of higher risk gas distribution utilities, supplemented by an analysis of the incremental
80 risk premium for small capital market capitalization companies, support an incremental
81 equity risk premium relative to the ROE for a benchmark distribution utility of 200 to

82 300 basis points for EGNB. With an incremental equity risk premium of 200 to 300 basis
83 points, the ROE for EGNB would be in the range of 12.5% to 13.75%.

84

85 The table below summarizes the results of the “from first principles” approach.

86

87

Table 1

	Summary of Results
Cost of Equity Tests	
Discounted Cash Flow Test	9.6%
Equity Risk Premium Test	10.2%
“Bare-Bones” Cost of Equity	9.6% to 10.2%
Financing Flexibility	0.75%
Benchmark ROE (rounded)	10.5% to 10.75%
Incremental Risk Premium	2.0% to 3.0%
ROE for EGNB	12.5% to 13.75%

88

89 7. Based on both the incremental risk premium approach (ROE of 12.0% to 12.5%) and the
90 “from first principles” approach (ROE of 12.5% to 13.75%), a reasonable ROE for
91 EGNB is in the range of approximately 12.25% to 13.0%.

92

93 **II. BACKGROUND FOR REVIEW OF EGNB’S COST OF CAPITAL**

94

95 EGNB was granted a General Franchise to distribute natural gas and provide customer services
96 in the Province of New Brunswick for a 20-year initial term. In its June 2000 Decision,
97 following EGNB’s first application for rates, the Board approved, among other things, (1) a
98 development period, described as the amount of time required to move from a “greenfield”
99 situation, of five years, with the onus thereafter on EGNB to annually prove that the
100 development period should be extended; (2) a debt to equity ratio that would be based on the
101 actual capital structure of the utility, with a proportion of equity not to exceed 50% during the
102 development period; (3) a cost of debt equal to that of the parent company plus 1%; (4) a return
103 on equity during the development period of 13%; and (5) a revenue deficiency deferral account,
104 which would attract the weighted average cost of capital, and for which an amortization schedule
105 would be established so as to clear the balance by the end of the initial franchise period.

106

107 The development period was extended by the Board to the end of 2010 in its January 2005
108 *Decision: In the Matter of an Application dated October 8, 2004 to Request Extension of the*
109 *Development Period and the Deferral Account Recovery Period.* In that Decision, the Board
110 concluded that “both the ultimate amount at which the deferral account will peak and the precise
111 date at which the development period will end cannot be known with certainty at this time.” The
112 Board approved the deferral account being recovered through rates between the end of the
113 development period and a date no sooner than December 31, 2040.

114

115 In 2008, with the December 2010 scheduled end of the development period approaching, the
116 Board scheduled a proceeding to address four issues:

117

118 1. What are the essential elements that define the development period?

119

120 2. Can the approved return on equity be altered prior to the end of the development period?

121

122 3. Can the development period end for one customer class without it ending for all customer
123 classes?

124

125 4. What are the criteria for ending the development period and how should those criteria be
126 measured?

127

128 In its *Decision: In the Matter of a Review of Issues Related to the Development Period for*
129 *Enbridge Gas New Brunswick Limited Partnership*, December 1, 2009, the Board (1) concluded
130 that the essential element that defines the development period is an inability to have a reasonable
131 opportunity to recover the utility’s full costs on a sustainable basis and (2) established criteria for
132 determining when the development period had ended. The Board also concluded that it had the
133 authority to review the allowed return on equity during the development period and that any
134 review of the return on equity should also include capital structure and cost of debt because of
135 their impact on the appropriate return on equity. In April 2010, the Board ordered a review of

136 EGNB's cost of capital. The evidence which follows is provided in response to the Board's
137 Order.

138

139 **III. PRINCIPLES FOR ANALYSIS**

140

141 **A. FAIR RETURN STANDARD**

142

143 The point of departure for assessing the cost of capital for EGNB, as with any regulated utility, is
144 the fair return standard. A fair return gives a regulated utility the opportunity to:

145

- 146 1. Earn a return on investment commensurate with that of comparable risk enterprises (the
147 comparable investment requirement);
- 148 2. Maintain its financial integrity (the financial integrity requirement); and,
- 149 3. Attract capital on reasonable terms (the capital attraction requirement).

150

151 A fair return on the capital provided by investors not only compensates the investors who have
152 put up, and continue to commit, the funds necessary to deliver service, but benefits all
153 stakeholders, including ratepayers. A fair and reasonable return on the capital invested provides
154 the basis for attraction of capital for which investors have alternative investment opportunities.
155 A fair return preserves the financial integrity of the utility, that is, it permits the utility to
156 maintain its creditworthiness, as demonstrated by the level of its credit metrics and debt ratings.
157 Fair compensation on the capital committed to the utility provides the financial means to pursue
158 technological innovations and build the infrastructure required to support long-term growth in
159 the underlying economy.

160

161 An inadequate return, on the other hand, undermines the ability of a utility to compete for
162 investment capital. Moreover, inadequate returns act as a disincentive to expansion, may
163 potentially degrade the quality of service or deprive existing customers from the benefit of lower
164 unit costs that might be achieved from growth. If the utility is not provided the opportunity to
165 earn a fair and reasonable return, it may be prevented from making the requisite level of

166 investments to maintain and expand the distribution system in order to reliably provide utility
167 services for its customers.¹

168
169 Further, as the Federal Court of Appeal held in *TransCanada PipeLines Ltd. v. National Energy*
170 *Board et al.*, [2004] F.C.A. 149, the required rate of return must be based on the cost of equity.
171 The impact on customers of any rate increases resulting from that determination is not a relevant
172 consideration.²

173
174 **B. RELATIONSHIP BETWEEN CAPITAL STRUCTURE, COST OF DEBT AND**
175 **RETURN ON EQUITY**
176

177 As the Board noted in its December 2009 decision, any review of the return on equity should
178 also include capital structure and cost of debt because of their impact on the appropriate return
179 on equity. The overall cost of capital to a utility depends, in the first instance, on business risk.
180 Business risk relates largely to the assets of the utility. The business risk of a utility is the risk of
181 not earning a compensatory return on the invested capital and of a failure to recover the capital
182 that has been invested. Consequently, the estimation of the fair return for EGNB should entail an
183 evaluation of the business risks, including an assessment of changes since the Board initially
184 adopted the cost of capital for EGNB in early 2000.

185
186 Second, the cost of capital is also a function of financial risk. Financial risk refers to the
187 additional risk that is borne by the equity investor because the firm uses debt to finance a portion
188 of its assets. The use of debt in a firm's capital structure creates a class of investors whose
189 claims on the cash flows of the firm take precedence over those of the equity holder. Since the
190 issuance of debt carries unavoidable servicing costs which must be paid before the equity
191 shareholder receives any return, the potential variability of the equity shareholder's return rises

¹ See Appendix A for further discussion of the fair return standard.

² In its *Reasons for Decision, Trans Québec and Maritimes Pipelines Inc., RH-1-2008, March 2009* (page 6), the NEB stated: "In the Board's view, the Federal Court of Appeal was clear that the overall return on equity must be determined solely on the basis of a company's cost of equity capital, and that the impact of any resulting toll increase is an irrelevant consideration in that determination."

192 as more debt is added to the capital structure. Thus, as the debt ratio rises, the costs of debt and
193 equity rise. The assessment of the appropriate capital structure for EGNB needs to consider the
194 impact of any change on the cost of both its debt and equity.

195

196 **C. STAND-ALONE PRINCIPLE**

197

198 The stand-alone principle encompasses the notion that the cost of capital incurred by ratepayers
199 should be equivalent to that which would be faced by the utility raising capital on the strength of
200 its own business and financial parameters. Respect for the stand-alone principle is consistent
201 with basing the allowed return on an opportunity cost of capital that reflects the use of funds (the
202 risks of the operations to which the funds are committed), rather than the source of those funds.
203 Further, respect for the stand-alone principle is intended to promote efficient allocation of capital
204 resources and avoid cross-subsidies. The stand-alone principle has been respected by virtually
205 every Canadian regulator in setting both regulated capital structures and allowed ROEs.

206

207 **IV. ISSUES ADDRESSED IN REPORT**

208

209 In making a determination as to whether the cost of capital parameters adopted by the Board for
210 EGNB in 2000 remain reasonable, the key question that needs to be addressed is what has
211 changed. There are three major elements of potential change that should be addressed:

212

- 213 1. Have the business risks of EGNB changed and, if so, are they higher or lower than when
214 the Board initially adopted the cost of capital for EGNB in 2000?
- 215 2. Have capital market conditions and the cost of capital environment changed since 2000
216 and what are the implications of those changes for the fair return for EGNB?
217
- 218 3. With respect to the requirements of the fair return standard, how have the returns changed
219 that are relevant to meeting the comparable investment requirement and what are the
220 implications of those changes for the fair return for EGNB?
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To address these issues, my report contains the following:

1. An assessment of the change in business risk faced by EGNB since the 2000 Decision, in order to determine whether there should be a change in capital structure, cost of debt or ROE (or a combination thereof) due to material changes in the business risk to which EGNB is exposed;
2. An assessment of the reasonableness of EGNB’s capital structure;
3. An assessment of the methodology adopted by the Board to set EGNB’s allowed cost of debt;
4. An overview of trends in the capital markets and the cost of capital environment since the Board adopted EGNB’s cost of capital parameters in 2000, to assess broadly the extent to which the cost of capital has changed in the intervening period;
5. A comparison of benchmarks relied upon in the NBPUB 299 proceeding for the assessment of the reasonableness of EGNB’s initial ROE relative to their current values, with the objective of estimating the incremental change in ROE that would be warranted;
6. A “from first principles” estimate of the fair ROE for a “benchmark” or average risk Canadian utility and risk premium for EGNB, with the objective of independently estimating a reasonable return under current capital market conditions.

247 **V. TRENDS IN EGNB’S BUSINESS RISK**

248

249 In 2000, when EGNB appeared before the Board in its first rates proceeding, during which the
250 proposed ROE and capital structure were reviewed, and subsequently adopted in NBPUB 299,
251 the principal business risk factors that were identified were:

252

253 1. There was no natural gas service in New Brunswick and no customers. To build a
254 market, EGNB needed to attract all of its customers from alternative energy sources,
255 largely through conversions.

256

257 EGNB’s forecasts anticipated that, within the initial franchise period (20 years), it could
258 reach 25 communities, attach 70,000 customers and deliver 21 petajoules (PJs) of natural
259 gas annually. By 2010, EGNB anticipated that it would have attached close to 38,000
260 customers and would deliver 16.4 PJs of throughput.

261

262 2. A significant build out of the natural gas distribution system was required prior to the
263 attachment of any customers. EGNB’s return on capital would be deferred during the
264 development period, during which revenues would be insufficient to cover total costs,
265 i.e., inclusive of a return on invested capital.

266

267 3. EGNB would be developing its natural gas distribution system in an “unbundled”
268 marketplace. EGNB would not be permitted to sell natural gas or provide any retail
269 natural gas services. EGNB would only be able to manage a portion of the burner tip
270 price. EGNB’s ability to develop its system and be able to recover its distribution costs
271 was dependent on coordination with marketers.

272

273 4. EGNB’s rates during the development period would be market based, rather than cost of
274 service based rates, discounted to the price of alternative energy sources. Providers of
275 alternative sources of energy were expected to compete strenuously. The principal
276 source of competition was oil, and there existed the risk of the potential for oil prices to

277 be lower than anticipated. Lower than anticipated oil prices would put downward
278 pressure on the delivered price of gas and defer EGNB's ability to recover the allowed
279 return and a return of the capital invested.

280

281 5. With respect to gas supply, the source of gas supply was the Sable Island reserves, which
282 were believed to be adequate, but the fields were new and untested.

283

284 6. Returns were expected to be deferred for a period of approximately eight to ten years.
285 EGNB did not anticipate earning its allowed ROE until the eighth year of operation.

286

287 7. EGNB requested, and the Board approved, the implementation of a revenue deficiency
288 deferral account, which would capture deviations between actual revenues and the
289 revenue requirement, including the allowed ROE, during the development period. The
290 revenue deficiency deferral account was forecast to reach a peak of \$13 million. The
291 Board directed that an amortization schedule be developed that would clear the balance in
292 the deficiency account by the end of the 20-year initial term of the franchise. The
293 adoption of the revenue deficiency deferral account mitigated the risk to which EGNB
294 was exposed. However, there was no commercial assurance that EGNB would be able to
295 recover revenue deficiencies incurred in the development years.

296

297 Since the Board initially approved EGNB's capital structure and ROE in 2000:

298

299 1. The unbundled gas distribution model proved to be a significant hindrance to the
300 development of the natural gas market in New Brunswick. Legislation was amended in
301 2003 to allow EGNB to sell natural gas and provide installation services.

302

303 2. Comparing the 1999 forecasts for 2010 to the most recent forecasts, EGNB now expects
304 the actual number of customers in 2010 to be 11,000 with 5.6 PJs of throughput,
305 approximately 30% of the customers initially anticipated and about 35% of the
306 throughput that had been forecast.

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3. Approximately 20% of the customers EGNB had initially expected to serve would have been off northeast and northwest laterals built by Maritimes and Northeast Pipeline (and forecast to be in service in 2008). Currently, the prospects for those laterals being built and EGNB reaching that potential customer base are slim.
4. There are fewer potential large loads than EGNB anticipated.
5. EGNB's forecasts for customer attachments were premised on a pricing advantage of natural gas to electricity that quickly evaporated, as natural gas prices soared just as EGNB was initially attempting to develop the market. During the five years prior to the Board's issuing Decision NBPUB 299 (July 1995-June 2000), the NYMEX month-end settlement price was relatively stable, averaging U.S. \$2.38/MMBtu with a standard deviation of \$0.58/MMBtu. By December 2000, the NYMEX month-end settlement price was more than four times the corresponding price just one year earlier. To put the change in average price and volatility of prices in perspective, the average NYMEX month-end settlement price for the past five years (May 2005-April 2010) has been \$6.99/MMBtu with a standard deviation of \$2.63/MMBtu. The increased volatility in natural gas prices creates increased uncertainty regarding future demand and per customer usage.
6. Retail residential prices (per kilowatt hour) for electricity, the principal heating energy source of over 50% of households in New Brunswick,³ increased by approximately 2.8% annually between 1998 and 2009.⁴ By comparison, based on the preceding 12-month average NYMEX month-end settlement price, natural gas prices had increased by over 10% per year over the same period.

³ Natural Resources Canada, Office of Energy Efficiency, Total Households by Building Type and Energy Source, data for 2007.
⁴ Hydro-Québec, *Comparison of Electricity Prices in Major North American Cities, Rates Effective May 1, 1998 and Rates Effective April 1, 2009.*

334 7. Higher gas prices and the relatively high cost of conversion from electric baseboard
335 heating to natural gas heating has made conversion of electric heating customers much
336 more difficult than anticipated, despite financial incentives and a rate targeted specifically
337 at residential customers using electricity as their current heating energy source. The
338 capture rate for new residential construction in areas served by EGNB's gas distribution
339 system is comparatively low relative to other Canadian gas distribution utilities. The
340 relatively high cost of conversion from electricity to natural gas also means that, in areas
341 not yet served by EGNB, and where electricity remains the principal home heating
342 choice, it is more difficult to convert potential customers until their current heating
343 equipment needs to be replaced. Additionally, if a home was built with an electric
344 baseboard heating system (the predominant construction practice), conversion will be a
345 challenge, as it requires installation of a central system, in contrast to homes heated with
346 oil, which already have a central system.

347
348 8. In the commercial sector, while the capture rate for new construction is relatively high,
349 the relatively high cost of conversion and the fact that the ongoing savings accrue to
350 tenants, not owners, are an impediment to converting existing electricity customers prior
351 to the end of the equipment life.

352
353 9. EGNB operates in a relatively small, less diversified economy than the typical mature
354 Canadian gas distributor. At present, 14 customers account for approximately 20% of
355 EGNB's distribution revenues. Given the relatively large fixed costs of the distribution
356 system relative to customer base, a reduction in consumption due to economic conditions
357 or the loss of a large customer would have a greater impact on unit costs than for a larger
358 distributor with a more diversified customer base. Further, increased unit costs could
359 negatively impact the demand of the remaining and/or potential new customers.

360
361 10. With respect to supply risk, the Sable Island reserves have turned out to be lower than
362 initially anticipated. The availability of onshore supplies in New Brunswick (from
363 Corridor Resources) and, indirectly, the completion of the LNG terminal at Canaport and

364 the Emera Brunswick Pipeline have provided some supply alternatives to the Sable
365 production. However, EGNB's supply alternatives remain relatively limited and
366 commodity prices are sensitive to disruption of the Sable production.

367

368 11. The revenue deficiency account has grown significantly beyond the levels that were
369 initially anticipated. At the end of 2009, it was \$155 million (compared to \$237 million
370 in property, plant and equipment) and is expected to peak at close to \$169 million in
371 2010. In contrast to EGNB's initial projections, which anticipated full recovery of the
372 revenue deficiency account within the 20-year term of the initial franchise period, the
373 expectation today is that it will not be recovered by 2040, well beyond the nine years
374 remaining in the initial franchise period. From the perspective of an equity investor,
375 there is a significant regulatory risk associated with the recovery of their investment that
376 is represented by the revenue deficiency deferral account. While consistency of
377 regulatory decisions provides some comfort to investors, no regulatory board can bind its
378 successors. The longer the anticipated recovery period, the higher the perceived
379 regulatory risk.

380

381 12. EGNB has, as was envisioned in the initial offering of partnership units, paid quarterly
382 distributions to the partners equal to the accounting net income. Without distributions to
383 the partners, EGNB faces the risk that future capital infusions will not be forthcoming.
384 By making distributions, EGNB is able to manage its common equity ratio within the
385 50% limit that was established for ratesetting purposes in NBPUB 299. If EGNB were
386 not to make distributions, its equity ratio would increase above the maximum level
387 approved by the Board, effectively trapping equity which would only have the
388 opportunity to earn the cost of debt.

389

390 Moreover, although EGNB has paid distributions as the partnership units offering
391 intended, partners have in turn, reinvested equity capital into EGNB. Over the past five
392 years, for every dollar that has been distributed, there has been \$1.60 invested in EGNB,
393 much of it coming from the existing partners.

394

395 13. Effectively, EGNB is experiencing the risks that were envisioned at its inception, which,
396 in turn, have resulted in the magnitude of the revenue deficiency deferral account, for
397 which investors are at risk of recovery. While the risks have shifted over time from
398 market development to recovery of the invested capital, I see no reason that either
399 existing or prospective investors would require a lower incremental risk premium to
400 compensate for the risk than was incorporated in the ROE adopted in 2000, estimated at
401 200 to 300 basis points above the returns for mature gas distribution utilities.

402

403 **VI. CAPITAL STRUCTURE**

404

405 In the 2000 decision, the Board approved for regulatory purposes the use of an actual capital
406 structure, with the equity ratio not to exceed 50%.

407

408 In assessing the reasonableness of the capital structure, it is important to recognize that:

409

410 1. The capital structure should be compatible with the business risks of the firm. The higher
411 the business risks, the higher the common equity ratio that would be considered
412 reasonable.

413 2. EGNB competes for capital with other Canadian regulated companies, with regulated
414 companies globally, as well as with unregulated companies, both within Canada and
415 globally. To compete successfully for required capital, EGNB requires returns, which
416 include both the capital structure and ROE, that are competitive with those of its peers on
417 a risk-adjusted basis.

418 3. The capital structure, cost of debt and ROE are inter-related.

419 4. The higher the debt ratio, all other things equal (e.g., business risk), the higher the cost of
420 debt that a lender would charge and the more restrictive the covenants that would be
421 placed on a debt issue in order to protect the debt holder.

- 422 5. The higher the debt ratio, all other things equal, the higher will be the return required by
423 the equity owners to compensate them for the additional financial risk to which they are
424 exposed.
- 425 6. The capital structure and return on equity in combination are key factors in determining a
426 firm's credit metrics. Credit metrics include various interest expense coverage and cash
427 flow adequacy measures. The higher the debt ratio and/or the lower the return on equity,
428 the weaker will be a utility's credit metrics. The weaker the credit metrics, the less
429 creditworthy the utility will be, and the higher will be its cost of debt and the more
430 stringent will be the terms and conditions a lender will require.

431

432 In Section V above, I concluded that the level of business risk faced by EGNB has not changed
433 materially since the Board approved EGNB's cost of capital in 2000. In the absence of a
434 significant change in the level of business risk faced, the previously adopted capital structure
435 remains reasonable.

436

437 With respect to the allowed capital structures of the other Canadian gas distribution utilities with
438 which EGNB competes for capital, Table 2 below compares their regulated common equity
439 ratios as approved in 2000 with the most recently adopted ratios. The table indicates that, for
440 both the larger mature and smaller gas distribution utilities, there has been an upward trend since
441 2000.⁵ The improvement in the common equity ratios of both larger and smaller Canadian gas
442 distribution utilities is, in isolation, supportive, at a minimum, of maintaining EGNB's common
443 equity ratio at its current level.

444

⁵The major debt rating agencies have noted on numerous occasions that they consider the deemed common equity components of Canadian utilities to be relatively thin (and the ROEs relatively low). For example, in the S&P report for Union Gas issued subsequent to the utility's 2006 settlement in which the allowed common equity ratio was raised to 36%, the two weaknesses referred to were the high leverage associated with the company's regulated capital structure and the relatively low allowed ROE compared with global peers (S&P, *Research: Union Gas*, August 24, 2006). More generally, S&P has stated it considers that Canadian utility financial policies tend to be aggressive with leverage, and regulators "parsimonious" with returns (Standard & Poor's, *Industry Report Card: Regulatory Rulings, M&A, and Fuel Cost Recovery Dominate Global Utilities Credit Environment*, November 21, 2006).

Table 2

Large Mature Gas Distribution Utilities	Allowed Equity Ratios	
	2000	2010
ATCO Gas	37.0%	39.0%
Enbridge Gas	35.0%	36.0%
Gaz Métro	38.5%	38.5%
Terasen Gas	33.0%	40.0%
Union Gas	35.0%	36.0%
Median	35.0%	38.5%
Smaller Gas Distribution Utilities		
AltaGas Utilities	41.0%	43.0%
Gazifère	40.0%	40.0%
Heritage Gas	N/A	45.0%
Natural Resource Gas ^{1/}	50.0%	42.0%
Pacific Northern Gas-FSJ/DC	36.0%	40.0%
Pacific Northern Gas-Tumbler Ridge	36.0%	40.0%
Pacific Northern Gas-West	36.0%	45.0%
Terasen Gas (Vancouver Island)	35.0%	40.0%
Terasen Gas (Whistler)	35.0%	40.0%
Median ^{2/}	36.0%	40.0%

^{1/} NRG's risk premium was increased by 0.50% when its common equity ratio decreased.

^{2/} Medians exclude Heritage Gas for purposes of comparison because it was not operating in 2000.

Source: Schedule 2, page 1 and Regulatory Decisions.

446
447
448
449
450

451 Of the gas distribution utilities contained in the table above, only Heritage Gas would be
452 considered a close comparable to EGNB, as it is, like EGNB, an immature gas distribution
453 utility.⁶ Heritage Gas is a greenfield gas distribution utility serving the province of Nova Scotia.
454 Heritage Gas was allowed an ROE of 13.0%, a common equity ratio of 45% and a cost of debt of
455 8.75% in the February 2003 decision of the Nova Scotia Utilities and Review Board
456 ("NSUARB") approving the 25-year franchise agreement. In 2008, the NSUARB reviewed
457 Heritage Gas' cost of capital as part of a three-year test period (2009-2011) rates application, and

⁶ Terasen Gas (Vancouver Island) is also a relatively immature utility but is on the cusp of becoming a mature utility, e.g., it has fully recovered its accrued revenue deficiency. Moreover, unlike EGNB, Terasen Gas (Vancouver Island) was constructed and has operated with significant government assistance in a province where natural gas is widely accepted.

458 in its February 2009 decision confirmed all three components of the cost of capital. I would
459 judge EGNB to be a riskier gas distribution utility than Heritage Gas, because Heritage (1) builds
460 only with signed demand; (2) operates within a more densely populated franchise area; (3)
461 largely competes with fuel oil rather than electricity; and 4) has a materially lower revenue
462 deficiency deferral account. With respect to the last, both EGNB and Heritage maintain revenue
463 deficiency deferral accounts; both are allowed in rate base and attract the weighted average cost
464 of capital. As of 2008, Heritage expected to be able to recover the full amount of its revenue
465 deficiency account by 2019, while EGNB does not expect to be able to recover the deferred
466 return prior to 2040. EGNB's higher business risk relative to Heritage Gas is supportive of a
467 higher common equity ratio for EGNB.

468
469 With respect to U.S. gas distribution utilities, the average common equity ratio adopted since the
470 beginning of 2009 has been approximately 48.5%. The allowed common equity ratios for U.S.
471 gas distribution utilities have been relatively stable over the past decade; the average allowed
472 equity ratio approved by U.S. regulators in 1998/2000, at 49%, was similar to the 2009/2010
473 average. EGNB's 50% common equity ratio is comparable to the equity ratios adopted for
474 mature U.S. gas distribution utilities, which would face lower business risk than an immature gas
475 distribution utility like EGNB.⁷

476
477 S&P's current corporate rating methodology⁸ assigns one of six business risk rating categories to
478 each company that it rates including regulated companies. The lowest business risk category is
479 "Excellent"; the highest business risk category is "Vulnerable." The other business risk
480 categories are "Strong", "Satisfactory", "Fair" and "Weak". The typical mature U.S. gas
481 distribution utility rated by S&P has an "Excellent" business profile score, as do the majority of
482 Canadian utilities. In my judgment, it is unlikely that EGNB would, if rated by S&P, be

⁷ Under its 2010-2012 rate settlement, St. Lawrence Gas, a small, but mature gas distribution utility, and an affiliate of EGNB, has a target ROE of 10.5%, applied to a 50% common equity ratio.

⁸ Standard & Poor's, *Ratings Methodology: Business Risk/Financial Risk Matrix Expanded*, May 27, 2009.

483 assigned a business rating category any higher than “Satisfactory, two categories below (higher
484 business risk) than the typical Canadian or U.S gas distribution utility.”⁹

485
486 One of the three requirements of the fair return standard is the maintenance of financial integrity,
487 that is, the utility should be allowed a return (capital structure and ROE) that ensures confidence
488 in the creditworthiness of the utility. For a higher business risk utility to achieve similar
489 creditworthiness to its less risky peers, it would need to achieve stronger credit metrics. As
490 noted above, the capital structure and return on equity in combination are key factors in
491 determining a firm’s credit metrics. The credit metrics of EGNB at its current capital structure
492 (and ROE) provide a perspective on the reasonableness of the 50% common equity ratio.

493
494 Despite its higher common equity ratio (and higher allowed ROE) relative to the mature
495 Canadian gas distribution utilities, EGNB’s key credit metrics have been much weaker. The debt
496 rating agencies are most concerned with cash flow ratios, specifically cash flow interest coverage
497 and cash flow to debt. Cash flow ratios provide a better measure of a utility’s ability to cover its
498 fixed financial obligations than accounting based coverage ratios. Cash flow is equal to net
499 income plus or minus all non-cash contributions to accounting net income, the most important of
500 which, for mature utilities, are depreciation and amortization and deferred income taxes.¹⁰ For
501 EGNB, the annual revenue deficiency is a key element of the cash flow calculation. The
502 calculation of EGNB’s cash flows subtracts from net income the revenue deficiency, which is a
503 non-cash item.

504
505 Over the past three years (2007-2009), EGNB’s average cash flow interest coverage ratio, based
506 on its regulated financial statements, was 2 times, compared to the most recent three year
507 average of 2.9 times for Canadian gas distribution utilities with rated debt (See Schedule 5).
508 EGNB’s average cash flow to debt ratio was 6%, compared to just over 12% for Canadian gas
509 distribution utilities with rated debt (Schedule 5), again, despite EGNB’s higher common equity

⁹ Regulated Canadian utilities currently ranked “Satisfactory” are Maritime Electric and Trans Québec and Maritimes Pipeline. Nova Scotia Power is rated one category higher, at “Strong”.

¹⁰ Cash flow interest coverage = Cash flow plus interest expense divided by interest expense. Cash flow to debt = Cash flow divided by total debt outstanding.

510 ratio and higher allowed ROE. The typical mature U.S. gas distribution utility with rated debt
511 (median S&P debt rating of A-) has achieved cash flow interest coverage of 4.6 times and a cash
512 flow to debt ratio of over 20%; see Schedule 6.

513
514 EGNB's weak credit metrics relative to its mature peers demonstrate that, even with a 50%
515 common equity ratio and a 13% ROE, EGNB's higher business risk has not been offset by lower
516 financial risk, as measured by its credit metrics. EGNB's credit metrics to date have not been
517 adequate for its debt to be considered, on a stand-alone basis, investment grade from a potential
518 arms' length third-party lender's perspective.¹¹

519
520 EGNB's 10-year financial forecast anticipates that the credit metrics will improve substantially
521 over the next three years, based on the current capital structure and allowed ROE. Specifically,
522 the financial forecast anticipates the following key credit metrics over the next three years,
523 assuming a 50% common equity ratio and a 13% ROE:

524

¹¹ The major debt rating agencies each publish a ratings scale which is used to represent the creditworthiness of a debt issue or a debt issuer. The S&P ratings scale, for example, is as follows:

Rating	Rating Definition
AAA	Extremely strong capacity to meet its financial commitments
AA	Very strong capacity to meet its financial commitments
A	Strong capacity to meet its financial commitments; somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions
BBB	Adequate capacity to meet its financial commitments; adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity
BB	Significant speculative characteristics; less vulnerable than other lower-rated obligors, however it faces major ongoing uncertainties and exposure to adverse business, financial, or economic conditions
B	Currently has the capacity to meet its financial commitments, but adverse business, financial, or economic conditions will likely impair that capacity
CCC	Currently vulnerable and is dependent upon favorable business, financial, and economic conditions to meet its financial commitments
CC	Currently highly vulnerable

To ratings within each major category, modifiers are appended, with "+" meaning that the obligation ranks in the upper end of its generic rating category and "-" means that the obligation ranks at the lower end of its generic rating category. Ratings of BBB- or higher are considered investment grade. The highest non-investment grade rating is BB+. DBRS and Moody's publish similar scales with slightly different designations.

525

Table 3

Credit Metric	2010	2011	2012
Cash Flow Coverage	2.7x	4.0x	4.4x
Cash Flow to Debt	11%	19%	22%

526

527 The achievement of these credit metrics is largely dependent on the level of commodity prices
528 and regulatory decisions approving proposed rate increases. The metrics, if achieved, would be
529 higher than those achieved by mature Canadian gas distribution utilities, which, from a
530 prospective lender’s perspective, would be expected from a higher business risk utility.¹² They
531 would also be comparable to those achieved by mature U.S. gas distribution utilities. If EGNB
532 were to raise debt on its own, a prospective lender would, in assessing EGNB’s creditworthiness,
533 need to be convinced that these forecasts will be achieved and, once achieved, are sustainable.
534 The relatively weak credit metrics that have been achieved to date with the existing capital
535 structure and ROE support the maintenance of the current equity ratio at this time.

536

537 In summary, in light of EGNB’s business risk, the capital structures maintained by its lower
538 business risk Canadian and U.S. gas distributor peers, and credit metrics, the maximum 50%
539 common equity ratio previously adopted by the Board remains reasonable and appropriate.

540

541 **VII. COST OF DEBT**

542

543 In its 2000 Decision, the Board allowed EGNB to charge customers a cost of debt equal to the
544 cost to its parent plus 1%. In that Decision the Board stated that it “is unable to accept the
545 argument that EGNB should be considered as a “stand-alone” entity for purposes of establishing
546 its cost of debt.” Further, “The Board understands that EGNB is entering a greenfield situation
547 which inherently carries a risk that the market will not develop satisfactorily. Therefore, there
548 must be a premium to compensate Enbridge Inc. for this risk. Accordingly, the Board orders that

¹² Terasen Gas (Vancouver Island), which has just recently received its own debt ratings, has achieved stronger credit metrics than the more mature Canadian gas distribution utilities. With relatively stronger credit metrics, Terasen Gas (Vancouver Island)’s debt ratings have been similar to those of the larger, more mature gas distribution utilities. Terasen Gas (Vancouver Island)’s credit metrics, as shown on Schedule 5, have been similar to those that EGNB is forecasting for the next three years at the existing capital structure and ROE.

549 the cost of debt of EGNB be limited to the actual borrowing rate of the parent company plus
550 1%.”

551
552 In its Decision, the Board, in my view, correctly recognized that Enbridge Inc. should be
553 compensated for the risk that it is assuming. Further, it recognized that the cost of debt that
554 EGNB would incur based on its own business risk and capital structure avoids cross-
555 subsidization among the various operations of Enbridge Inc. While the diversity and size of the
556 operations of Enbridge Inc. creates a benefit to all of the operations by way of a lower cost of
557 debt, that conclusion does not, in turn, lead to the conclusion that each regulated operation
558 should bear or be charged the parent’s cost of debt. To do so would subsidize the higher risk
559 operations at the expense of the lower risk operations.

560
561 In determining whether the 1% premium which the Board previously allowed remains
562 reasonable, there are both qualitative and quantitative factors to be considered.

563
564 Enbridge Inc. is rated A by DBRS, A- by Standard and Poor’s and Baa1 by Moody’s. EGNB, by
565 comparison, on a true stand-alone basis, would, at best, be rated at the lowest investment grade
566 rating (BBB- on the S&P rating scale or BBB (low) on the DBRS rating scale) and potentially be
567 rated non-investment grade, or in the BB category.

568
569 The 10-year debt that Enbridge Inc. lends to EGNB is done so with no specific terms and
570 conditions attached. There is no minimum interest coverage ratio or debt service ratio which
571 must be maintained; there is no maximum debt ratio which cannot be exceeded. There is no
572 annual amortization of principal which is required. If EGNB were to raise debt on its own, a 10-
573 year debt issue would likely contain covenants of this nature. There is a trade-off between the
574 cost of debt that a utility would incur and the covenants that are attached to that debt. A utility
575 can issue first mortgage bonds, for example, where the physical assets of the utility provide
576 collateral, more cheaply than it can issue unsecured debt. The bottom line is that the
577 reasonableness of the cost of debt incurred must be assessed in light of the covenants that are
578 attached. The 1% premium that EGNB is allowed to charge its customers is for a 10-year debt

579 issue with terms and conditions that would be available to a highly rated issuer, which EGNB
580 would not be on a stand-alone basis.

581
582 Further, it is questionable that, on a stand-alone basis, EGNB would have even been able to issue
583 10-year debt. In this context, Pacific Northern Gas, which is rated BBB (low) by DBRS, and has
584 an actual equity ratio slightly above 50%, has not been able to issue debt with a term longer than
585 five years for approximately 10 years. EGNB's ability to access debt through its parent allows it
586 to issue debt with a longer term, and thus faces lower refinancing risk, than if it had to raise its
587 own debt from a bank or other institution (e.g., insurance company).

588
589 EGNB and its customers also benefit from its ability to obtain terms of credit (e.g., Maritimes
590 and Northeast Pipeline credit requirements) through Enbridge Inc. by way of less onerous terms
591 on letters of credit, as it is the credit strength of Enbridge Inc. which determines terms and
592 pricing.

593
594 With respect to whether the one percentage point premium to Enbridge's cost of debt remains
595 reasonable, it is necessary to estimate what the difference in cost is to Enbridge Inc. raising the
596 debt on behalf of EGNB and the cost that EGNB would actually incur on a stand-alone basis.
597 Enbridge Inc. is rated A by DBRS, A- by Standard and Poor's and Baa1 by Moody's. Enbridge
598 Inc. is, based on all three of its credit ratings, an A-/A3 credit, that is, a low A credit, similar to
599 the majority of mature Canadian utilities. EGNB, as indicated above, would most likely be, on a
600 stand-alone basis, on the border between the lowest investment grade rating and a non-
601 investment grade rating, i.e., BB+/Ba1.

602
603 There are no readily accessible data for Canada that would permit the estimation of the
604 difference in the cost of debt for a company like Enbridge Inc. and EGNB on a stand-alone basis.
605 However, Reuters provides spreads between U.S. utility and government bond yields for all of
606 the different ratings categories and for different terms to maturity. The spreads are provided for
607 ratings categories broken down by modifier or "notch". The spreads by ratings category/notch

608 provide a perspective on the difference in the cost of the debt to Enbridge Inc. and EGNB on a
609 stand-alone basis.

610
611 The spread between yields on 10-year utility debt rated A-/A3 and yields on 10-year U.S.
612 government bonds since 1999 has averaged 150 basis points. The corresponding average spread
613 for a BBB-/Baa3 utility issuer has been approximately 200 basis points. The difference in the
614 spread for a low A rated issuer and a low BBB rated issuer has thus been 50 basis points on
615 average (200 basis points minus 150 basis points). Once the line between investment grade and
616 non-investment grade is crossed, the yield spreads widen dramatically. The average spread
617 between the yield on 10-year BB+/Ba1 utility bonds and 10-year U.S. government bonds since
618 1999 has averaged 380 basis points. In other words, a 10-year debt issue has cost a BB+/Ba1
619 rated issuer, on average, 230 basis points more than it cost an A-/A3 issuer (380 basis points
620 minus 150 basis points). These yield spreads are for debt that has been issued into the public
621 markets, and do not include any private placement premium that an institutional lender would
622 charge.¹³

623
624 It is impossible to state with certainty what a third-party lender would charge EGNB or what
625 covenants he would impose on the issuer until such time as EGNB actually approached a lender
626 other than its parent. The potential range of 50 to 230 basis points, along with the consideration
627 that Enbridge Inc. lends 10-year funds to EGNB with no restrictive covenants, supports
628 confirmation that allowing EGNB to charge Enbridge Inc.'s cost of debt plus 1% is reasonable,
629 and likely conservative.

630

¹³ A typical private placement premium to compensate for the lack of liquidity of the issue has been 25 basis points. Any debt issue that EGNB might contemplate would likely be too small to be issued into the public markets and would have to be done by way of private placement.

631 **VIII. TRENDS IN COST OF CAPITAL**

632

633 When the cost of capital evidence was prepared for the NBPUB 299 proceeding, 10-year and 30-
634 year Government of Canada bonds were both yielding approximately 6.25%, representing a
635 decline of approximately four and a half percentage points since the beginning of the decade
636 (Schedule 1). The decline reflected the success of the federal government's efforts to get its
637 fiscal house in order. For the second consecutive year (1998/1999), the federal budget had been
638 in surplus. The federal debt/GDP ratio, which had peaked in 1995/1996 at 68%, had begun to
639 decline. Since 1992, inflation (as measured by the Consumer Price Index) had stayed within the
640 government's target range of 1-3%.¹⁴ The long-term outlook anticipated a moderate decline in
641 10-year government bond yields (to approximately 5.5%) over the subsequent 10 years.¹⁵ The
642 typical spread between 10-year and 30-year Canada bond yields was approximately 0.3%,
643 indicating an expectation that 30-year Government of Canada bonds would yield close to 6%
644 over the longer-term. Yields on long-term investment grade corporate bonds at the time were
645 approximately 7.25%, a differential, or spread, with the long-term Government of Canada bonds
646 of approximately 1.0%.

647

648 The equity market was booming, led by the information technology sector. The Canadian equity
649 market composite price at the end of 1999 was double its 1994 level, an annual increase of close
650 to 15%. (By comparison, the information technology sector of the composite had gained close to
651 50% per year over the same time period).

652

653 Ten years later, the economy and the capital markets are pulling out of the worst financial crisis
654 since the Great Depression, which stemmed from the subprime mortgage debacle in the United
655 States and spread to both the global financial markets and real economies. The S&P/TSX Index
656 lost over 45% of its value between June 2007 and March 2009, surpassing the 2000-2002 market
657 drop which began with the bursting of the technology sector bubble. Long term government
658 bond yields dropped below 3.5%, a level not seen since the 1950s, as investors sought the safe

¹⁴ The Bank of Canada introduced the inflation targets in 1991.

¹⁵ Consensus Economics, *Consensus Forecasts*, October 1999.

659 haven of government securities. The spread between the yield on the DEX long-term corporate
660 bond index and the yield on long-term Government of Canada bonds reached almost 4% in mid-
661 2009. To put this in perspective, during the 1990/1992 recession, the spread peaked at just over
662 1.5%. In 2009, growth in GDP dropped by 2.6%; corporate profits fell by over 30%.

663
664 Since mid-2009, the financial markets have improved significantly and the Canadian economy
665 has emerged from recession and has been strengthening. The S&P/TSX Composite index has
666 recovered, but at the end of May 2010 was still close to 20% below its 2007 peak. Spreads
667 between long-term Government of Canada bonds and investment grade corporate bonds have
668 dropped to approximately 200 basis points; the yield on investment grade corporate bonds at the
669 end of May 2010 was 5.7%. Long-term Government of Canada bond yields, which had gradually
670 trended downward over the past decade, were yielding approximately 3.75%.

671
672 The prevailing low yields on Government of Canada bonds reflect the confluence of several
673 factors. First, they reflect the commitment by the government to keep interest rates low to
674 stimulate the economy. Second, they reflect expected levels of inflation. Inflation is expected to
675 remain low; the most recent long-term Consensus Economics, *Consensus Forecasts*¹⁶ anticipates
676 that inflation will average just over 2% between 2011 and 2020, not dissimilar to the rates that
677 were prevailing (and expected to prevail) in 1999. Third, with the current debt crisis in Europe,
678 and concerns that Europe's debt crisis could erupt into a renewed global financial crisis, they
679 reflect a "flight to quality". Fourth, long-term Government of Canada bonds are valued by
680 institutions such as pension funds and insurance companies for their creditworthiness and
681 liquidity. Between 1997/1998 and 2007/2008, the federal government had posted eleven
682 consecutive budget surpluses and reduced its debt/GDP ratio from close to 70% to 30%. The
683 debt/GDP ratio dropped to 29% in 2008/2009, the lowest level since 1979-1980.¹⁷ With a

¹⁶ Consensus Economics, *Consensus Forecasts* surveys over 250 financial and economic forecasts on a monthly basis for their estimates of a range of variables including interest rates, growth, inflation and exchange rates. Their forecasts cover more than 20 countries. For Canada, the consensus comprises 14 forecasts. Twice a year (April and October), Consensus Economics publishes long-term forecasts (for the current year and the subsequent ten years) for a limited number of variables, including, for Canada, the consumer price index and the yield on 10-year Government of Canada bonds.

¹⁷ Department of Finance Canada, *Annual Financial Report of the Government of Canada, Fiscal Year 2008-2009*.

684 shrinking supply of debt (relative to the size of the economy), a supply/demand imbalance is
685 created, which puts downward pressure on yields due to their scarcity value.

686
687 The recent yields on long-term Government of Canada bonds are well below the levels forecast
688 to prevail over the next ten years. The most recent long-term Consensus Economics, *Consensus*
689 *Forecasts* (April 2010) anticipates that 10-year Government of Canada bond yields will average
690 approximately 4.8% over the next five years (2011-2015). The typical spread between the long-
691 term (30-year) and the 10-year Government of Canada bond yields is 0.3%, which indicates a
692 yield on the former of slightly above 5%. From today's vantage point, over the next ten years,
693 the long-term Government of Canada bond yield is expected to be approximately one percentage
694 point lower than it was in 1999.

695
696 Broadly speaking, a comparison of the circumstances in 1999 to the present day suggests that in
697 general the cost of capital has declined. The extent of the decline specific to the cost of equity
698 capital for Canadian utilities (and to EGNB) is explored in Sections IX and X below.

699

700 **IX. ALLOWED RETURNS FOR CANADIAN AND U.S. UTILITIES**

701
702 In 1999, the reasonableness of EGNB's proposed 13% ROE was tested by reference to a number
703 of benchmarks, rather than estimating the cost of equity "from first principles". The term "from
704 first principles" means a comprehensive cost of equity study, in which comparable risk (or
705 proxy) companies are selected. One of the key benchmarks was the ROEs that were allowed for
706 mature Canadian and U.S. gas distribution utilities. This section of the report discusses changes
707 in the allowed ROEs between 1999 and today as a perspective on the magnitude of the change in
708 ROE that would be warranted for EGNB with no change in the risk premium relative to the
709 mature utilities.

710

711 In 1999, the 13% ROE adopted for EGNB represented a risk premium of approximately 2.0% to
712 3.0% above the returns that were allowed for Canadian and U.S. gas distribution utilities
713 respectively. For Canadian gas distribution utilities, many of which were operating under
714 automatic adjustment ROE formulas, the average ROE expected to be allowed in 2000 was 10%.
715 (The 10% ROE reflected a forecast long-term (30-year) Government of Canada bond yield for
716 2000 of 6.25%. For example, the allowed ROEs for Enbridge Gas Distribution (or “EGD”) and
717 Union Gas at a long-term Canada bond yield of 6.25% under the Ontario Energy Board’s then
718 prevailing automatic adjustment ROE formula would have been 9.9% and 10.05% respectively.)
719 EGNB’s 13.0% ROE represented a risk premium to the allowed ROEs of Canadian utilities of
720 approximately three percentage points.

721
722 With respect to U.S. gas distribution utilities, the average allowed ROE in 1998/1999 was
723 approximately 11.0%. EGNB’s 13.0% ROE represented a risk premium of two percentage
724 points above the ROEs being allowed for U.S. gas distribution utilities.

725
726 As noted above, in 1999, many Canadian utilities were operating under automatic adjustment
727 ROE formulas. While there were some differences among the formulas, they typically adjusted
728 the allowed ROE by 75% of the change in the forecast long-term Canada bond yield. By
729 construction, the formulas increased or decreased the utility equity risk premium by 0.25% for
730 every one percentage decrease or increase in the forecast long-term Canada bond yield. The less
731 than one for one increase or decrease in the ROE with long-term Canada bond yields was
732 intended to recognize that, as long-term Canada bond yields changed, the utility cost of equity
733 changed by a lesser amount.

734
735 In 2009, the Alberta Utilities Commission (“AUC”), the British Columbia Utilities Commission
736 (“BCUC”), the Ontario Energy Board (“OEB”), the National Energy Board (“NEB”), the Board
737 of Commissioners of Public Utilities-Newfoundland and Labrador (“NL PUB”), and the Régie
738 de l’énergie du Québec (“Régie”), each reviewed the automatic adjustment ROE formulas under
739 which the utilities under their jurisdiction had been operating. While each of the decisions came
740 to somewhat different conclusions regarding the appropriate level of ROE, the cost of equity

741 tests to be accorded most weight and the validity of the formula, all of the decisions increased the
742 allowed ROEs above the level that the automatic adjustment formulas would have produced.
743 The following summarizes the outcomes of the decisions that are directly relevant to Canadian
744 gas distribution utilities.¹⁸

745
746 In November 2009, the AUC adopted an allowed ROE of 9.0% for 2010 and on an interim basis
747 for 2011 for all the utilities (including ATCO Gas and AltaGas Utilities) under its jurisdiction.

748
749 Also in December 2009, the BCUC reset its benchmark utility ROE at 9.5% effective July 1,
750 2009 and eliminated its automatic adjustment formula.¹⁹ In its decision, the BCUC stated:

751
752 The Commission Panel agrees that a single variable is unlikely to capture the many
753 causes of changes in ROE and that in particular the recent flight to quality has driven

¹⁸ On March 19, 2009 the NEB released its cost of capital decision for TransQuébec and Maritimes Pipeline (TQM). In that decision, the NEB expressed the view that:

there have been significant changes since 1994 in the financial markets as well as in general economic conditions. More specifically, Canadian financial markets have experienced greater globalization, the decline in the ratio of government debt to GDP has put downward pressure on Government of Canada bond yields, and the Canada/US exchange rate has appreciated and subsequently fallen. In the Board's view, one of the most significant changes since 1994 is the increased globalization of financial markets which translates into a higher level of competition for capital. When taken together, the Board is of the view that these changes cast doubt on some of the fundamentals underlying the RH-2-94 Formula as it relates to TQM.

The NEB adopted a new cost of capital methodology for TQM, which instead of specifying separate capital structure and ROE components, expressed the allowed return as an overall after-tax return. The NEB provided calculations of the ROE implied at different capital structures to facilitate comparisons with the "traditional" capital structure/ROE approach. The implicit ROE at TQM's proposed common equity ratio of 40% was 9.7%, which represents an increase in the ROE of approximately 1.0% to 1.25% relative to the NEB's formula results for the same years for which TQM's cost of capital was set.

In October 2009, the NEB rescinded its automatic adjustment ROE formula, stating that there was a doubt as to the ongoing correctness of the RH-2-94 Decision which implemented the formula in 1995.

In 2009, the NL PUB reviewed the cost of capital for Newfoundland Power, setting the allowed ROE for 2010 at 9.0% (Newfoundland and Labrador Board of Commissioners of Public Utilities, *Reasons for Decision, Order No. P.U. 43(2009)*, December 24, 2009). The NL PUB determined that it would apply a formula for 2011 and gave Newfoundland Power the opportunity to recommend changes to the previously adopted formula. As per Order No. P.U. 12 (2010), the 2011 ROE will be adjusted by 80% of the change in forecast long-term Canada bond yields.

¹⁹ British Columbia Utilities Commission, *In the Matter of Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc., Terasen Gas (Whistler) Inc. and Return on Equity and Capital Structure, Decision*, December 16, 2009.

754 down the yield on long-term Canada bonds, while the cost of risk has been priced
755 upwards.

756
757 In the Commission Panel's opinion, reliance on CAPM by Canadian regulatory agencies
758 has also contributed to the divergence between Canadian and US allowed ROEs. In light
759 of the limited weight given by the Commission Panel to CAPM in determining the ROE
760 for TGI [Terasen Gas] for 2010, it would seem inconsistent to retain the adjustment
761 mechanism.

762
763 The reset of the benchmark ROE represents an increase of slightly more than one percentage
764 point for each of the gas distribution utilities regulated by the BCUC²⁰ relative to the ROE
765 produced by the BCUC's previous automatic adjustment formula.

766
767 Following a consultative process, the OEB reset its benchmark ROE in December 2009 at
768 9.75%, representing an increase of more than 1.25 percentage points relative to the ROE
769 produced by the formula approach that had been adopted for the Ontario gas distribution utilities
770 in 1997.²¹ The OEB also revised the automatic adjustment formula itself. Previously the
771 formula, similar to those in other Canadian jurisdictions, changed the allowed ROE by 75% of

²⁰ Allowed ROEs for the BCUC regulated gas distribution utilities are: Pacific Northern Gas (Fort St. John/Dawson Creek), 9.9%, Pacific Northern Gas (Tumbler Ridge), 10.15%, Pacific Northern Gas-West, 10.15%, Terasen Gas, 9.5%, Terasen Gas (Vancouver Island), 10.0%, and Terasen Gas (Whistler), 10.0%.

²¹ Ontario Energy Board, *Report of the Board on the Cost of Capital for Ontario's Regulated Utilities*, EB-2009-0084, December 11, 2009 ("Cost of Capital Report"). In its Cost of Capital Report, the OEB stated:

The Board's current formulaic approach for determining ROE is a modified Capital Asset Pricing Model methodology, and in his written comments, Dr. Booth recommended that this practice be continued. Dr. Booth recommended that "the Board base its fair ROE on a risk based opportunity cost model, with overwhelming weight placed on a CAPM estimate".

This view was not shared by other participants in the consultation, who asserted that the Board should use a wide variety of empirical tests to determine the initial cost of equity, deriving the initial ERP [equity risk premium] directly by examining the relationship between bond yields and equity returns, and indirectly by backing out the implied ERP by deducting forward-looking bond yields from ROE estimates...

The Board agrees that **the use of multiple tests to directly and indirectly estimate the ERP is a superior approach to informing its judgment than reliance on a single methodology.** In particular, the Board is concerned that CAPM, as applied by Dr. Booth, does not adequately capture the inverse relationship between the ERP and the long Canada bond yield. As such, the Board does not accept the recommendation that it place overwhelming weight on a CAPM estimate in the determination of the initial ERP.

772 the change in forecast long-term Canada bond yield spreads. The Board revised its previous
773 formula (1) to reflect the empirical evidence it had reviewed during the cost of capital
774 consultation which showed that the cost of equity varied by approximately 50% of the change in
775 long-term government bonds, rather than the 75% previously reflected in the formula, and (2) to
776 recognize that there was a direct relationship between the utility cost of equity and the spread
777 between government and utility bond yields. The reset of the benchmark utility ROE at the
778 higher level than previously is internally consistent with the OEB's finding that the sensitivity of
779 the cost of equity to changes in long-term government bond yields is lower than the previous
780 formula had presumed.

781
782 The revised formula changes the allowed ROE by 50% of the change in forecast long-term
783 Canada bond yields and 50% of the change in observed A rated utility bond spreads. The initial
784 reset benchmark ROE of 9.75% was based on a forecast long-term Canada bond yield of 4.25%
785 and a utility/government bond yield spread of 1.415%. The formula was updated for application
786 to all electricity distributors with rebased rates to become effective May 1, 2010.²² The allowed
787 ROE will be 9.85%, reflecting a forecast long-term Canada bond yield of 4.46% and a
788 utility/government bond yield spread of 1.40%.

789
790 While Enbridge Gas Distribution and Union Gas are not immediately impacted by the revised
791 cost of capital policy, because they are operating under five-year performance-based regulation
792 plans in which the initial ROE does not change during the term of the plan, it is reasonable to
793 conclude that the ROEs that would be applicable to Enbridge Gas Distribution and Union Gas if
794 the ROE were reset today would be similar to the levels set out in the OEB's Cost of Capital
795 Report.

796

²² Ontario Energy Board, *Cost of Capital Updates for 2010 Cost of Service Applications*, February 24, 2010.

797 In December 2009, the Régie adopted a 2010 ROE for Gaz Métro of 9.2% compared to an ROE
 798 of 8.64% which would otherwise have been adopted under the Régie’s automatic adjustment
 799 formula.²³

800
 801 The table below compares the returns that would have been allowed for the major, mature
 802 Canadian gas distribution utilities at the forecast long-term Canada bond yield of 6.25% relied
 803 upon in NBPUB 299 and the allowed ROEs that are indicated by the most recent regulatory
 804 decisions.

806 **Table 4**

Gas Distribution Utility	1999 ROE at 6.25% Long-Term Canada Bond Yield	ROE per 2009 Regulatory Decisions
ATCO Gas	10.00% ^{1/}	9.00%
Enbridge Gas Distribution	9.90%	9.85% ^{2/}
Gaz Métro	10.00%	9.20%
Terasen Gas	9.70%	9.50%
Union Gas	10.05%	10.00% ^{3/}
Average	9.93%	9.51%

807
 808 ^{1/} Based on 3.75% risk premium established in Decision 2000-9, March 2, 2000.
 809 ^{2/} The risk premium for EGD has historically been identical to that adopted for the electricity distributors, for
 810 whom an ROE of 9.85% was adopted effective May 1, 2010.
 811 ^{3/} Union Gas has historically been awarded an ROE 0.15% higher than that awarded to EGD.
 812
 813
 814 Table 4 above indicates that, based on the outcomes of the 2009 regulatory decisions in isolation,
 815 the allowed ROE for major Canadian gas distribution utilities has declined just over 0.40% since
 816 2000. A reduction of this magnitude applied to EGNB’s 13.0% ROE results in an ROE of
 817 approximately 12.5%.

818

²³ Régie de l’énergie du Québec, *Décision: Demande de modifier les tarifs de Société en commandite Gaz Métro en compter du 1^{er} octobre 2009*, D-2009-156, December 7, 2009. The allowed ROE included an adjustment of 0.25% to 0.55% to account for the effects of the financial crisis. The Régie renewed its automatic adjustment mechanism effective for Gaz Métro’s 2011 test year. The automatic adjustment formula changes the annual ROEs by 75% of the change in forecast long-term Canada bond yields. The 2011 ROE will be equal to 9.2% plus/minus 75% of the change in forecast long-term Canada bond yields between the December 2009 decision and August 2010.

819 One Canadian gas distribution utility benchmark that was not available when the reasonableness
820 of EGNB's proposed cost of capital parameters was assessed in 1999 is Heritage Gas. As noted
821 in Section VI above, Heritage Gas, a somewhat lower risk gas distribution utility than EGNB,
822 was allowed an ROE of 13.0% on a common equity ratio of 45% in 2003, confirmed in 2009.

823
824 With respect to U.S. gas distribution utilities, the allowed ROEs in 2009 and 2010 have been
825 approximately 10.0%,²⁴ a reduction of 1.0% from the allowed returns estimated at the time of
826 NBPUB 299 (Schedule 2). Based solely on the reduction in the allowed ROEs for the U.S. gas
827 distribution utilities (i.e., maintaining a risk premium of 2.0% for EGNB), the indicated ROE for
828 EGNB would be 12.0%.

829
830 The most recent allowed ROEs for U.S. gas distribution utilities have corresponded to long-term
831 government bond yields of approximately 4.0%. An analysis of the relationship between the
832 allowed ROEs of U.S. utilities and the corresponding yields on long-term government bonds
833 indicates that allowed ROEs have changed by slightly less than 50% of the change in long-term
834 government bonds. In other words, if the long-term government bond yield rises by 1.0%, the
835 allowed ROEs rise by just under 0.50% and vice versa. Consequently at a yield of 5.0%, as
836 forecast for long-term Canada bonds in Section X.D. below, i.e., an increase of 1.0%, the
837 indicated allowed ROE for U.S. gas distribution utilities would be approximately 10.5% (an
838 increase of approximately 0.50%).²⁵ The addition of a risk premium of 2.0% for EGNB results
839 in an ROE of 12.5%.

840

²⁴ As noted in Section VI under its 2010-2012 rate settlement, St. Lawrence Gas, an affiliate company, has a target ROE of 10.5%, applied to a 50% common equity ratio.

²⁵ Quarterly allowed ROEs for U.S. utilities from 1995 (the year the initial automatic adjustment mechanism was applied in Canada by the BCUC) through 2009 were regressed against long-term government bond yields and the spread between A rated utility and government bond yields. The results of the analysis indicate that the allowed ROEs increased or decreased by 47 basis points for every one percentage point increase or decrease in the long-term government bond yields and increased or decreased by 27 basis points for every one percentage point increase or decrease in utility bond yield spreads. Similar results were obtained when the analysis was performed over the shorter period, 1999-2009.

841 Based on both the most current allowed ROEs for U.S. gas distribution utilities and those which
842 would likely prevail with a rise in the long-term government bond yield to 5.0%, the indicated
843 ROE for EGNB with a 2.0% risk premium is in the range of 12.0% to 12.5%.

844

845 In summary, based on the updated benchmarks for both Canadian and U.S gas distribution
846 utilities, the indicated ROE for EGNB would be in the range of 12.0% to 12.5%.

847

848

849 **X. FAIR ROE FOR A “BENCHMARK” CANADIAN DISTRIBUTION**
850 **UTILITY AND RISK PREMIUM FOR EGNB**

851

852 **A. THE CONCEPT OF A BENCHMARK UTILITY AND BENCHMARK ROE**

853

854 The cost of equity, as estimated using tests applied to proxy companies, reflects the composite of
855 those proxy companies’ business, regulatory and financial risks. In principle, the cost of equity
856 estimated by reference to a sample of companies is applicable to a specific utility without
857 adjustment only if the magnitude of the total risks (business plus financial) of the sample and the
858 specific utility is comparable.

859

860 As in 1999, the lack of companies with publicly-traded equity that are comparable to EGNB
861 remains a constraint. In the absence of comparable companies which can be used as direct
862 proxies for EGNB, an alternative is to apply the cost of equity tests to a “benchmark” sample of
863 companies operating in a similar line of business and then add or subtract a risk premium to
864 account for the differential risk of the specific utility for which the ROE is being estimated. As
865 there are no utilities that are directly comparable to EGNB, the estimation of the applicable risk
866 premium is subject to judgment.

867

868 In Canada, there are only seven publicly-traded Canadian utilities, six with conventional
869 corporate structures,²⁶ and Gaz Métro, which trades as a limited partnership.²⁷ These companies

²⁶ Canadian Utilities, Emera, Enbridge, Fortis, Pacific Northern Gas and TransCanada Corporation.

870 are relatively heterogeneous in terms of both operations²⁸ and size.²⁹ The relatively small and
871 heterogeneous universe of publicly-traded Canadian utilities means that it is impossible to select
872 a sample of companies that would be considered directly comparable in total risk to any specific
873 Canadian utility.

874
875 For the benchmark cost of capital to be applicable to a specific utility, the specific utility's total
876 risk needs to be similar to that of the proxy companies selected to estimate the benchmark cost of
877 capital. If it is not, the solutions include: (1) changing the specific utility's capital structure; (2)
878 making an adjustment to the proxy companies' cost of equity to reflect the relative total risk of
879 the specific utility; or (3) some combination of (1) and (2).

880
881 While market data for the Canadian utilities provide some perspective on the fair return for a
882 benchmark Canadian utility, a more accurate assessment can be made by reliance on a sample of
883 U.S. utilities drawn from a much broader universe and selected using criteria that are designed to
884 (1) identify companies that are of relatively similar risk to an average risk Canadian utility and
885 (2) produce a large enough sample of companies to ensure reliable cost of equity test results.
886 Since the majority of Canadian utilities are largely "pipes" and "wires" utilities, the sample of
887 U.S. utilities which serve as a proxy for a benchmark Canadian utility was selected according to
888 criteria designed to identify relatively low risk, distribution (gas and electric) utilities.

889
890 The ROE developed from both Canadian and U.S. proxy companies and market data is intended
891 to represent the fair ROE for a benchmark mature Canadian distribution utility. As an immature
892 utility, EGNB is of higher risk than a Canadian benchmark distribution utility. Since EGNB's

²⁷ Gaz Métro's partnership unit prices were negatively impacted by the October 2006 announced change in the income tax treatment of income trusts with the result that the recent trend in its share prices and thus equity market-based risk measures are not strictly comparable to those estimated for those regulated companies with conventional corporate structures.

²⁸ Their operations span all the major utility industries, including electricity distribution, transmission and power generation, natural gas distribution and transmission, and liquids pipeline transmission, as well as unregulated activities in varying proportions of their consolidated activities.

²⁹ Ranging from an equity market capitalization of approximately \$66 million (Pacific Northern Gas) to \$24 billion (TransCanada).

893 total risk is higher than that of a benchmark Canadian distribution utility, a risk premium to the
894 benchmark distribution utility ROE will be required.

895

896 **B. CONCEPTUAL CONSIDERATIONS IN THE ESTIMATION OF THE**
897 **BENCHMARK ROE**

898

899 The key to determining the fair return on equity (i.e., ensuring that all three requirements of the
900 fair return standard are met) is reliance on multiple tests. There are three different types of tests
901 that have traditionally been used to estimate the fair return on equity: discounted cash flow,
902 equity risk premium (which includes several variations, including, but not limited to, the Capital
903 Asset Pricing Model), and comparable earnings tests. Each of the tests is based on different
904 premises and brings a different perspective to the fair return on equity. None of the individual
905 tests is, on its own, a sufficient means of ensuring that all three requirements of the fair return
906 standard are met; each of the tests has its own strengths and weaknesses. Individually, each of
907 the tests can be characterized as a relatively inexact instrument; no single test can pinpoint the
908 fair return.³⁰ Moreover, different tests may be more or less reliable depending on prevailing
909 economic and capital market conditions.³¹ These considerations not only emphasize the
910 importance of reliance on multiple tests, but also of benchmarking, or testing, the reasonableness
911 of the test results themselves against other relevant information.

912

913 Each test has its own set of pros and cons. The discounted cash flow test directly measures
914 utility return expectations but is subject to an ongoing debate around the accuracy of investment
915 analysts' forecasts as the measure of investor expectations of growth. The Capital Asset Pricing
916 Model, framed in an elegant, simple construct, and, on the surface, with only three components,

³⁰ For example, Bonbright states, "No single or group test or technique is conclusive. Therefore, it is generally accepted that commissions may apply their own judgment in arriving at their decisions." (James C. Bonbright, Albert L. Danielsen, David R. Kamerschen, *Principles of Public Utility Rates*, 2nd Ed., page 317, Arlington, VA.: Public Utility Reports, Inc., March 1988).

³¹ For example, see Federal Communications Commission, *Report and Order 42-43*, CC Docket No. 92-133 (1995). "Equity prices are established in highly volatile and uncertain capital markets... Different forecasting methodologies compete with each other for eminence, only to be superseded by other methodologies as conditions change... In these circumstances, we should not restrict ourselves to one methodology, or even a series of methodologies, that would be applied mechanically. Instead, we conclude that we should adopt a more accommodating and flexible position."

917 easy to apply, has an intuitive appeal. Nevertheless, it has its own set of challenges, including,
918 for example, the results of empirical tests, some of which have shown there is no relationship
919 between risk (as measured by the model) and return and some of which have shown that it
920 underestimates (overestimates) the returns for low (high) risk stocks. The comparable earnings
921 test explicitly recognizes that the objective of regulation is to emulate competition and measures
922 returns on the same original cost basis on which utilities are regulated, but is subject to concerns
923 around company selection criteria and whether the accounting returns are representative of
924 economic returns.

925
926 All approaches to estimating a fair return require significant judgment in their application, the
927 extent of which depends on the prevailing state of the capital markets. Any individual cost of
928 equity model implicitly ascribes simplicity to a cost whose determination is inherently complex.
929 No single model is powerful enough on its own to produce “the number” that will meet the fair
930 return standard. Only by applying a range of tests along with informed judgment can adherence
931 to the fair return standard be ensured. For the purpose of estimating a fair return for a
932 benchmark Canadian distribution utility, I have applied the discounted cash flow (DCF) test and
933 the equity risk premium test (three separate approaches).³² The sections below are intended to
934 provide a brief summary of the conceptual basis of each of the tests, the inputs and the results.
935 Full detail is provided in appendices.

936

937 **C. DISCOUNTED CASH FLOW TEST**³³

938

939 The discounted cash flow approach proceeds from the proposition that the price of a common
940 stock is the present value of the future expected cash flows to the investor, discounted at a rate

³² I am strongly of the view that the comparable earnings test is the only test which measures returns in a manner compatible with the base (original cost) to which they are applied. However, I also recognize that the comparable earnings test is the most controversial, not only in terms of its applicability to the estimation of a fair return, but in terms of its application (e.g., criteria for selection of comparables, period over which returns should be measured, need for adjustments for relative risk). Therefore, for this report, to limit the issues relevant to the review of EGNB’s cost of capital, I have only applied discounted cash flow and equity risk premium tests in order to estimate a fair return on equity for a benchmark Canadian distribution utility.

³³ See Appendix B for a more detailed discussion.

941 that reflects the risk of those cash flows. In simplest terms, the DCF cost of equity model is
942 expressed as follows:

943

$$944 \qquad \text{Cost of Equity (k)} = \frac{D_1 + g}{P_0},$$

945

946 where,

$$947 \qquad D_1 = \text{next expected dividend}^{34}$$

$$948 \qquad P_0 = \text{current price}$$

$$949 \qquad g = \text{expected growth in dividends}$$

950

951 There are multiple versions of the discounted cash flow model available to estimate the
952 investor's required return on equity, including the constant growth model and multiple period
953 models to estimate the cost of equity. The constant growth model rests on the assumption that
954 investors expect cash flows to grow at a constant rate throughout the life of the stock. Similarly,
955 a multiple period model rests on the assumption that growth rates will change over the life of the
956 stock.

957

958 To estimate the DCF cost of equity, I utilized both the constant growth model and a multiple
959 stage (three-stage) model. In both cases, the discounted cash flow test was applied to a sample
960 of U.S. gas and electric distribution utilities that are intended to serve as a proxy for a benchmark
961 Canadian distribution utility.

962

963 In the application of the constant growth model, I relied on two different estimates of the growth
964 component of the model: investment analysts' long-term (five-year) earnings growth rate
965 estimates and the sustainable earnings growth rate. The sustainable growth rate represents the
966 growth in earnings that a utility can expect to achieve as a result of the ROE it is expected to earn
967 and the proportion of the ROE it reinvests plus incremental earnings growth achievable as a
968 result of external equity financing. The application of the three-stage model was based on the
969 premise that investors expect the growth rate for the utilities to be equal to the investment

³⁴Alternatively expressed as $D_0(1 + g)$, where D_0 is the most recently paid dividend.

970 analysts' forecasts for the next five years, but, in the longer-term, to migrate to the expected
971 long-run rate of nominal growth in the economy.

972
973 The two constant growth models indicate a cost of equity of approximately 9.7% (Schedules 8
974 and 9, based on both means and medians). The three-stage model indicates a cost of equity of
975 approximately 9.5% (Schedule 10). The DCF approach indicates a cost of equity for a
976 benchmark utility, before adjustment for financing flexibility, in the range of 9.2-9.9% (mid-
977 point of 9.6%; see Table 5 below).

978
979 To provide an estimate of the change in the DCF cost of equity, I also applied each of these DCF
980 models retrospectively to the same sample of companies using 1999 dividends, prices, and
981 expected growth rates from the same sources (See Schedules 11, 12 and 13). The table below
982 shows the comparative results:

983
984

Table 5

Model	1999		2010	
	Mean	Median	Mean	Median
Constant Growth				
Analysts' Forecasts	9.9%	9.4%	9.9%	9.7%
Sustainable Growth	10.9%	11.0%	9.9%	9.2%
Multi-Stage Growth	9.8%	9.6%	9.5%	9.5%
Overall Average	10.1%		9.6%	

985 Source: Schedules 8-13.

986
987 Based on all three DCF models, the indicated cost of equity for the benchmark U.S. distribution
988 utility sample was approximately 10.1% in 1999, compared to 9.6% in 2010, a reduction of
989 approximately 0.5%. All other things equal, the change in the cost of equity for the sample of
990 benchmark distribution utilities supports a reduction in the allowed ROE for EGNB of
991 approximately 0.5%.

992

993 **D. EQUITY RISK PREMIUM TESTS**

994

995 **1. Conceptual Underpinnings**

996

997 An equity risk premium test is derived from the basic concept of finance that there is a direct
998 relationship between the level of risk assumed and the return required. Since an investor in
999 common equity takes greater risk than an investor in bonds, the former requires a premium above
1000 bond yields in compensation for the greater risk.

1001

1002 Equity risk premium tests, similar to the other tests used to arrive at a fair return, are forward-
1003 looking, that is, they are intended to estimate investors' future equity return requirements. The
1004 magnitude of the differential between the required/expected return on equities and the risk-free
1005 rate is a function of investors' willingness to take risks and their views of such key factors as
1006 inflation, productivity and profitability. Because equity risk premium tests are forward-looking,
1007 if historic data are being used to estimate expected or required risk premiums, those data need to
1008 be evaluated in light of prevailing economic/capital market conditions. While an equity risk
1009 premium can be estimated relative to a corporate or utility bond yield, it is most commonly
1010 estimated relative to a risk-free rate.

1011

1012 **2. Risk-Free Rate**

1013

1014 The application of equity risk premium tests in relation to a risk-free rate require a forecast of the
1015 risk-free rate to which the equity risk premium is applied. A forecast long-term (30-year)
1016 Government of Canada bond yield is most widely used as the risk-free rate, although long-term
1017 Government of Canada bond yields are not risk-free. They are considered to be free of default
1018 risk, but are subject to interest rate risk.³⁵ Use of the long-term bond yield recognizes (1) the
1019 administered nature (determined by monetary policy) of short-term rates; and (2) the long-term
1020 nature of the assets to which the equity return is applicable.

1021

³⁵ If interest rates rise, the value of the bond will decline.

1022 For the purpose of applying the equity risk premium tests, I have relied on a forecast long-term
1023 30-year Government of Canada bond yield of 5.0%. The 5.0% forecast reflects the following:
1024 Consensus Economics, *Consensus Forecasts*³⁶ (May 2010) anticipates that the 10-year
1025 Government of Canada bond yield will be 4.2% in May 2011. The current spread or difference
1026 between the yields on 10-year and 30-year Government of Canada bonds is approximately
1027 0.40%, indicating a mid-year 2011 30-year Government of Canada bond yield of 4.6%. The
1028 most recent long-term consensus forecast released by Consensus Economics (April 2010)
1029 anticipates that the 10-year Canada bond will yield, on average, 5.0% from 2011 to 2015, as well
1030 as from 2016 to 2020. The longer-term average spread between 10-year and 30-year
1031 Government of Canada bond yields has been approximately 0.3%, indicating an average yield on
1032 30-year Government of Canada bonds of 5.3% beyond 2011. Taking into account both the near-
1033 term forecast 30-year Government of Canada bond yield of 4.6% and the expected upward trend
1034 in yields (average yield beyond 2011 of approximately 5.3%), 5.0% is a reasonable estimate of
1035 the risk-free rate for the purpose of applying the equity risk premium tests.

1036

1037 **3. Risk-Adjusted Equity Market Risk Premium Test**³⁷

1038

1039 3.a. Conceptual Considerations

1040

1041 The risk-adjusted equity market risk premium approach to estimating the required equity risk
1042 premium for a benchmark distribution utility entails (1) estimating the equity risk premium for
1043 the equity market as a whole; (2) estimating the relative risk adjustment required for a
1044 benchmark utility; and (3) applying the relative risk adjustment to the equity market risk
1045 premium, to arrive at the required equity risk premium for a benchmark distribution utility. The
1046 utility equity risk premium is then added to the risk-free rate. The cost of equity is thus
1047 estimated as:

³⁶ Consensus Economics, *Consensus Forecasts* does not provide a forecast of the 30-year Canada bond yield. Their monthly forecasts of 10-year government bond yields are for two specific points in time, 3 months and 12 months forward from the date of the survey. For those regulatory jurisdictions in Canada which have relied upon automatic adjustment formulas for allowed ROEs, *Consensus Forecasts* have been used in the formulas to establish the allowed ROEs.

³⁷ A full discussion of the Risk-Adjusted Equity Market Risk Premium Test is contained in Appendix C.

1048

$$\text{Risk-Free Rate} + \left\{ \text{Relative Risk Adjustment} \times \text{Market Risk Premium} \right\}$$

1049

1050 The risk-adjusted equity market risk premium test is a variant of the Capital Asset Pricing Model
1051 (CAPM). The CAPM attempts to measure, within the context of a diversified portfolio, what
1052 return an equity investor **should** require (in contrast to what the investor **does** require). Its focus
1053 is on the minimum return that will allow a company to attract equity capital.

1054

1055 In the CAPM, relative risk is measured using “beta”. Theoretically, beta is a forward looking
1056 estimate of the contribution of a particular stock to the overall risk of a portfolio. In practice, the
1057 betas are typically calculations of the historical correlation between returns on the overall equity
1058 market, for which the proxy in Canada is the S&P/TSX Composite, and the returns on individual
1059 stocks or portfolios of stocks.

1060

1061 As noted above, the CAPM, framed in an elegant, simple construct, has an intuitive appeal.
1062 However, in addition to its restrictive premises, the CAPM does have disadvantages that caution
1063 against placing sole reliance on it for purposes of determining a fair return on equity. The
1064 disadvantages are discussed in Appendix C.

1065

1066 3.b. Equity Market Risk Premium

1067

1068 My estimate of the expected/required equity market risk premium starts with an analysis of
1069 historic (experienced) returns and market risk premiums. The estimation of the
1070 expected/required market risk premium from historic data is premised on the notion that
1071 investors’ return expectations and requirements are linked to their past experience. The use of
1072 achieved risk premiums for the longest periods available recognizes that it is necessary to reflect
1073 as broad a range of event types as possible to avoid overweighting periods that represent
1074 “unusual” circumstances. On the other hand, the objective of the analysis is to assess investor
1075 expectations in the current economic and capital market environment. Consequently, my point

1076 of departure was post-World War II returns and market risk premiums, supplemented with
 1077 achieved returns and risk premiums over longer periods. My analysis of historic risk premiums
 1078 was not based solely on the Canadian experience, but also took into account the U.S. equity
 1079 market as a relevant benchmark for estimating the equity risk premium from the perspective of
 1080 Canadian investors.

1081
 1082 The table below summarizes both equity market returns and achieved risk premiums in relation
 1083 to government bond income returns for Canada and the U.S. for the post World War II period
 1084 and for the longer-term.

1085

1086

Table 6

Stock Return	Bond Income Return	Risk Premium	Stock Return	Bond Income Return	Risk Premium
Canada					
1947-2009			1924-2009		
12.0%	7.1%	4.9%	11.6%	6.3%	5.3%
United States					
1947-2009			1926-2009		
12.4%	6.0%	6.4%	11.8%	5.2%	6.6%

1087 Source: Schedule 14.

1088

1089 The table indicates that the achieved risk premiums for Canada and the U.S. have been in the
 1090 range of approximately 5.0% to 6.5% for both the post-World War II period and for the longer-
 1091 term.

1092

1093 The achieved risk premiums reflect average equity market returns in Canada of approximately
 1094 12.0% post-World War II, and average income returns on long-term government bonds of
 1095 approximately 7.0%. The latter are well in excess of the 5.0% forecast long-term Canada bond
 1096 yield. For the longer-term, the equity market returns in Canada were approximately 11.5%, in
 1097 conjunction with bond income returns which were somewhat lower than experienced on average

1098 during the post-World War II period, but still more than one percentage point higher than the
1099 forecast long-term Canada bond yield of 5.0%. The historic equity market returns in both
1100 countries have been in the approximate range of 11.5%-12.0% for both periods. To determine
1101 whether a reduction to the historic equity market returns is required, I analyzed both trends in
1102 price/earnings ratios and the relationship between inflation and real equity market returns.
1103 Neither analysis indicated that the historic equity market returns (measured in nominal terms) are
1104 not a reasonable estimate of future equity market returns. With equity market returns in the
1105 range of 11.5% to 12.0% and a risk-free rate of 5.0%, the indicated equity market risk premium
1106 is 6.5% to 7.0% (mid-point of 6.75%).

1107

1108 3.c. Relative Risk Adjustment

1109

1110 The market risk premium result needs to be adjusted to recognize the relative risk of a
1111 benchmark distribution utility. My analysis of the relative risk adjustment starts with the
1112 recognition that (1) investors are not perfectly diversified and (2) they do look at the risks of
1113 individual investments and expect compensation for assuming company-specific or investment-
1114 specific risk. It also recognizes that, while investors can diversify their portfolios, the stand-
1115 alone utility to which the allowed return is applied cannot. Thus, a risk measurement that
1116 reflects those considerations is relevant for estimating the benchmark distribution utility equity
1117 risk premium.

1118

1119 These considerations support focusing on total market risk, as well as on beta. The latter is
1120 intended to measure solely non-diversifiable risk. The standard deviation of market returns is the
1121 principal measurement of total market risk. The ratio of the standard deviation of the returns of
1122 the S&P/TSX Utilities Index to the mean and median standard deviations of the 10 major Sector
1123 Indices of the S&P/TSX Composite Index supports a relative risk adjustment for a Canadian
1124 utility in the range of 0.55-0.85, with a central tendency of approximately 0.65-0.70 (See
1125 Schedule 16 and Appendix C).

1126

1127 With respect to beta, an analysis of the relationship between historic Canadian utility returns and
1128 beta indicates a relative risk adjustment in the range of 0.70.

1129
1130 Applying the widely-used beta adjustment formula, which gives two-thirds weight to the
1131 calculated “raw” beta and one-third weight to the market beta of 1.0, to both the recent (0.44)
1132 and long-term (0.50) “raw” betas of Canadian utilities results in relative risk adjustments of 0.62
1133 and 0.67 respectively.

1134
1135 Table 7 below summarizes the above estimates of the relative risk adjustment based on the above
1136 measures for Canadian utilities.

1137
1138

Table 7

Relative Risk Indicator	Relative Risk Factor
Total Market Risk (Standard Deviations)	0.65-0.70
Relative Historic Returns and Betas	0.70
Recent Adjusted Beta	0.62
Long-term Adjusted Beta	0.67

1139 Sources: Appendix C.

1140
1141 These results support a relative risk adjustment for a benchmark Canadian distribution utility in
1142 the approximate range of 0.65-0.70.

1143
1144 3.d. Benchmark Distribution Utility Risk Premium and Cost Of Equity

1145
1146 I previously estimated the equity market risk premium at approximately 6.75%. At an equity
1147 market risk premium of 6.75% and a relative risk adjustment of 0.65-0.70, the indicated
1148 benchmark utility equity risk premium is approximately 4.6%.

1149

1150 **4. DCF-Based Equity Risk Premium Test³⁸**

1151

1152 The Discounted Cash Flow-Based (“DCF-Based) Equity Risk Premium Test estimates the
1153 benchmark utility equity risk premium as the difference between the DCF cost of equity and
1154 yields on long-term government bonds.

1155

1156 The DCF-based equity risk premium test estimates the equity risk premium directly for regulated
1157 companies by analyzing regulated company equity return data. In contrast, the risk-adjusted
1158 equity market risk premium test discussed above estimates the required utility equity risk
1159 premium indirectly. The DCF-based risk premium test was applied to the same sample of low
1160 risk U.S. distribution utilities as the DCF test itself.

1161

1162 To perform the test, monthly DCF costs of equity for the sample of utilities were constructed for
1163 the period 1995-2009.³⁹ The DCF costs of equity represent the sum of the consensus of analysts’
1164 forecasts of long-term normalized earnings growth and the expected dividend yield. Each
1165 month’s equity risk premium is equal to the difference between the sample average DCF cost of
1166 equity and the corresponding month-end 30-year government bond yield. The raw data show
1167 that the average 1995-2009 utility risk premium was 4.3%, corresponding to an average long-
1168 term government bond yield of 5.4%. The data also show that the risk premium averaged 3.3%
1169 when long-term government bond yields were 7.0% or higher and 4.7% when long-term
1170 government bond yields were lower than 5.0% (See Schedule 20, page 1 of 3).

1171

1172 A key advantage of the DCF-based risk premium test is that it can be used to test the relationship
1173 between the cost of equity (or risk premiums) and interest rates (and/or other variables). In my
1174 application of this test, I estimated the relationship between the utility risk premiums and long-
1175 term government bond yields and between utility risk premiums, long-term government bond

³⁸ A full discussion of the DCF-Based Equity Risk Premium Test is contained in Appendix D.

³⁹ The analysis comprises the full period over which automatic adjustment formulas for setting allowed ROEs were (and in some cases continue to be) in effect in Canada. The period for the analysis was chosen in part to test the validity of the relationship between interest rates and the equity risk premium on which the formulas have been based.

1176 yields and the spread between the yields on long-term utility and government bond yields.
1177 Regression analysis was used to test these relationships.

1178
1179 The single variable regression analysis, using monthly 30-year government bond yields as the
1180 independent variable and the corresponding utility equity risk premiums as the dependent
1181 variable indicates that, over the full 1995-2009 period, for each 100 basis point change in the
1182 long-term government bond yield, the utility equity risk premium moved in the opposite
1183 direction by approximately 55 basis points.⁴⁰

1184
1185 The table below sets out the utility equity risk premium at various levels of long-term
1186 government bond yields based on the results of the 1995-2009 analysis.

1187
1188

Table 8

Government Bond Yield	3.0%	4.0%	5.0%	6.0%	7.0%
Utility Equity Risk Premium	5.6%	5.1%	4.6%	4.0%	3.5%

1189
1190 The single variable test was also conducted over a shorter time frame (1999-2009).⁴¹ For the
1191 shorter period (1999-2009), the utility risk premium changed by slightly less than 50 basis points
1192 for every one percentage point change in long-term government bond yields.

1193
1194 The analysis for both periods demonstrates that the utility equity risk premium is higher at lower
1195 levels of interest rates than it is at higher levels of interest rates, i.e., there is an inverse
1196 relationship between long-term government bond yields and the utility equity risk premium.

1197
1198 The two variable regression analysis, in which government bond yields and the
1199 utility/government bond yield spread were used as independent variables and the utility equity
1200 risk premium was the dependent variable, indicates for both periods that, while the utility risk

⁴⁰ Expressed in terms of cost of equity, the cost of equity, as measured by the DCF-based equity risk premium test, increases (decreases) by 45 basis points for every one percentage point increase (decrease) in the long-term government bond yield.

⁴¹ The beginning of the period corresponding to the approximate date of the establishment of the 13% ROE included in the “Essential Elements” of the EGNB franchise agreement.

1201 premium has been negatively related to the level of government bond yields, it has been
1202 positively related to the spread between utility bond yields and government bond yields.

1203
1204 Based on both the single and two variable DCF-based equity risk premium approaches over both
1205 periods at a forecast long-term Government of Canada bond yield of 5.0%, the indicated equity
1206 risk premium is approximately 4.5% (See Appendix D and Schedule 20, pages 2 and 3).

1207
1208 To put this in perspective relative to NBPUB 299, the equations indicate that, at a long-term
1209 government bond yield of 6.25%, the utility equity risk premium is approximately 3.9%. By
1210 comparison, at a 5% long-term government bond yield, the analysis indicates a risk premium, as
1211 noted above, of approximately 4.5%, an increase in the benchmark utility risk premium of
1212 approximately 0.6%.⁴²

1213

1214 **5. Historic Utility Equity Risk Premium Test**

1215

1216 The historic experienced returns for utilities provide an additional perspective on a reasonable
1217 expectation for the forward-looking equity risk premium for a benchmark distribution utility.
1218 Similar to the DCF-based risk premium test, this test estimates the cost of equity for regulated
1219 companies directly by reference to return data for regulated companies. Reliance on achieved
1220 equity risk premiums for utilities as an indicator of what investors expect for the future is based
1221 on the proposition that over the longer term, investors' expectations and experience converge.
1222 The more stable an industry, the more likely it is that this convergence will occur.

1223

1224 Over the longer-term (1956-2009),⁴³ the average achieved utility equity risk premium was 4.3%
1225 for Canadian electric and gas utilities in relation to bond income returns.⁴⁴ For U.S. gas utilities,

⁴² Of the three equity risk premium tests, the DCF-based equity risk premium test is the only one that lends itself to explicitly estimating the relationship between utility equity risk premiums (or the utility cost of equity) and interest rates. The DCF-based equity risk premium test shows that the utility cost of equity at the forecast long-term Canada bond yield of 5.0% is approximately 0.7% lower than it would have been at the 6.25% long-term Canada bond yield anticipated in NBPUB 299. A reduction of 0.7% to EGNB's 13.0% allowed ROE results in an ROE of 12.3%.

⁴³ The longest period for which Canadian utility equity market data are available from the TSE.

1226 the corresponding average historic equity risk premium over the entire post-World War II period
1227 (1947-2009) was 5.9%. For U.S. electric utilities, the 1947-2009 average risk premium was
1228 4.9% (see Schedule 21).

1229
1230 The magnitude of achieved utility risk premiums is a function of both the equity returns and the
1231 bond returns, as summarized for the three utility indices in the table below.

1232

1233

Table 9

	Utility Equity Returns	Bond Income Returns
Canadian Utilities	12.1%	7.8%
U.S. Gas Utilities	11.9%	6.0%
U.S. Electric Utilities	10.9%	6.0%

1234 Source: Schedule 21.

1235

1236 On average, as indicated in Table 9 above, the utility equity market returns in Canada and the
1237 U.S. have been in the range of 11.0-12.0%. An analysis of the underlying data indicates there
1238 has been no discernible secular upward or downward trend in the utility equity returns (Schedule
1239 22). In other words, based on the pattern of historic returns, there is no evidence that utility
1240 equity market returns have been either declining or rising. However, the bond income returns,
1241 particularly in Canada, are well in excess of the level forecast over the longer-term. The forecast
1242 long-term Canada bond yield is 5.0%, almost 300 basis points lower than the 1956-2009 historic
1243 average bond income return of 7.8%. When the average utility equity returns of 11.0%-12.0%
1244 are compared to the forecast risk-free rate of 5.0%, the indicated utility equity risk premium is
1245 approximately 6.5%.

1246

⁴⁴ Based on the Gas/Electric Index of the TSE 300 from 1956 to 1987 and on the S&P/TSX Utilities Index from 1988-2009.

1247 **6. Equity Risk Premiums and Cost of Equity Based on Equity Risk Premium Tests**

1248

1249 The estimated utility risk premiums and costs of equity at a forecast long-term Government of
1250 Canada bond yield of 5.0% for a benchmark Canadian distribution utility based on the three
1251 equity risk premium methodologies are as follows:

1252

1253

Table 10

Risk Premium Test	Risk Premium	Cost of Equity
Risk-Adjusted Equity Market	4.6%	9.6%
DCF-Based	4.5%	9.5%
Historic Utility	6.5%	11.5%
Average	5.2%	10.2%

1254

1255 The three risk premium tests indicate a utility equity risk premium of 5.2% and a benchmark
1256 Canadian distribution utility cost of equity of approximately 10.2%, before any allowance for
1257 financing flexibility.

1258

1259 **E. ALLOWANCE FOR FINANCING FLEXIBILITY**

1260

1261 The discounted cash flow (Section X.C.) and equity risk premium tests (Section X.D.) above
1262 indicate a “bare-bones” cost of equity for a benchmark Canadian distribution utility in the range
1263 of 9.6% (DCF) to 10.2% (Equity Risk Premium). The “bare-bones” cost of equity needs to be
1264 adjusted for financing flexibility. The financing flexibility allowance is an integral part of the
1265 cost of capital as well as a required element of the concept of a fair return. The allowance is
1266 intended to cover a number of factors, including: (1) flotation costs, comprising financing and
1267 market pressure costs arising at the time of the sale of new equity; (2) a margin, or cushion, for
1268 unanticipated capital market conditions; (3) a recognition that the financial risk inherent in the
1269 market value capital structures is lower than the financial risk represented by their book value
1270 capital structures; (4) the "fairness" principle. A full discussion of these factors is presented in
1271 Appendix E.

1272

1273 As set out in Appendix E, a reasonable estimate of the adjustment to the “bare bones” cost of
1274 equity for financing flexibility that is warranted in light of the various considerations
1275 summarized above is the mid-point of a range of approximately 50 to 100 basis points (mid-point
1276 of 75 basis points). The addition of an allowance for financing flexibility of 75 basis points to
1277 the “bare-bones” cost of equity estimate of 9.6% to 10.2% for a benchmark Canadian distribution
1278 utility, derived from both the DCF and equity risk premium tests, results in an estimate of the fair
1279 return on equity for a benchmark Canadian distribution utility in the range of 10.35% to 10.95%,
1280 or approximately 10.5% to 10.75%.

1281

1282 **F. EQUITY RISK PREMIUM FOR EGNB**

1283

1284 The final step in the ROE analysis is to determine what adjustment to the benchmark distribution
1285 utility ROE is warranted for EGNB.

1286

1287 As noted earlier, there are no directly comparable proxy companies with capital market data
1288 from which to estimate the equity risk premium that is required for a utility of its size. In the
1289 absence of market data for proxy utilities that are directly comparable, the quantification of the
1290 incremental equity risk premium required for EGNB requires professional judgment.⁴⁵

1291

1292 To do so, I started with my assessment (Section VII) that EGNB would be, if rated by Standard
1293 & Poor’s, classified on its business risk ranking scale as no lower risk than “Satisfactory”.⁴⁶

1294 Further, it is likely that, with its business risk profile and credit metrics, as estimated in Section

⁴⁵ There are a number of smaller utilities in Canada whose allowed returns reflect a premium above those allowed larger utilities. For example, in British Columbia, each of the smaller gas distribution utilities is allowed a risk premium above that applicable to Terasen Gas, considered the benchmark utility. Historically, Gazifère Inc., an EGNB affiliate, was allowed a somewhat higher common equity ratio (40%) and a somewhat higher risk premium (0.4%) than the other gas distribution utility in the province, Gaz Métro. (Gazifère’s current allowed ROE is 8.89%; it is currently applying for an ROE of 11.25% on a common equity ratio of 40%). I would not view those premiums as reasonable benchmarks for EGNB as the utilities to which they apply are mature utilities, with the exception of Terasen Gas (Vancouver Island), which is on the cusp of becoming a mature utility, e.g., it has fully recovered its accrued revenue deficiency. Moreover, unlike EGNB, Terasen Gas (Vancouver Island) was constructed and has operated with significant government assistance.

⁴⁶ The only regulated Canadian utilities currently ranked “Satisfactory” are Maritime Electric and Trans Québec and Maritimes Pipeline.

1295 VII, EGNB would be, on its own, on border between investment grade and non-investment
1296 grade.

1297
1298 Based on the above considerations, I identified a small number of U.S. gas companies with
1299 publicly-traded stock, regulated distribution operations and with S&P business risk profiles of
1300 “Satisfactory”. Since there is only one gas distribution utility that is rated by S&P below
1301 investment grade (and not publicly traded), I selected gas companies with regulated distribution
1302 operations in the BBB rating category to serve as a proxy for EGNB.⁴⁷ The difference in the cost
1303 of equity between this sample of higher risk gas companies and the benchmark sample of
1304 distribution utilities is an estimate of the incremental equity risk premium for EGNB.

1305
1306 The difference in the cost of equity between the two samples was estimated using the difference
1307 in their betas multiplied by the estimated market risk premium. Betas as calculated from market
1308 prices (the investment risk betas), in principle, measure both business and financial risk. If the
1309 financial risk of the two samples differs materially, that is, if they have materially different
1310 capital structures, it is necessary to estimate how much of the total risk represents business risk
1311 and how much represents financial risk. When the financial risk component is removed from the
1312 investment risk beta, that is, the investment risk beta is unlevered, the result is an estimate of the
1313 business risk beta. The multiplication of the business risk beta and the market risk premium is an
1314 estimate of the risk premium that an investor would require if the utility were financed at 100%
1315 equity. Alternatively, the betas can be “relevered” at a particular capital structure, resulting in an
1316 estimate of the investment risk beta at a given amount of financial risk.

1317
1318 In the case of the benchmark and higher risk gas company samples, the common equity ratios of
1319 the latter were higher than those of the former over the five-year period for which the betas were
1320 calculated (average of 46.5% versus 50%). To compare the betas on an “apples to apples” basis,
1321 I unlevered the two samples’ betas and relevered them at the same equity ratio, specifically
1322 EGNB’s 50% equity ratio. Table 11 below shows the average and median adjusted investment
1323 beta, common equity ratio, the unlevered beta, and the relevered beta for the two samples.

⁴⁷ Energen Corp., EQT, National Fuel Gas, ONEOK, and Questar Corp. See Schedule 26 for company-specific data.

1324
1325
1326

Table 11

Benchmark Sample	2005-2009 Average Common Equity Ratio	Investment (Adjusted) Beta	Business Risk (Unlevered) Adjusted Beta	Relevered at 50% Adjusted Beta
Average	46.5%	0.70	0.38	0.65
Median	47.5%	0.68	0.38	0.65
Higher Risk Gas Distributors				
Average	52.4%	1.09	0.66	1.13
Median	57.2%	1.11	0.61	1.05
Difference in Beta Based on Average				0.48
Difference in Beta Based on Median				0.40

1327 Source: Schedule 27.

1328
1329 The difference between the betas of the two samples, both expressed at the same equity ratio,
1330 EGNB's 50% equity ratio, is approximately 0.40-0.50. A 0.40 to 0.50 difference in beta
1331 multiplied by the estimated equity market risk premium is an estimate of the incremental equity
1332 risk premium which would be warranted for EGNB. In Section X.D.3.b, I estimated the equity
1333 market risk premium at 6.75%. A differential beta of 0.40 to 0.50 multiplied by an equity market
1334 risk premium of 6.75% is approximately 2.75 to 3.25 percentage points.

1335
1336 An alternative approach to estimating the incremental ROE is by reference to the studies on
1337 small size and returns conducted by Ibbotson Associates Inc.⁴⁸ These studies have quantified the
1338 impact of a firm's small size on the required return by an analysis of the relationship between
1339 betas and historic returns for companies of different sizes. The analyses indicate that small
1340 companies tend to exhibit higher betas than larger companies. In the Ibbotson classification of
1341 stocks, if EGNB were a stand-alone publicly traded stock, it would be a Micro-Cap stock
1342 (market value of equity of less than \$450 million). By comparison, both the typical publicly-

⁴⁸ Morningstar, *Ibbotson SBBI 2010 Valuation Yearbook: Market Results for Stocks, Bonds, Bills and Inflation, 1926-2009* pages 85-107.

1343 traded Canadian regulated company and benchmark U.S. distribution utility used to estimate the
1344 benchmark distribution utility ROE would be a Mid-Cap stock.⁴⁹ Ibbotson's analysis indicates
1345 the betas of Micro-Cap stocks have been approximately 0.32 higher than those of Mid-Cap
1346 stocks. An incremental beta of 0.32, when applied to a market risk premium of 6.75%, supports
1347 an incremental equity risk premium of over 200 basis points (6.75% x 0.32) for a Micro-Cap
1348 company, e.g., EGNB.⁵⁰

1349
1350 The two estimates together support a range of incremental equity risk premiums of
1351 approximately 200 to 300 basis points for EGNB. When a premium of 200 to 300 basis points is
1352 added to the estimated fair ROE for a benchmark utility of 10.5% to 10.75%, the indicated ROE
1353 for EGNB is 12.5% to 13.75%.

1354
1355 **XI. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS**⁵¹

1356
1357 The focus of EGNB's business risks has shifted from initial market development to recovery of
1358 invested capital since the capital structure and ROE were adopted in 2000, but the level of
1359 business risk faced does not suggest that an investor would require any less of an incremental
1360 risk premium relative to a mature gas distribution utility than was incorporated into the allowed
1361 return in the NBPUB 299 Decision.

1362
1363 EGNB's common equity ratio of 50% remains reasonable and appropriate in light of its business
1364 risks, the capital structures of other gas utilities and the credit metrics that EGNB has achieved
1365 and are potentially achievable, but are uncertain, at the existing capital structure.

⁴⁹ Companies with market capitalizations in the range of \$1.8 to \$7.4 billion were defined by Ibbotson Associates as Mid-Cap stocks. The median publicly-traded Canadian utility has a market capitalization of \$5.6 billion. The median market capitalization of the U.S. distribution utilities was \$1.9 billion (Schedule 23).

⁵⁰ Ibbotson's industry-by-industry analysis shows that the conclusions regarding the firm size effect apply to regulated companies as well as unregulated companies. Based on 82 years of data, Ibbotson's analysis shows that the returns for small publicly-traded electric, gas and sanitary utilities have been approximately 1.5 and 3 percentage points higher on a compound and arithmetic average basis respectively than those of large utilities. Morningstar, Ibbotson SBBI, 2008 Valuation Yearbook: Market Results for Stocks, Bonds, Bills and Inflation, 1926-2007, pages 154-155.

⁵¹ A more detailed summary of my conclusions is set out in Section I.B. at the beginning of the report.

1366

1367 The determination of EGNB's regulated cost of debt as the cost that Enbridge Inc. incurs plus
1368 one percent remains reasonable, if conservative, in light of the beneficial terms and conditions to
1369 which EGNB has access through Enbridge Inc. and in light of the potential cost to EGNB if it
1370 were issuing debt to an arms' length third-party lender on a stand-alone basis.

1371

1372 Based on both an incremental risk premium approach (ROE of 12.0% to 12.5%) and a "from first
1373 principles" approach (ROE of 12.5% to 13.75%) to estimating the ROE, a reasonable ROE for
1374 EGNB is in the range of approximately 12.25% to 13.0%.

1375

1376

1377