REQUESTOR NAME: BCUC Utility Customers – AMPC/BCPSO/CEC
INFORMATION REQUEST ROUND NO: 1
DATE: August 31, 2012
PROJECT NO: 3698659
APPLICATION NAME: BCUC – Generic Cost of Capital
TO: Pacific Northern Gas re: Evidence of Mr. Engen

1. Topic: Mr. Engen indicates that he played a key role in the purchase of Pacific Northern Gas by AltaGas Ltd. Please provide the following details of this transaction:

1.1 Book value of common equity as of the transaction date

1.2 Purchase price paid for the common equity at the close of the transaction

1.3 A discussion of any additional closing expenses in addition to 1.2 above following the transaction

1.4 Details on the assumption of debt or any changes

1.5 How the transaction was effected, that is who purchased what and whether a temporary financing vehicle was used.

1.6 Who was the lead BMO employee in this transaction, was it Mr. Engen or the Head of M&A at BMO?

2. Topic: Mr. Engen indicates that he was asked by FEI to opine on whether FEI's requested 10.5% ROE on 40% common equity is fair and reasonable in the context of Canadian financial market conditions.

2.1 Has Mr. Engen ever been qualified as a cost of capital expert witness in a Canadian regulatory hearing?

2.2 Has Mr. Engen ever prepare cost of capital testimony as an expert witness, similar in spirit to that prepared by Dr. Vander Weide, Ms. McShane and Concentric? If the answer is yes please provide copies of the most recent testimony.

2.3 Please indicate why he was not asked to opine on whether 10.5% ROE on 40% common equity was fair and reasonable in the context of US financial market conditions.

2.4 Please provide a list of all Mr. Engen's writings that have been peer reviewed and represent a contribution to our understanding of financial matters.

3. Topic: In terms of current equity market conditions (page 7)

3.1 Please indicate whether Mr. Engen was taught as an MBA student that a market that reacts very quickly and aggressively as news emerges is the hallmark of an efficient market.

3.2 Please indicate whether Mr. Engen either agrees or disagrees with the proposition in 3.1 above.

3.3 Please indicate whether Mr. Engen is aware of a Royal Bank of Canada (August 22, 2012) publication that on page 7 titled "the evaporation of risk" noted:

a. The VIX in the US (volatility index) closed out the week at 13.5 its lowest level since mid-2007
b. Corporate bonds are setting new record low yields
c. The collapse of risk premia has helped the S&P500 to a 10.6% gain since the June low

Even if Mr. Engen is not aware of this publication would he agree or disagree with this description of equity and debt capital markets in August 2012?

4. Topic: In terms of financial market globalization

4.1 Mr. Engen refers to Canadian issuers raising substantial capital outside of Canada. Please provide details on all Canadian utility offerings outside Canada since 2006 that were used to finance Canadian regulated assets.

4.2 Please indicate the proportion of non-C$ debt in the debt structure of the following Canadian utilities: Nova Scotia Power, Gaz Metro, Enbridge Gas Distribution, Union Gas, FortisEnergy BC, Newfoundland Power, Fortis BC.

4.3 Please indicate which Canadian utilities are inter-listed in the US and the proportion of US versus Canadian ownership and trading as of the latest date available.

5. Topic: Mr. Engen indicates that "nothing can be learned about the appropriateness of allowed return on equity from recent Canadian merger and acquisitions activity involving regulated assets." Page 11

5.1 Please provide any academic and professional research articles which would support the notion that the expected level of earnings, as reflected in the ROE, has **no** influence on the price paid for an asset.

5.2 Please confirm that in Mr. Engen's judgment two utilities one allowed an ROE of 5% and the other 15% would have the same purchase price to book ratio if all the other factors listed on page 12 were the same.

5.3 Please indicate whether if asked to provide a fairness opinion on a transaction he would indicate that the allowed ROE for a Canadian public utility has no bearing on the purchase price to book multiple.

5.4 Please provide copies of any fairness opinions where he has rendered the judgement in 5.3 above.

6. Topic: Mr. Engen concludes that 10.5% ROE on 40% common equity is fair and reasonable in the context of current capital market conditions.

6.1 Please provide copies of all BMO "strategy" reports on the US and Canadian equity markets for 2012, where prospective returns on the equity market have been estimated.

6.2 Please indicate whether BMO has a defined benefit pension plan and provide the plan actuary's latest assumptions as regards the expected returns on Canadian equities, US equities, non-North American equities, and fixed income securities.

6.3 Please provide copies of any Bank of Montreal studies circulated since 2010 on the historic performance of the Canadian and US equities markets versus the bond market.

7. Topic: In terms of trading volumes and volatility on the Canadian market, pages 20-22.

7.1 Please indicate whether the Bloomberg data relied on is for the TSX or whether it also includes alternative trading mechanisms, such as alpha.

7.2 Please provide the latest data on the Canadian volatility index and update the chart on page 21

8. Topic: Mr. Engen discusses PE ratios and indicates that declining PE ratios are "compelling evidence that the cost of equity in Canada has been rising," page 26.

8.1 Please confirm that PE ratios reflect future growth opportunities and increase with the opportunities increase and decrease when they decrease. If not why not?

8.2 Please confirm that the very high PE ratio on the Canadian market in 1999-2001 was in part driven by the very high growth expectations attached to Nortel and JDS Uniphase.

8.3 Please provide the Shiller business cycle averaged PE ratio for the US market and comment on whether equity markets are materially over or under valued based on longer term PE ratios.

8.4 Please indicate why if looking at PE ratios provides "compelling evidence" on the cost of capital it is not a major topic in expert testimony on the cost of equity capital, that is please provide citations to the testimony of Ms. McShane, Dr. Vander Weide and Concentric that support this assertion.

8.5 Please confirm that the equity price ratio (inverse of the PE ratio) was commonly used as a measure of the equity cost for regulated utilities in the 1950s prior to significant inflation and being supplanted by the dividend growth (DCF) model.

9. Topic: Debt capital market conditions, pages 30-35

9.1 Mr. Engen's graphs are all of spreads of corporate over equivalent maturity Government of Canada bond yields, please provide the exact same graphs on these pages for the respective yields on the underlying securities and provide this data in an excel file capable of verification and replication.

9.2 Please confirm that recently some utilities, such as Enbridge Gas Distribution Inc have issued 40 year fixed rate debt to finance their utility operations.

9.3 Please indicate the number and amount of 40 year fixed rate utility debt issues for each year since 1990.

9.4 Please indicate whether the Government of Canada or the US. issues 40 year fixed rate debt.

9.5 Please indicate whether rising corporate spreads could also be due to foreign investor interest in AAA rated Canadian government debt, rather than increased risk aversion.

9.6 Please provide any and all studies that Mr. Engen is aware of that corporate spreads reflect "increased risk aversion" and whether if they do the spread is totally a reflection of risk aversion or includes the effect of other factors.

10. Topic: Corporate bond market, pages 37-40

10.1 Please indicate whether the data on page 37 is for DBRS or S&P bond ratings or the higher of the two?

10.2 Please provide the actual data in the pie chart on page 37 broken down according to DBRS and S&P bond ratings separately.

10.3 On page 39 Mr. Engen asserts that corporate bond holders expect the regulatory environment to protect their return on and of capital. Does Mr. Engen accept that investors in corporate bonds are at risk of default and downgrades which is why they require higher yields on corporate versus government bonds?

10.4 Would Mr. Engen agree that the legal requirement is for a regulator to preserve a utility's credit, that is, access to capital and not its credit rating? If not please explain what jurisprudence he relies on for this judgment.

11. Topic: Government of Canada bond market, pages 40-42

11.1 Please confirm that Mr. Engen judges foreign investors to "overlook" the relative lack of liquidity in the Canada government bond market relative to the US. Does Mr. Engeen believe that these investors do not "do their homework"?

11.2 Please provide the full interest rate forecast document that the BMO forecast on page 41 is derived from.

12. Topic: Canadian equity issues, pages 42-

12.1 Is it Mr. Engen's view that the foreign issue of equity securities is to finance the purchase of foreign assets or that the funds are brought back into Canada to finance the purchase of Canadian assets?

12.2 Mr. Engen indicates that "massive" amounts of capital will be required to build proposed infrastructure assets, please provide a five year forecast of the required infrastructure that requires funding for each year beyond 2012. Please confirm that Mr. Engen expects Canadian firms to issue US dollar securities to finance Canadian assets.

12.3 Can Mr. Engen provide an estimate of US dollar financing by the provinces of Canada as a proportion of total provincial financing for each year since 1970 and comment whether they are as reliant on US dollar financing currently as they were in earlier years.

12.4 Please confirm that with-holding taxes are still levied on dividends between the US and Canada and that US residents do not get the benefit of the dividend tax credit.

12.5 Please indicate whether as an investment banker Mr. Engen markets new issues of Canadian utility or bank preferred shares to US investors and whether such issues are normally registered with the SEC for sale to US residents.

12.6 Please indicate where the statement that US allowed utility returns (page 50) are relevant for Canadian returns follows from the prior discussion of equity and debt capital flows? Is it Mr. Engen's judgement that observing capital flows indicates that markets are perfectly integrated, such that the law of one price holds?

12.7 In Mr. Engen's judgment what level of capital flows between two countries would support a judgement of an integrated market, rather than a partially segmented market where the law of one price does not hold?

12.8 Please provide all research and citations to the academic literature on market integration that would support Mr. Engen's conclusion that allowed utility ROEs in the US are relevant for Canadian allowed ROEs.

12.9 Would Mr. Engen agree that if US allowed ROEs are relevant, then the same argument also applies to long term US treasury interest rates and that the Canadian government should be paying higher rates on its 30 year debt than it is actually paying?

12.10 Please provide the following current interest rates for US and Canadian government debt: 3 month Treasury Bills, I year notes, 5 year notes, 10 year bonds, 30 year bonds

and the 30 year real return (TIPS). In each case please report the definition of the series and the source.

13. Topic: Price to book multiples, pages 51-68

13.1 Discussing price to book ratios is not normally in the testimony of an investment banker discussing capital market conditions, please provide the written instructions that Mr. Engen was given in providing his testimony and whether he was specifically asked to address this topic.

13.2 Mr. Engen indicates that nothing can be learned from looking at price to book ratios, please confirm that before the AUC he made several statements to the effect that looking at them reflected "unsound thinking" and "absurdity." Please indicate why he has toned down his comments and provide copies of all articles that he has published that would qualify him as an expert witness on this topic.

13.3 Please confirm that in 2009 before the AUC; in 2008 before the NEB and 2009 before the Regie de l'Energie he testified along with Drs. Kolbe and Vilbert and that Dr. Kolbe is the author of a text (along with James Read and George Hall) <u>estimating the rate of return for public utilities</u>, MIT Press 1984 and that Dr. Kolbe has been recognized as an expert financial witness and appeared as such in those proceedings.

13.4 Please confirm that in that text (page 25) Dr, Kolbe states

> "We examine the proposition that regulators' actions should make the ratio of a regulated stock's market value to its book value (Slightly more than) one. This prescription is frequently heard , but not always agreed to. It turns out to be simply another way of saying that the allowed rate of return should equal the cost of capital."

Dr. Kolbe goes on to develop this result in some detail, but can Mr. Engen please indicate what expertise he brings to bear to dispute the wisdom of the expert financial witness with whom he appeared in the above hearings?

13.5 Is Mr. Engen aware of a decision by the AEUB (Decision U-99099, page 300) that

> "The Board observes that the intrinsic long-run value of a pure play regulated entity is best represented by book value. In other words, the present worth of future regulated earnings, discounted at the allowed return, is by definition equal to book value assuming achieved regulated earnings on average equal allowed regulated earnings. Accordingly, the Board considers that book capitalization represents the best indicator of the long-run market capitalization for a pure play regulated firm."

Would Mr. Engen disagree with the AEUB decision that explicitly states that for a regulated utility the book value of the assets best represents the long run market values, or alternatively the market to book ratio should equal 1.0 in the long run?

13.6 Would Mr. Engen agree that when a firm issues debt if the coupon (stated interest) rate is equal to the market's required rate of return, that the issue sells at its par value and the market price divided by this par value is 1.0? And further that if the market required rate of return drops the bond sells at a premium to its par value, so the market price divided by the par value is in excess of 1.0? And conversely when the stated interest rate is less than the market's required rate of return the bond sells at a discount so its market value is less than its par value?

13.7 Can Mr. Engen confirm that if we simply note that par value is the book value of the bond when issued that when the market's required rate of return equals the coupon the bond's market to book ratio is 1.0 and when the market's required rate of return drops (increases) below the coupon the market to book ratio goes above (below) 1.0? If not please explain in detail why he does not believe that this is way that bonds are priced and the market reacts.

14. Topic: Strategic rationale in Mergers and Acquisitions, pages 51-60

14.1 In its 2003 generic decision the Alberta Energy and Utilities Board stated (page 28)

> "In the absence of such strategic factors, the Board would not expect a prudent investor to pay a significant premium unless the currently awarded returns are higher than that required by the market. The Board acknowledges the views of some parties that payment of a premium over book value for a regulated utility indicates that the recent ROE awards may have been higher than required by the market. The Board is not aware of the strategic factors that may have affected the price paid to acquire Alberta utilities in recent years. Nevertheless, the experience regarding the market-to-book values of utilities and the experience

regarding the acquisition of Alberta utilities in recent years gives the Board some comfort that its recent ROE awards have not been too low. "

Does Mr. Engen agree with the AEUB that if an acquirer pays $180 for utility assets with a book value of $100, then if the ROE is fair then the value of those assets is only a little more than $100? And further the acquisition has to generate synergies worth $80 or 80% of the value of the assets being purchased to justify the purchase price? If not please explain in detail why not?

14.2 In terms of the strategic factors discussed by Mr. Engen on page 53 and beyond:

a. The double dip (page 55) referred to only applies to foreign acquirers and relies on double leverage, ie., that the parent borrows against the same regulated assets as the utility itself. Has Mr. Engen any evidence that Canadian purchasers of Canadian assets are unwilling to pay a premium to buy Canadian regulated assets?
b. Would Mr. Engen agree that if double leverage does occur and the debt is rated investment grade and its cost "fair and reasonable," this implies that the utility capital structure is not optimal and some debt capacity has been transferred to the parent. If not please explain in detail why not.
c. Further to the double leverage problem, given that modal bond ratings tend to be higher in Canada than the US would Mr. Engen agree that the double leverage and debt capacity transfer problem is greater in Canada than the US, if not why not?
d. Mr. Engen mentions growth (page 53) as a reason for paying a premium, but if the new assets only earn a fair return please explain in detail how acquiring future assets at a market to book of 1.0 increases the price an acquirer is willing to pay today. Doesn't growth only increase the market to book ratio if the acquirer expects that future assets to have an allowed ROE in excess of a fair return? Again if not, please explain in detail why not and reference outside published sources.
e. If future ROEs are expected to increase (page 53) please confirm that the market to book ratio will only increase if the increased ROE is expected to increase above any increase in the cost of capital and as a result the utility earns more than a fair return? If not why not.
f. Similarly if the deemed equity ratio increases, please confirm that this only increases value if the allowed ROE exceeds a fair rate of return (Averch-Johnson

effect) or there is a transfer of debt capacity to the parent. If not please explain why not.

g. Please confirm that if the acquirer expects to generate operating efficiencies (page 53), in Canada this will result in a lower revenue requirement as lower costs are passed through to ratepayers under cost of service regulation? If Mr. Engen does not believe this, please explain his understanding of how cost of service regulation is supposed to work in Canada.

h. Performance based regulation (PBR) can indeed increase the earned ROE, but can Mr. Engen agree that this will only increase the market value if the increased ROE more than compensates for any increase in risk that the utility is subject to. Does Mr. Engen believe that PBR does not increase a utility's risk so higher ROEs are reflected in the market to book ratio?

i. Has Mr. Engen any evidence that purchasers of Canadian regulated assets pay a higher price to buy regulated assets subject to PBR? If he has please provide transaction details for the purchase of both types of regulated assets since 1990.

j. Can Mr. Engen please provide a worked example of a utility that is exactly earning its cost of capital and the size of the PBR efficiencies required to generate a market to book ratio of 1.80X.

k. Mr. Engen mentions access to other assets or collateral benefits with other assets, can Mr. Engen discuss in detail whether such benefits violate the stand alone principle or whether he simply means that the utility is charged higher prices than their cost when the services are provided by its parent.

15. Topic: Rate base growth, page 53

15.1 In table 1 Mr. Engen concocts an example where the immediate market to book ratio for the total rate base is 1.32X. Please provide the market to book ratio for the equity component given that the debt was assumed. For example, would Mr. Engen agree that if the equity ratio was 35% then the debt assumed was $406.9 and the book equity was $219.1, so that the value paid for the equity was $422.1 ($829-$406.9) and the market to book ratio based on the equity values was not 1.32X but 1.93X. If not please explain why not.

15.2 Would Mr. Engen agree that since the debt is assumed, the relevant market to book ratio is that based on equity values and not the total rate base? If he disagrees please provide a reference to the literature, such as Dr. Kolbe's book, that states that acquirers are interested in the rate base market to book, rather than equity market to book in an acquisition.

15.3 Mr. Engen adds future rate base expansion of $1,920 at book value to both the numerator and the denominator, that is, the market to book ratio of the incremental investment of $1,910 is assumed to be 1.0. Is this to indicate that Mr. Engen believes that the true market to book ratio for regulated assets earning a fair ROE should be 1.0X? If not please explain why he is assuming a market to book ratio of 1.0 in this example.

15.4 Please confirm that the 1.08 is simply a weighted average of the acquisition multiple of 1.32 and the incremental investment multiple of 1.0 with the weights the relative asset sizes; and that if we extend the time period, so that the incremental assets increase even more, we can drive the market to book as close to 1.0 as we want? If Mr. Engen does not agree please provide the market to book ratio based on new investment in regulated assets of $10 billion.

15.5 Please redo the example in Table 1 assuming that incremental assets have the same equity market to book as the average market to book of Canadian regulated utilities of 1.90X and a 40% common equity ratio.

16. Topic: EPS accretion, pages 58-62

16.1 Can Mr. Engen agree that EPS accretion/dilution is normally taught in a mergers and acquisitions course? Is Mr Engen part of the M&A team at BMO and has he ever taken an M&A course?

16.2 Is Mr. Engen aware that his accretion argument is also known as the "multiplier game" and was responsible for the conglomerate merger boom and crash of the 1960's? For example suppose a company with a PE multiple of 100 has earnings of $100. It will then have a market value of $10,000 and with 1,000 shares outstanding it has a price per share of $10. If it wants to buy a company with earnings of $100 and a PE of 10 it only has to issue 100 shares assuming it sells the shares at its market price. After the acquisition it will then have $200 in earnings and its EPS increases from $0.10 to $0.182 or $200/1100 shares. As long as a high PE ratio company sells shares to buy a low PE ratio company the earnings per share go up. Would Mr. Engen agree with the arithmetic in this example?

16.3 Further would Mr. Engen agree that after the acquisition the company now consists of a 90% high PE ratio division (10,000/11,000) and a 10% low PE ratio division, so that any sensible person would lower the PE multiple for the combined firm, so there is no value created by the transaction? Further would Mr. Engen agree that if investors are not

informed as to the nature of the transaction and the PE ratio is not lowered it results in a Ponzi scheme, whereby an acquirer can continue to make acquisitions as long as the market keeps applying a high PE ratio to its shares?

16.4 Is Mr. Engen aware that the conglomerate merger (ITT etc) wave of the 1960s was based on this multiplier (or accretion) game, since investors could not see that the increased earnings were from arithmetic, rather than organic growth? And that when it finally dawned on investors that these supposed high growth companies were a Ponzi scheme and had become a collection of low PE companies, the market crashed?

16.5 Can Mr. Engen agree that his examples are based on a PE above the inverse of the approved ROE which means that the fair ROE is below the allowed ROE and the shares trade at above book value since the regulator has not lowered the allowed ROE? Consequently, with a higher PE multiple resulting from an unfairly high ROE, the utility can make acquisitions of fairly regulated utilities trading at book value, and a lower PE, and then see accretion?