EB-2007-0905

Ontario Energy Board

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c.15, (Schedule B);

AND IN THE MATTER OF an Application by Ontario Power Generation Inc. pursuant to section 78.1 of the *Ontario Energy Board Act, 1998* for an Order or Orders determining payment amounts for the output of certain of its generating facilities.

Final Argument On Behalf Of

Energy Probe Research Foundation

July 21, 2008

TABLE OF CONTENTS

Final Argument On Behalf Of Energy Probe Research Foundation

How these Matters came before the Board

1. On November 30, 2007, Ontario Power Generation Inc. (the "Applicant" or "OPG"), filed an application with the Ontario Energy Board (the "Board") seeking an Order or Orders of the Board for approval of increases in payment amounts for the output of certain of its generating facilities, effective April 1, 2008.

2. Energy Probe Research Foundation ("Energy Probe") participated in the Board process leading up to this proceeding: EB-2006-0064, A Regulatory Methodology for Setting Payment Amounts for the Prescribed Generation Assets of Ontario Power Generation Inc., and subsequently, under the Board File Number, Filing Guidelines for Ontario Power Generation.

3. OPG made a request for the setting of Interim Rates by the Board as part of its Application, not only requesting interim rates but an increase in payment amounts in the interim. Energy Probe actively participated in the Issues Day on February 6, 2008 and the Motion for Interim Order on February 7, 2008. Energy Probe supported the request for an Order making the current payment amounts of OPG interim at April 1, 2008 but opposed an Order increasing the payment amounts as part of the Interim Order.

4. In its Oral Decision on the February 7, 2008, the Board ruled in favour of making the current rates of OPG interim as of April 1, 2008 but denied the request for increasing the payment amounts as part of the Interim Order.

5. On April 24, 2008, Energy Probe filed evidence in respect of Cost of Capital Issues.

6. Energy Probe did participate in the Technical Conference on May 13, 2008 and in that forum pursued evidence in respect of the Applicant's spending on advertising initiatives in support of nuclear generation in Canada.

Argument Overview

7. Energy Probe has conducted itself as an all issues intervenor throughout this proceeding.

8. In its Argument, Energy Probe will not seek to explore all outstanding Issues before the Board, but will be examining those Issues of concern to Energy Probe where we believe we can be of most assistance to the Board.

RATE BASE

Issue 1.1 Is the rate base appropriately determined in accordance with regulatory and accounting requirements?

Stand Alone Principle

9. Energy Probe agrees that the required revenues in respect of the Prescribed Facilities should be established on a stand-alone basis. Moreover, Energy Probe submits that the Prescribed Facilities should be operated on a stand-alone basis and questions whether the required segregation of activities of the Prescribed Facilities and the unregulated businesses of OPG can be achieved without transferring the Prescribed Facilities to a subsidiary.

10. OPG has indicated that it will achieve segregation by maintaining separate accounts. Energy Probe submits that this accounting-based segregation ensures that OPG will operate the Prescribed Facilities as a division of OPG rather than as a stand-alone entity, and that the financing and tax decisions regarding the Prescribed Facilities and OPG's unregulated businesses will be made on the basis of OPG's overall position,

11. Energy Probe believes that, because of the economic significance of the Prescribed Facilities to Ontario, it is important that financing and tax decisions thereon be made without reference to OPG's unregulated businesses so as to avoid cross-subsidy between the Prescribed Facilities and OPG's unregulated businesses.

12. Energy Probe submits that the Board should require that OPG transfer the Prescribed Facilities to a wholly-owned subsidiary even if it means that total taxes paid by that subsidiary and by OPG as required by the Electricity Act exceed the amount that would be paid by OPG if no subsidiary were established.

13. The subsidiary should have an actual, rather than a deemed, capital structure, deviations from which can, as Ms. McShane has indicated, be managed through the dividend policy.[1]

14. Energy Probe submits that if, in the alternative, the Board decides to allow OPG to manage the Prescribed Facilities as a division, the Board-approved capital structure should be maintained throughout the test period and reflected in the separate accounts of the Prescribed Facilities. While this approach will not maintain the required segregation for OPG's financing and taxation purposes, it may contribute to segregation in other areas.

[1] Exhibit C2/T 1/Sch. 1, p. 122

Plug

15. OPG states that it has used a provision for long-term debt to reconcile the debt component of OPG's regulated capital structure with the proposed rate base that financing supports.[2] Energy Probe submits that the provision for long-term debt ($758.9 million at December 31, 2008[3]; $573.2 million at December 31, 2009[4]) arises only as an accounting adjustment needed to equate assets of the Prescribed Facilities with the liabilities and net worth thereof and is not related to the operations of the Prescribed Facilities.

16. OPG has indicated that such debt will not be issued; nevertheless it has assigned a cost to that debt which cost is included in its cost of capital. In his oral evidence, Dr. Schwartz stated that this debt was not governed by a trust indenture and will not be serviced. He concluded that such debt is more accurately accounted for as equity than debt.

17. Energy Probe submits that the provision for long-term debt should be accounted for as equity. Accordingly, OPG's common equity account for the Prescribed Facilities at December 31, 2008 should be increased from $4, 255.5[5] million to $5,014.4 million. Similarly, OPG's common equity account at December 31, 2009 should be increased from $4,228.4[6] million to $4,801.6 million.

18. Energy Probe accordingly submits that the interest expense that OPG has attributed to the provision for long-term debt should be removed from its projected income statements for financial, regulatory and tax reporting regarding the Prescribed Facilities in the test period.

---

[2] Exhibit C1/T 1/Sch. 2, p.5
[3] Exhibit C1/T 2/Sch. 1, Table 3
[4] Exhibit C1/T 2/Sch. 1, Table 2
[5] See footnote 3, supra
[6] See footnote 4, supra

19. Energy Probe submits that this re-classification of the provision for long-term debt into equity will result in an unacceptably low debt/equity ratio and an over-payment to the shareholder.

20. Energy Probe further submits that if the Board has discretion to adopt a different return on equity in respect of the additional equity, then it should adopt a 0% rate, effectively treating this source of equity as no-cost capital for regulatory purposes.

21. Energy Probe observes that the need for an accounting adjustment would not arise if the Prescribed Facilities were transferred to a wholly-owned subsidiary with an approved capital structure.

CAPITAL STRUCTURE AND COST OF CAPITAL

Issue 2.1 What is the appropriate capital structure for OPG's regulated business for the 2008 and 2009 test years? Should the same capital structure be used for both OPG's regulated hydroelectric and nuclear businesses? If not, what capital structure is appropriate for each business?

Capital Structure

22. Energy Probe submits that the equity-oriented capital structure proposed by Ms. McShane is inappropriate. It ignores the significant equity already present in the form of implicit Provincial support for the debt of the Prescribed Facilities, as Dr. Schwartz pointed out. This support influences the terms on which OPG can finance the Prescribed Facilities. Moreover, although Ms. McShane draws on the familiar Modigliani-Miller theorems on capital structure in conventional finance, she fails to draw the appropriate conclusion, i.e. that leverage is value-maximizing when a firm is taxable. Since it appears that Ms. McShane accepts that OPG is taxable, her recommendation on capital structure should have provided for a debt-oriented, rather than an equity-oriented, capital structure.

23. **In addition, Ms. McShane provides evidence of a U.S. sample of utilities in which the debt ratio exceeds 50% when measured at book value.[7] It is noteworthy that, while Ms. McShane states that these utilities achieve high ROE's, she does not attribute this result to high allowed ROE's granted by regulators. Indeed, it is likely that the explanation for these high reported ROE's is to be found in the financial leverage resulting from the relatively high debt/equity ratio.**

24. **Dr. Schwartz observed that the substitution of debt could address the agency costs that arise when a firm has too much equity. He observed that the existence of the Memorandum of Agreement between OPG and the Province and the statement therein of the Province's right in law to issue special directives indicate that these costs are non-trivial. Since OPG is wholly-owned by the Province, the other conventional means of controlling agency costs (such as management shareholdings) are not available. Moreover, the Province does not attempt to maximize the value of its investment in OPG; rather, it pursues a variety of goals in the public interest. Accordingly, substituting debt for equity in the capital structure can provide greater financial discipline on management than would an equity-oriented capital structure.**

25. **Dr. Schwartz called attention to Professor Gordon's observation that investor-owned electric utilities prefer conservative capital structures. Professor Gordon observed that too little debt imposes a cost on consumers because the cost of debt is lower than the cost of equity, while having too much equity benefits the managers and the stockholders.[8]**

26. **Energy Probe submits that the available evidence supports both the need for, and the viability of, a debt-oriented capital structure. Accordingly, the Board should require a capital structure of 55% debt and 45% equity as recommended by Dr. Schwartz.**

---

[7] Exhibit C2/T 1/Sch. 1, p. 90
[8] Schwartz Report at para. 59.

Issue 2.2 What is the appropriate return on equity (ROE) for OPG's regulated business for the 2008 and 2009 test years? Should the ROE be the same for both OPG's regulated hydroelectric and nuclear businesses? If not, what is the appropriate ROE for each business?

Evaluation of Proposed Revenue Requirement

27. OPG requests approval for a revenue requirement of approximately $6.4 billion[9] for the test period. Energy Probe submits that, regardless of how OPG arrived at this amount, the Board should adopt that figure provisionally and determine the appropriateness thereof by capitalizing (or valuing) the resulting cash flow generated by the Prescribed Facilities at the Board-approved capital structure and costs of debt and equity. If the Board finds that the resulting asset value is reasonable, then it should accept OPG's proposed revenue requirement if it is otherwise satisfied with OPG's evidence on cash flow.

28. Energy Probe is well-aware that OPG's proposed revenue requirement contains OPG's requested cost of capital which is in excess of $1 billion[10] for the test period. Nevertheless, Energy Probe submits that the cash flow analysis performed by Dr. Schwartz asks the proper question: "How much internally generated cash is available to fund investor returns after OPG's approved operational, working capital and capital expenditure outlays for the Prescribed Facilities have been made?" This is the proper starting point for a conventional valuation because internally-generated cash flow (i.e. cash flow from assets) is the basis of value. On the basis of his cash flow analysis, that amount is $649.4 million on an after-tax basis for the test period.

[9] Exhibit A1/T 2/Sch. 2, p.4

[10] Exhibit K1/T 1/Sch. 1, Tables 1, 2

29. Energy Probe notes that no criticism has been made of Dr. Schwartz' method of valuing the Prescribed Facilities on the basis of cash flow from assets or his measurement of that cash flow. The concerns raised by OPG appear to be that (1) he has not followed the conventional regulatory approach and (2) his estimate of future cash flow is incorrect.

30. In response to the former criticism, Energy Probe acknowledges that Dr. Schwartz has not followed the conventional approach, because that was the object of his financial evaluation. Energy Probe further submits that OPG's requested cost of capital does not withstand conventional financial analysis. Simply put, if cash flow from assets did allow OPG to make payments to investors of $1 billion in the test period then the value of the Prescribed Facilities would be significantly higher than indicated by Dr. Schwartz' valuation. However, only $649.4 million is available. As discussed below, this does not mean that the proposed revenue requirement is necessarily incorrect, but it does mean that the requested cost of capital is seriously over-stated.

31. In response to the second concern, Dr. Schwartz acknowledges in his written submission[11] that it would be inappropriate to value the Prescribed Facilities on the assumption that cash flow in future test periods would remain at $649.4 million in perpetuity. However, the available evidence does not provide information on future cash flow and so he made the only reasonable assumption that the evidence allows, that cash flow would increase with the rate of inflation indicated by OPG. Hence, the cash flow from assets is a perpetuity only in inflation-adjusted terms. He then generated the cash flow stream and valued it using the cost-of-capital and capital structure recommended by OPG's expert, Ms. McShane, and then using his own recommendations.

[11] Report of Lawrence P. Schwartz, Ph.D., April 24, 2008 Ex. M, Tab 6 ("Schwartz Report"), at para,40

32. Energy Probe acknowledges that, as Dr. Schwartz testified, he has not previously given evidence in energy-related hearings. It appears that his approach has not been used in previous cost-of-capital proceedings at the Board and may, therefore, appear unfamiliar to the parties. Energy Probe submits, however, that bringing a new or different approach can be helpful to the Board.

33. Energy Probe submits that if that capitalization of cash flow is done at the cost of equity (10.5%) and capital structure (57.5% equity/42.5% debt) recommended by OPG's expert, Ms. McShane, then the resulting fair market value of the Prescribed Facilities is approximately $6,201 million[12]. Since OPG's estimated book value of those assets is approximately $7,401 million for calendar 2008[13], Dr. Schwartz' estimated fair market value under Ms. McShane's recommendations is approximately 84% of the book value of the Prescribed Facilities.

34. Energy Probe submits that, on this valuation, the Board must find either that OPG's proposed revenue requirement is too low, or that the ROE and capital structure recommendations of Ms. McShane are inappropriate. As detailed further below, Energy Probe believes that Ms. McShane's recommended ROE and equity ratio are too high and that this is why the estimated market value based thereon is so low. It is conventional financial analysis that a higher discount rate produces a lower discounted present value.

35. Using Dr. Schwartz' recommended cost of equity (7.64%) and capital structure (55% debt/45% equity), the resulting fair market value of the Prescribed Facilities is approximately $9,885 million[14], which is 134% of OPG's planned book value of assets. Stated differently, the market/book ratio of assets is 1.34 times.

---

[12] Evidence of Energy Probe Research Foundation-Update, Exhibit M Tab 6.1 ("Schwartz Update") at p.3, para. 7.
[13] Exhibit B1/T 1/Sch. 1, Tables 1, 2
[14] Schwartz Update, at para. 9.

36. Energy Probe submits that the $9.9 billion valuation is plausible and is reasonable based on the available evidence and, therefore, the Board should accept it. If the Board accepts this estimate of fair market value then, since it is based on the cash flow from assets using OPG's proposed revenue requirement, the Board should also accept that revenue requirement.

37. In response to a question from the Board Panel during Dr. Schwartz' oral evidence, there is no reason to reduce the revenue requirement if the Board accepts Dr. Schwartz' recommended ROE and capital structure and the resulting estimated fair market value.[15]

Evaluation of Shareholder Return

38. Since Dr. Schwartz' recommended capital structure is 45% equity, the estimated fair market value of equity of the Prescribed Facilities is 45% of $9,885 million, or approximately $4,448 million.

39. It is useful to compare this market value with the planned book value of equity. Since OPG adopts Ms. McShane's equity ratio of 57.5%, the planned book value of equity for 2008 is 57.5% of $7,401 million, or approximately $4,256 million. Accordingly, the market/book equity ratio is approximately 1.05.

40. Energy Probe submits that this market/book ratio is consistent with Ms. McShane's view that, according to the "fairness principle", the regulator should allow a slight premium over book value.[16] She also reports that market/book equity ratios for the overall Canadian equity market averaged 1.7 times from 1980-2006

[15] Transcript, Volume 14, June 19, 2008. Question of Mr. Rupert, p.25
[16] Exhibit C2/T 1/Sch. 1, p.42

and 2.1 times from 1994-2006.[17] Accordingly, the market/book equity ratio of 1.05 that Dr. Schwartz' valuation suggests cannot be taken as too high. Thus, the Board has another reason to accept that Dr. Schwartz' valuation is reasonable.

41. As Dr. Schwartz' recommended ROE is 7.64% per annum (equivalent to approximately 13.75% for the test period), the return to the shareholder is approximately $454.6 million in the test period.[18]

42. This shareholder return is well below the approximately $779 million cost of equity proposed by OPG for the test period.[19] This figure is reached by applying Ms. McShane's recommended ROE and capital structure to the book value of the rate base.

43. There are two principal reasons for the differences between Dr. Schwartz' shareholder return and OPG's amount. First, Dr. Schwartz' ROE and equity ratio are both lower than Ms. McShane's recommendations. Second, Dr. Schwartz has used solely market returns and estimated fair market values of assets and equity, whereas OPG has applied a market-based ROE estimate to its book value of equity.

44. Energy Probe submits that if the Board accepts Dr. Schwartz' estimated fair market value of assets, it must accept his estimated equity market value. On this basis, the Board will find that OPG's shareholder return over-compensates the shareholder. Energy Probe submits the Board should approve a shareholder return

---

[17] Exhibit C2/T 1/Sch. 1, p.179

[18] Dr. Schwartz used the constant-growth dividend discount formula in his asset valuation, so it is also relevant for valuing the equity portion thereof. Using rounded-off figures, if the market value of equity (V_E) is $4,448 million, then the shareholder payment in the test period (P) is calculated according to the formula:

$$V_E = P/(r_E\text{-}g)$$

where r_E is the test-period equity cost (13.75%) and g, the growth rate, is the test-period rate of inflation (3.53%). Hence,

$$4448 = P/(0.1375\text{-}0.0353)$$

Solving for the payment, P= $454.6 million. Using exact numbers, the precise payment figure is $454.8... million.

[19] Exhibit K1/T 1Sch. 1, Tables 1, 2. Also provided in Schwartz Report at para. 5.

of $454.6 million for the test period.

Equity Risk Premium

45. Energy Probe submits that Ms. McShane's estimate of the equity market risk premium over the long-term government bond yield is seriously over-stated. Her approach was to estimate a long-term return on equities of 11.5%-12.25% per annum and to subtract therefrom the long-term government bond yield. The resulting 6.5% premium contributes to an over-estimate of the cost of equity and should not be accepted.

46. In his written evidence, Dr. Schwartz' estimate of the equity market premium is 6.7% over the Treasury bill yield. OPG calls this evidence into question on the basis that it is based on only 13 years of historical data. Energy Probe points out that, in his oral evidence, Dr. Schwartz handed up an extract from the finance text authored by Professors Brealy and Myers et al.[20] that shows, in Table 9.1, that the average Canadian equity market risk premium over Treasury bills was 6.6% over the period 1926-1992. Dr. Schwartz' own calculations merely show that the average equity risk premium over Treasury bills over the last 13 years is entirely consistent with the long-term evidence on the premium.

47. Energy Probe submits that this evidence illustrates the serious flaw in Ms. McShane's evidence. As Dr. Schwartz stated in his oral evidence, the expected return on equity may be estimated using either the long-term government bond yield or the Treasury bill yield and that the former is normally higher than the latter. Accordingly, the premium over the long-term government bond yield must be lower than the premium over Treasury bills. However, at 6.5%, Ms. McShane's equity market risk premium over the long-term government bond yield is virtually

[20] R.M. Giammarino, E.M. Maynes, R.A. Brealy, S.C. Myers and A.J.Marcus, Fundamentals of Corporate Finance, First Canadian Edition, McGraw-Hill, 1995, Table 9.1 at p.212. The surrounding text makes it clear that the yields on government bonds are for long-term government bonds.

identical to the 6.6% historical premium over Treasury bills. With respect, Ms. McShane's estimate cannot be correct, particularly when her method of calculating that estimate is taken into account.

48. To further illustrate the issue, Energy Probe calls attention to the above-mentioned extract from the Brealy and Myers text. Table 9.1 thereof presents evidence from 1926-1992 that the average annual rate of return to Canadian common stocks was 11.4%. The Table also shows that long-term government bonds provided an average annual return of 5.8%. The difference of 5.6% is the average equity market risk premium over the long-term government bond yield. Accordingly, Ms. McShane's estimated equity market risk premium of 6.5% over the long-term government bond yield is significantly larger than the evidence from the period 1926-1992 suggests.

49. Energy Probe submits that there are other reasons for rejecting Ms. McShane's equity market risk premium. As Dr. Schwartz pointed out, her expected return on equities of 11.5%-12.25% is too high when the current 3-month Treasury bill yield is below 3%. Casual observation of current economic and financial conditions supports the view that the expected return on equities over the test period is much lower.

Risk-Free Rate of Return

50. Energy Probe accepts that the equity market risk premium can be estimated either as the appropriate premium over the long-term government bond yield or as the appropriate premium over the Treasury bill yield. Dr. Schwartz stated that both approaches are used and both are flawed. One problem with the long-term bond yield is that, unless the premium therein for holding a longer-term instrument (the "term premium") is removed, then that yield over-states the risk-free rate of return. Ms. McShane appears to agree with this, but maintains that the long-term

government bond yield should be used without such adjustment.

51. Energy Probe also accepts that using the Treasury bill yield as the risk-free rate is not free of problems because it fluctuates. In recognition of this, Dr. Schwartz did not use the current Treasury bill yield. Instead, he used the highest such yield (3.24%) he found over the course of his research, which works to the benefit of OPG.

52. Energy Probe submits that if the Board accepts the long-term government bond yield as the risk-free rate of return, it should also accept that the appropriate equity risk market premium must be lower than the appropriate premium over Treasury bills. On this basis, it should reject Ms. McShane's equity market risk premium of 6.5% over long-term government bonds as submitted above.

ROE/Cost of Equity

53. Energy Probe submits that the 10.5% annual rate of return on equity recommended by Ms. McShane is too high, leads to an under-valuation of the Prescribed Facilities and over-compensates the shareholder.

54. Energy Probe submits that, despite Ms. McShane's criticisms, the Capital Asset Pricing Model ("CAPM") is a valid method of estimating the market-based expected return on equity and should be used in preference to other approaches as long as the resulting estimate is reasonable. As Dr. Schwartz showed in his oral evidence, CAPM is broadly accepted in the finance community and is discussed at length in conventional finance textbooks. Further, no other finance theory has been proposed that would be both superior and workable. His evidence was not contradicted.

55. Second, as indicated in his Report, Dr. Schwartz believes that the broad evidence is that investors do diversify and that, consistent with CAPM, expected returns on equities reflect market risk and exclude unsystematic or firm-specific risk. However, Ms. McShane's 10.5% estimated ROE includes compensation for risks faced by OPG in respect of the Prescribed Facilities that are firm-specific. In recommending compensation for risks that investors, but not OPG, can diversify against, her proposed ROE is again too high.

56. Third, Ms. McShane's ROE estimate is an average of three methods of arriving at the cost of equity. Two of these, CAPM and DCF, give very similar results, but the "comparable earnings" method gives a substantially higher estimate. Energy Probe calls attention to the fact that, in averaging these estimates, she attached a 25% weight to the result of the comparable earnings method.[21]

57. Energy Probe submits that the 25% weight is arbitrary and without support. The Board should disregard the impact of the comparable earnings approach.

58. Energy Probe further submits that adding 50 basis points to the average ROE estimate for financial flexibility is unwarranted. OPG will not issue shares so requires no compensation for flotation costs. If there is merit in the claim that the "fairness principle" requires regulators to allow an ROE such that the market value of equity exceeds the book value by a small premium then, as shown above, this premium is produced by Dr. Schwartz' valuation without adding the 50 basis points.

59. Energy Probe submits that the proposed ROE of 10.5% is over-stated and leads to over-compensation of the shareholder. It should be rejected.

[21] Response to Energy Probe Interrogatory #22 (f). Ex. L-T6-S22

Dr. Schwartz' ROE Estimate

60. Energy Probe submits that the weighted average cost of capital proposed by Dr. Schwartz, based on 55% debt and 45% equity and the 7.64% cost of equity, is reasonable and that the asset value of approximately $9.9 billion resulting from the capitalization process is therefore reasonable.

61. Dr. Schwartz used the CAPM to derive his recommended cost of equity of 7.64%. As noted above, he used a risk-free Treasury bill rate (3.24%) that is higher than the current yield and an equity market risk premium for Canadian equity of 6.7% that is virtually identical to the long-term historical premium. He adjusted that premium for market risk using the 0.65 adjusted beta, the middle of Ms. McShane's range for the median Canadian utility.[22]

62. Energy Probe submits that this procedure provides a better estimate of the cost of equity for the Prescribed Facilities than the 10.5% estimate provided by Ms. McShane. The ultimate test, however, is whether an estimated ROE and capital structure produce a plausible and reasonable estimate of fair market asset value. Ms. McShane's recommendations support a fair market value of $6.2 billion that is substantially below book value and hence implausible.

63. Dr. Schwartz' 7.64% ROE and capital structure indicate a fair market value of $9.9 billion, 1.3 times book value of assets. His market/book equity ratio is 1.05. His valuation is plausible, and also reasonable when judged against conventional market/book ratios.

[22] That range is 0.63-0.68. Ex. C2-T1-S1,p.36.

Final Submissions on Cost of Capital

64. Energy Probe submits that the Board should approve an ROE of 7.64% and a capital structure of 55% debt and 45% equity.

65. On this basis, the Board should accept OPG's proposed revenue requirement.

66. The Board should reject Ms. McShane's recommended ROE and capital structure.

67. The Board should also reject OPG's proposed shareholder return in favour of the amount of $454.6 million for the test period.

PRODUCTION FORECASTS

Issue 4.2 Has the methodology been appropriately applied to create the production forecasts?

68. As we indicate below under Issue 5.1, we believe it would be reasonable for the Board to withhold payments to OPG for the operation of some or all of the Pickering reactors. Should the Board agree, it would follow that the proposed nuclear business production forecast has overstated production from the affected reactors.

69. Even if the Board should reject our recommendation in this regard, we argue below that it would be imprudent for the Board to accept OPG's promises of improved long-term nuclear performance in return for unusually high short-term OM&A spending. Accordingly, we expect Pickering's future performance to continue to disappoint, compared to OPG's forecasts.

70. Specifically, we urge the Board to apply appropriate levels of skepticism to OPG's ever-improving forecasts of its nuclear Forced Loss Rate, as discussed extensively in Tr. Vol. 5, pages 129-132, in the underlying Ex. L/T6/S29, page 1, in the ensuing Undertaking Ex. J5.10, and in discussions with Messrs. Rupert and Kaiser at Tr. Vol. 5, pages 147-155.

71. We believe this entire exchange of evidence – including OPG's concession in Ex. J5.10 that a single problem in Pickering Unit 7 will singlehandedly shift Pickering B's FLR from a forecast 6.2% to a now-likely 16.1%, and the FLR for OPG's entire nuclear division from a forecast 5.1% to a now-likely 8.2% -- shows that OPG apparently has an inexhaustible supply of both nuclear confidence and nuclear disappointments.

72. Indeed, it is worth remembering that Pickering is OPG's, and Ontario's oldest nuclear installation, and that the two Pickering-A received an enormously expensive refurbishment to bring their material state to as high a standard as practicable. If there are reactors anywhere whose supply of "nasty surprises" should by now finally be depleted, surely these are the reactors. But no.

73. As the Chair characterized the record at Pickering A in Tr. V. 5, page 153, lines 10-28, the FLR forecasts have steadily improved, year over year, despite the fact that actual FLRs have consistently disappointed. And as OPG's Mr. Gonsalves conceded at the top of Tr. V. 5, page 155, Pickering-A has managed to produce another disappointing FLR in the first quarter of this year. The supply of "nasty surprises" in OPG's oldest, most studied, and most refurbished reactors simply shows no sign of depletion.

74. OPG’s forecast of a 5% Forced Loss Rate in its overall nuclear fleet is now virtually certain not to come true in 2008, and we would submit that OPG’s FLR forecast is not credible for 2009 or any subsequent year, either.

75. If these reactors were low-cost generators, it might be reasonable to simply adjust their expected FLRs, and by doing so, raise their regulated payments per MWh. But they already appear to be grossly economic, as argued below.

OPERATING COSTS

Issue 5.1 Are the Operation, Maintenance and Administration (“OM&A”) budgets for the prescribed hydroelectric and nuclear business appropriate?

76. It would appear from the totality of the evidence that one or two of OPG's prescribed nuclear facilities -- Pickering A and perhaps also Pickering B -- have been generating electricity, and are likely to continue generating electricity, at avoidable costs that significantly exceed the HOEP, or any other reasonable measure of the value of that electricity. Remarkably, those excessive costs exclude OPG's capital or depreciation costs, as well as that part of the capital costs of OPG's nuclear stations that was diverted to the Debt Retirement Charge on our electricity bills. In short, these facilities are apparently grossly uneconomical even when judged solely on the basis of their truly avoidable costs. (We will leave it to other parties in this Hearing to document the precise quantum of these excessive costs.)

77. We would urge this Board -- in its brand-new role as financial regulator of Ontario's nuclear generators -- to withhold payments to operate any Board-regulated generator that is likely, or virtually certain, to raise the cost of power to Ontario's electricity customers, compared to the case where that generator simply does not operate. Given the safety risks, toxicity, waste generation, grid-reliability risks, costs, and operational inflexibility of these particular stations, and the

impressive amount of Ontario's wealth they have already consumed, we can see little justification for the Board to compel customers to pay OPG to run them at above-market avoidable costs.

78. If the Board should be hesitant to withdraw these payments for fear that Ontario will run short of generating capacity, it should (a) take comfort from 2007, when Ontario survived well with no power from either reactor of Pickering-A through the peak summer season, and/or (b) require OPG and other parties to deal with that issue at the next OEB hearing on the payments for these facilities.

79. Furthermore, we would urge the Board, in general, to be wary of accepting promises that expensive investments in nuclear upgrades will bear fruit in future reliable performance or life-extension. We would urge the Board to be especially wary of accepting such promises from any regulated producer (like OPG) that is currently seeking a financial guarantee for the non-performance of its nuclear facilities, in the form of 25% fixed payment, regardless of electrical production. Ontario's ratepayers have paid, and are still paying, the price of many earlier broken nuclear promises, made without the Board's regulatory oversight. Any future broken promises can only be funded with this Board's explicit approval, and we would urge you to withhold that approval wherever it is reasonable to do so.

Issue 5.4 Are the corporate costs allocated to the regulated hydroelectric and nuclear businesses appropriate?

80. Energy Probe is concerned that some of the payment amounts for OPG's prescribed nuclear facilities are being directed to public-relations activities that are not worthy to receive such payments from rates. These activities are outlined in Exhibits JT1.2, J4.2, J8.10, J8.11, and J8.12, and in *viva voce* testimony at Tr. Vol. 8, pages 104-125.

81. Specifically, some of these OEB-regulated funds are being spent in an attempt to change public opinion on a number of important and controversial issues of public policy upon which Ontario's citizens -- and Ontario's major political parties -- are divided, or simply to enhance the corporate image of OPG, or to enhance the image of the nuclear industry as a whole. These funds are being spent in several different ways -- by OPG directly, by advertising firms and others retained by OPG directly, by the Canadian Nuclear Association (a nuclear-industry lobby group) directly with funding from OPG's regulated revenues, and by advertising firms and others retained by the Canadian Nuclear Association with funding from OPG's regulated revenues.

82. Among the internally stated aims of this spending are the following:

- **"proactively supporting increased new [nuclear] generation development activity" (J4.2, Att. 1, 2nd page)**
- **"Support a Pickering B refurbishment decision: Garner support - employees, community and government" (J8.11, Att. 1, page 4)**
- **"Support Darlington new build campaign" (J8.11, Att. 1, page 4)**
- **"Mitigate anti-nuclear tactics (specifically-related to OPG)" (J8.11, Att. 1, page 4)**
- **"Move forward the top 30 per cent 'opinion shapers' who influence opinion leaders: targeted earned media, enhanced nuclear advertising, other targeted outreach initiatives" (J8.11, Att. 1, page 6)**
- **"Strategic identification and proactive actions to address potential issues: CNSC, NGOs, Refurb, New Build" (J8.11, Att. 1, page 7)**
- **"Pickering positioned as safe generation workhorse for the province - the beacon for the Canadian nuclear industry" (J8.11, Att. 1, page 9)**

83. While the quantum of spending -- approximately $6 million for all nuclear advertising during the test period (JT1.2) -- is not very large as a fraction of OPG's total proposed payments for its prescribed facilities, we would urge the Board to withhold all payments that are destined to be spent on these activities, on the grounds that regulated ratepayer funds of this kind should not be directed toward political or controversial public-relations activities, or the aggrandizement of OPG's image or that of the nuclear industry. In effect, the vast majority of Ontario's electricity consumers are currently being compelled to pay for a number of campaigns to change their views on important and controversial issues of public policy. Should this Board approve OPG's application for continued funding for these activities in 2008 and 2009, it will be complicit in this inappropriate compulsion.

84. We note here that it is a matter of public record that the wisdom of nuclear generation development in Ontario and the optimum pace or extent of such development (if any), are issues which not only divide thoughtful Ontarians, they strikingly and clearly divided all three of Ontario's major (elected) parties as recently as the past provincial election, and they continue to do so inside and outside the House of Commons. In short, these issues -- and any public-relations expenditures dealing with them -- are undeniably "political" in every sense of the word in Ontario. We would also submit that nobody who has attended the Board hearings on this matter (or on the IPSP) could reasonably doubt that the issue of nuclear power and its role in Ontario's electricity supply constitutes a "controversial issue of public importance". Indeed, Energy Probe submits that much of OPG's own self-justification of its nuclear-advertising expenditures -- e.g., in Ex. J4.2, pages 1-2 -- would be rendered meaningless or nonsensical if nuclear power were not obviously a "controversial issue of public importance".

85. While we believe the Board has broad and general powers to include or exclude expenditures of this type in regulated payments, based solely on the Board's view of whether or not inclusion is in the best interest of ratepayers, it may be of some comfort to know that a large number of other jurisdictions have already taken the sort of action that Energy Probe is urging this Board to take today. While we have by no means performed an exhausting search for precedents, a simple online search has turned up quite a few, including the following:

> **Precedents for excluding controversial or "political" or "institutional" public-relations activities from rates:**
>
> **[We have added *emphasis* to the quotes as an aid to the reader. All *italics* in the quotations are ours, not found in the original.]**
>
> **The US government, through the Public Utilities Regulatory Policy Act (PURPA -- online at http://uscode.house.gov/download/pls/16C46.txt), has given State-level regulators guidance to prohibit the use of regulated payments to electricity utilities for the purposes of "political" or "promotional" advertising:**
>
> > **16 USC Sec. 2623 01/03/2007**
> > **TITLE 16 - CONSERVATION**
> > **CHAPTER 46 - PUBLIC UTILITY REGULATORY POLICIES**
> > **SUBCHAPTER II - STANDARDS FOR ELECTRIC UTILITIES**
> > **Sec. 2623. Adoption of certain standards**
> >
> > **. . .**
> >
> > **(b) Establishment**
> >
> > **The following Federal standards are hereby established:**
> >
> > **. . .**
> >
> > ***(5) Advertising***
> >
> > ***No electric utility may recover from any person other than the shareholders (or other owners) of such utility any direct or indirect expenditure by such utility for promotional or political advertising as defined in section 2625(h) of this title.***

16 USC Sec. 2625
Sec. 2625. Special rules for standards
. . .
(h) Advertising

(1) For purposes of this section and section 2623(b)(5) of this title -

(A) The term "advertising" means the commercial use, by an electric utility, of *any media*, including newspaper, printed matter, radio, and television, in order to transmit a message to a substantial number of members of the public or to such utility's electric consumers.

(B) The term "political advertising" means any advertising for the purpose of influencing public opinion with respect to legislative, administrative, or electoral matters, or with respect to any controversial issue of public importance.

(C) The term "promotional advertising" means any advertising for the purpose of encouraging any person to select or use the service or additional service of an electric utility or the selection or installation of any appliance or equipment designed to use such utility's service.

(2) For purposes of this subsection and section 2623(b)(5) of this title, the terms "political advertising" and "promotional advertising" *do not include* -

(A) advertising which informs electric consumers how they can conserve energy or can reduce peak demand for electric energy,

(B) advertising required by law or regulation, including advertising required under part 1 of title II of the National Energy Conservation Policy Act [42 U.S.C. 8211 et seq.],

(C) advertising regarding service interruptions, safety measures, or emergency conditions,

(D) advertising concerning employment opportunities with such utility,

(E) advertising which promotes the use of energy efficient appliances, equipment or services, or

(F) any explanation or justification of existing or proposed rate schedules, or notifications of hearings thereon.

The corresponding federal (US) guidance regarding natural-gas utilities is virtually identical, and found in 15 USC Sec. 3203, 01/03/2007, TITLE 15 - COMMERCE AND TRADE, CHAPTER 59 - RETAIL POLICIES FOR NATURAL GAS UTILITIES, Secs. 3203 and 3204. Available online at http://uscode.house.gov/download/pls/15C59.txt .

In addition, many State regulators have expressly excluded several types of advertising expenditures from the rates of their electric utilities, including the following examples, all available online:

> **State of Utah Rule R746-406. Advertising by Electric and Gas Utilities. As in effect on May 1, 2008. Available online at http://www.rules.utah.gov/publicat/code/r746/r746-406.htm :**
>
> **"R746-406-1. General Provisions.**
>
> **Except as provided in Subsection C, no electric or gas utility may recover from a person, other than shareholders or other owners of the utility, a direct or indirect expenditure by the utility for *political, promotional or institutional advertising*.**
>
> **A. For the purposes of this rule:**
>
> **1. The term "advertising" means the commercial use, by an electric or gas utility, of media, including newspaper, printed matter, radio, and television, in order to transmit a message to a substantial number of members of the public or to the utility's consumers.**
> **2. The term *"political advertising" means advertising for the purpose of influencing public opinion with respect to legislative, administrative, or electoral matters, or with respect to an issue of public dispute.***
> **3. The term "promotional advertising" means advertising for the purpose of encouraging a person to select or use the service or additional service of an electric or gas utility or the selection or installation of an appliance or equipment designed to use that utility's service.**
> **4. The term *"institutional advertising" means advertising which is designed to create, enhance, or sustain an electric or gas utility's public image or good will with the general public or the utility's customer.***
>
> **B. For the purposes of this rule, the terms "political advertising," "promotional advertising," and institutional advertising" *do not include*:**
>
> **1. advertising which informs consumers how they can conserve energy, use energy wisely, or reduce peak demand for energy;**
> **2. advertising required by law or regulation, including advertising required under Part 1 of Title II of the National Energy Conservation Policy Act;**
> **3. advertising regarding service interruption, safety measures, or emergency conditions;**
> **4. advertising concerning employment opportunities with the utility; or**

5. an explanation of existing or proposed rate schedules, or notifications of hearing thereon, or
6. information about the availability of energy assistance programs.

C. Notwithstanding the foregoing provisions, expenditures relating to promotional and institutional advertising may be recovered in rates if the Commission has found, after due consideration in either a rate case or separate proceeding prior to implementation, that the advertising is in the public interest."

The State of Maine, at http://maine.gov/sos/cec/rules/65/407/407c083.doc , has adopted a similar set of prohibitions, and also requires annual reporting of all such expenditures. The expenditures are permitted, and are also deductible from taxable income, but they may not be recovered as expenses in rates.

". . . no public utility shall recover from any person other than its shareholders or other owners. . ."

[At the time of drafting this argument, we note that the server at http://maine.gov is failing to produce the aforementioned document. But it is also available from Google in HTML format at http://72.14.205.104/search?q=cache:OliYlEj8T84J:maine.gov/sos/cec/rules/65/407/407c083.doc .]

The State of Kentucky -- online at http://www.lrc.ky.gov/kar/807/005/016.htm -- has adopted an overarching principle in this matter:

"(1) No advertising expenditure of a utility shall be taken into consideration by the commission for the purpose of establishing rates unless such advertising will produce a material benefit for the ratepayers."

Kentucky, like most jurisdictions, expressly includes both direct advertising costs incurred by the utility itself, and "those costs of advertising incurred by contribution to third parties, including parent and affiliated companies." We would submit that OPG's contributions to CNA's "political" and "institutional" advertising (see definitions below) would and should be excluded from rates under this rule.

In addition to the overarching principle, Kentucky lists advertising costs that are expressly excluded from rates:

Section 4. Advertising Disallowed. (1) Advertising expenditures for *political, promotional, and institutional advertising* by electric or gas

utilities *shall not be considered as producing a material benefit to the ratepayers and, as such, those expenditures are expressly disallowed for rate-making purposes.*

(a) *"Political advertising" means any advertising for the purpose of influencing public opinion with respect to legislative, administrative, or electoral matters, or with respect to any controversial issue of public importance.*

(b) "Promotional advertising" means any advertising for the purpose of encouraging any person to select or use the service or additional service of an energy utility, or the selection or installation of any appliance or equipment designed to use such utility's service.

(c) *"Institutional advertising" means advertising which has as its sole objective the enhancement or preservation of the corporate image of the utility and to present it in a favorable light to the general public, investors, and potential employees.*

The State of North Carolina, in Rule 12-13 -- available online at http://ncrules.state.nc.us/ncac/title%2004%20-%20commerce/chapter%2011%20-%20utilities%20commission/04%20ncac%2011%20r12-13.html -- similarly excludes the costs of "*political or promotional advertising*" from rates, and further requires the inclusion in all such ads of a statement similar to the following:

"THIS MESSAGE IS NOT PAID FOR BY THE CUSTOMERS OF (the electric or natural gas utility sponsoring the advertisement). "

Even within categories that are considered proper for inclusion in rates -- see Rule 12-12, online at http://ncrules.state.nc.us/ncac/title%2004%20-%20commerce/chapter%2011%20-%20utilities%20commission/04%20ncac%2011%20r12-13.html -- North Carolina retains the right to disallow such "expenditures [which] may have exceeded a reasonable level or amount" from rates, and offers the following two tests for inclusion:

(1) the advertising is of benefit to the using and consuming public, or

(2) the advertising enhances the ability of the public utility to provide efficient and reliable service.

The State of Oklahoma originally went even farther, and completely banned its utilities from making expenditures for "institutional advertising". But by doing so, it ran afoul of the law, as determined by the Supreme Court of Oklahoma in STATE v. OKLAHOMA GAS AND ELECTRIC COMPANY, 1975 OK 40, 536 P.2d 887, Case Number: 46255, 46283, 46287, 46234, Decided: 03/11/1975, available online at http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=46958 .

The Court found as follows:

> **¶43 Rule 3(a)(2)** ***prohibits utilities from making expenditures for institutional advertising. Institutional advertising is defined as advertising designed to promote the corporate image of the utility, and present it in a favorable light to the public and potential investors.***
>
> **¶44 By definition institutional advertising is not designed to increase consumption of energy.**
>
> **¶45 Rule 3(a)(2) prohibits utilities from expending money for institutional advertising** ***regardless of whether such expenditures are passed on to ratepayers.*** **This greatly impedes the utilities' ability to present their views to the public. The only argument presented to support the rule is "the product being hawked is not utility service, but the corporate image and such expenses benefit the shareholder rather than the ratepayer and should be borne accordingly."**
>
> **¶46** ***The same end could be achieved by disallowing such expenditures as operating expenses for ratemaking purposes and this method would not impede the utilities' ability to communicate with the public.*** **We conclude the prohibition on expenditures for institutional advertising is an unreasonable means of protecting ratepayers from these expenditures. Rule 3(a)(2) is invalid.**
>
> **. . .**
>
> **¶51 We conclude** ***the Commission may disallow any institutional advertising expenditures from operating expenses for ratemaking purposes unless the utility establishes such expenditures benefit all ratepayers.***

In short, these jurisdictions and apparently several others have recognized that it is offensive to force ratepayers to pay for advertising expenses that are incurred for the political or institutional or image benefit of the utility company, rather than the benefit of the vast majority of its customers. We urge this Board to adopt that view, and to act accordingly in (a) disallowing all offending expenditures from OPG's regulated payments for the test period, and (b) directing OPG to exclude all such expenditures from its rates and rate applications henceforth.

86. **In addition to our objections to these expenditures in principle, we also note that a number of the specific claims and statements made by OPG and CNA, with the support of OPG's regulated payments, are either false or misleading or seriously lacking in transparency -- in violation of OPG's Mandate from the Province, as exerpted in Ex. J4.2, p. 2, lines 2-6. We would certainly include in that category**

CNA's OPG-funded campaigns that repeat (over and over again) that nuclear power is "reliable" and even claim that "Canadian nuclear energy provides <u>dependable electricity that you can count on, any time, all the time</u>"!

87. In this regard, it is certainly not Energy Probe's intent to hinder OPG's efforts to share, reveal, or publish factual information about its nuclear activities, or to communicate openly with its many stakeholders. Indeed, it is at least conceivable that some (small) fraction of the planned $6 million may be spent on communications activities that are both appropriate and essential to the proper operation of a nuclear utility company.

88. Nor would we have the OEB function as a guardian over the veracity or balance of every document that OPG publishes, although the Board may have to function as a final arbiter in cases of abuse or dispute. But when OPG appears before this Board for a 25% guarantee of its nuclear costs, rather than bear the risks of their own uncertain nuclear production, while OPG is simultaneously contributing regulated ratepayer funds to CNA campaigns that proclaim that nuclear power is "reliable" and that "Canadian nuclear energy provides dependable electricity that you can count on, any time, all the time", we believe the time has clearly come for this Board to intervene. The fact that two of OPG's witnesses were willing to adopt that latter cringe-worthy statement as their own under oath (Tr. Vol. 8, pages 123-124) only adds to the problem, in our submission, and to the need for the problem to be solved.

89. Finally, we note that Energy Probe represents, and is directly supported by, an impressive number of Ontario residents, virtually all of whom are consumers of OPG's regulated electricity, at home and at work. We would urge this Board to relieve those fine individuals of the responsibility to pay for OPG's efforts to "Mitigate anti-nuclear tactics" and "address potential issues. . . NGOs"! Energy Probe's supporters should not be forced to finance Energy Probe's debate

opponents through their OEB-regulated electricity payments. If OPG's shareholder wishes to forgo profits so that OPG may spend money on political or institutional advertising, we would consider that unfortunate, but (a) it will do so without the OEB's stamp of approval, (b) it will do so without raising electricity rates, and (c) there are other mechanisms available to hold governments and political parties accountable for their actions -- far more accountable, in our submission, than OPG and CNA.

90. In the absence of a financial accounting of exactly which OPG nuclear advertising expenditures are offensive and which are not, we recommend the following approach:

- **The Board should require OPG to ensure immediately, as of the date of the Board's forthcoming Decision, that no further expenditures of regulated ratepayer funds are to be made on "political" or "institutional" or "promotional" public-relations activities, defined by this Board similarly to numerous US jurisdictions.**
- **The Board should require OPG to respect this distinction -- fundamentally between public-relations activities that are clearly in the best interests of all of OPG's customers, and those that are not, including those that are designed to enhance OPG's image or to change opinions on matters of public controversy -- in all its future accounting and filing before this Board.**
- **In this Decision, the Board should clearly disallow 100% of**
  - **OPG's contribution to Canadian Nuclear Association's advertising initiatives -- $1.0 million in post-April-1 2008, $1.3 million in 2009 (Ex. JT-1.2); and**
  - **OPG's own "New nuclear generation development advertising" -- $ 1.3 million in post-April-1 2008, $1.7 million in 2009 (Ex. JT-1.2).**
- **We believe that these two classes of expenditures are clearly "political" and/or "institutional" as defined above, based on the descriptions and**

justifications in the above-cited Exhibits. In addition, we note that expenditures in regards to "New nuclear generation development", if they were for the benefit of all ratepayers (which these are not), should be accounted for as part of OPG's expenditures on new nuclear generation development. (On the later issue, see the exchange between Mr. Rupert and OPG's Mr. Heard at Tr. Vol. 8, p. 125.)

- **Regarding "OPG's nuclear billboard advertising initiative" -- $0.1 million in post-April-1 2008, $0.2 million in 2009 (Ex. JT-1.2): Judging by the one example of which OPG has provided to us (Ex. J4.2, Att. 5), we believe that this initiative also fails the test for inclusion in regulated ratepayer payments, and should be disallowed.**
- **Regarding "Advertising in OPG nuclear host communities" -- $0.2 million in post-April-1 2008, $0.2 million in 2009 (Ex. JT-1.2)": Judging by the three examples contained in Ex. J4.2 (Att. 6, 7, and 8), we believe that this initiative also fails the test for inclusion in regulated ratepayer payments, and should be disallowed.**
- **We suspect that at least half of OPG's Membership fees to the Canadian Nuclear Association that are included in the revenue requirement -- $0.3 million in post-April-1 2008, $0.4 million in 2009 (Ex. J8.10) -- are destined to be used in ways that are inappropriate for inclusion in regulated rates, including support for CNA's misleading web-site (discussed at (Tr. Vol. 8, pages 122-124). At the least, we would urge the Board to require OPG to account for the use of those funds, in its next application. To the extent that the funds are spent on public persuasion and political lobbying and enhancement of the nuclear industry's public image, they should be excluded from rates.**

DESIGN OF PAYMENT AMOUNTS

Issue 8.1 Are OPG’s suggested changes to the hydroelectric incentive payment system appropriate?

91. OPG's proposed hydroelectric incentive mechanism is seriously flawed and needs to be corrected or withdrawn.

92. The underlying idea of aligning OPG's financial interests with the interests of the Ontario grid and its customers is an excellent one, which Energy Probe completely supports.

93. Unfortunately, OPG has chosen to use a constantly moving (and currently unknowable) number -- the average rate of power production during the month in question -- as the key target in its proposed incentive scheme, a target Energy Probe referred to as the "set point" in its cross-examination on this topic.

94. In OPG's Argument in Chief (p. 89, lines 7ff), OPG refers to this number as "the threshold at which market prices begin to apply" and explains its significance as follows:

> **"The setting of this threshold is an important consideration. If it is set too low then OPG will earn market prices on a larger portion of its regulated output. If it is set too high, then OPG will effectively have to purchase from the market in many hours when the price is well in excess of the regulated hydroelectric rate, resulting in a financial loss to OPG."**

95. We agree entirely with that characterization of this "threshold" or "set point" in OPG's proposed incentive mechanism, and commend its wisdom to this Board.

**96.	OPG's proposes to set this "threshold" equal to its actual monthly average rate of generation at the prescribed hydroelectric assets (Ex. I1-T1-S1, Section 5.2.2). In other words, the actual value will not be known during the current month, but will be calculated after the end of the month, and applied retroactively. Obviously, any action that changes the amount of energy generated during the month affects the setting of the "threshold".**

**97.	In response to a question from Energy Probe, all three of OPG's Panel 12 witnesses conceded that they could not think of a single other instance of an incentive scheme in any arena, where a "set point" for a given time period -- the measure against which the current period's performance is to be judged -- was determined by the performance in that same time period (Tr. Vol. 15, pages 120-121). We are also unaware of any precedent for the proposed approach, and we believe there are good reasons to avoid such circularity.**

**98.	While the proposed approach may produce appropriate results regarding the simple "time-shifting" or "holding back" of water use (and hydroelectric generation) from one period to a later period, it produces a perverse effect -- and an inappropriate incentive -- regarding the use of the Sir Adam Beck Pump Generating Station ("PGS"). That facility uses electricity to pump water uphill at Sir Adam Beck, typically at times of low demand and price, so that same water can later generate electricity again, typically at a significantly higher price.**

**99.	In the process, only approximately 46% of the originally consumed electricity is generated at the later time, and approximately 54% is lost due to inefficiencies (Ex. L2-060; Tr. Vol. 15, pages 103-104).**

100. Because of this loss of net and total generation at the "prescribed" Sir Adam Beck complex, and because OPG is proposing to base its incentive threshold on the actual monthly average rate of generation at the prescribed hydroelectric assets, the effect of any and all pumping at the PSF will unavoidably and always be to lower the actual monthly average rate of generation at Sir Adam Beck, and thereby to lower the proposed "threshold at which market prices begin to apply" for that month.

101. In turn, the unavoidable effect of that lowering of the proposed "threshold at which market prices begin to apply" will be that "OPG will earn market prices on a larger portion of its regulated output", and thereby increase its revenues. (Note that as Ex. I1-T1-S1, Section 5.2.2 explains, any use of the PGS which is in the public interest will by itself produce a net increase in revenues to OPG.)

102. This addition to OPG's revenues is above and beyond the addition that creates an appropriate incentive, as explained at Ex. I1-T1-S1, Section 5.2.2. Together, the two separate additions to OPG's revenues from use of the Pump Generating Station will over-reward OPG for using the PGS, and create situations in which it is in OPG's financial interest to pump water with the PGS when it is, at least marginally, contrary to the best interests of the Ontario grid and its customers. In short, the proposed scheme will create perverse incentives to over-use the PGS.

103. OPG's Panel 12 witnesses insisted repeatedly in oral testimony throughout Energy Probe's lengthy cross-examination on this topic (Tr. Vol. 15, pages 99-120) that this additional, indirect revenue increase from PGS pumping simply does not exist. But after the Hearing concluded, OPG confirmed in its response to Undertaking 15.6 (Ex. J15.6) that the effect is indeed real.

104. Unfortunately, rather than following this surprising concession to its logical conclusion, by proposing a solution to the now-agreed problem, OPG spent most of its Undertaking Response attempting to minimize or dismiss the impact of the problem. We find OPG's minimizations unconvincing.

105. In particular, we note that the Undertaking question was based on a thoroughly simplified and unrealistic scenario to establish a point in principle, which OPG's witnesses would not concede in principle, in 20 pages of cross-examination. That scenario, for simplicity's sake, involved 29 days of completely "flat" or constant generation, followed by extremely active use of the PGS. We note that most of OPG's minimizations involve that extreme scenario, rather than the apparently most realistic scenario, where the PGS is used throughout the month.

106. In that latter scenario -- dismissed in the final four lines of the four-page response -- it appears that the net gain to OPG from this unintended, unexplained, and repeatedly denied effect is 30 times the estimated gain from using the PGS for one day only. Multiplying OPG's estimate of the net gain from running the PGS for one day ($18,730) times 30 yields a perverse-incentive benefit of $561,900 for the full (simplified) month, compared to an estimated $51,882,130 revenues for the entire SAB complex for the month. Even if OPG is correct that the simplified calculation leads to some overestimate of the financial benefits to OPG, we may well be talking about an unintended benefit in the range of $4 or $5 million per year from using the PGS extensively. And we note that OPG has estimated for Board Staff (Ex. L/1/90, p. 1) that its forecast distribution for its *direct* incentives for use of the PGS "has a mean of $11.6M, with a 90% confidence interval from $5.2M to $19.3M". Based on careful examination of the evidence that OPG has produced, there is no apparent reason to conclude that the indirect, unintended, supplementary, and perverse incentive amount is small, much less *de minimis*.

107. Regardless of the precise quantum, we are certain that the proposed incentive scheme would be better aligned with the public interest and the interest of electricity consumers if these added revenues did not accrue to OPG. (We are also concerned that the proposed incentive mechanism creates similar and additional perverse incentives concerning the operation of the SMO, as discussed briefly below.)

108. We believe that the issue is too important to be ignored, and too significant to be minimized or dismissed with the wave of a hand. In the absence of a better proposal from OPG, we urge the Board to adopt either of Energy Probe's two proposals to correct the now-acknowledged and agreed flaw in the proposed incentive mechanism:

> **<u>Proposal "A"</u>: The "threshold" should be established "externally", without the circular reference to OPG's performance during the period in question. E.g., it could be set as the average hourly production for the same calendar month in the previous three years.**
>
> > **OPG has already made it clear on numerous occasions that it views any external or fixed threshold as something that raises its business risks, and we would expect it to view this proposal in that light. We simply note here that other OEB-regulated entities face many similar risks, both weather-dependent and based on business cycles, competing fuels, etc., and that the annual variability in SAB output is clearly a very modest risk for the owner of the Pickering and Darlington stations.**
>
> **<u>Proposal "B"</u>: The "threshold" could be left as OPG proposes, provided that the effect of OPG's pumping at the PSF on that "threshold" is expressly "netted out". Because that inappropriate effect arises from the fact that the threshold drops by approximately 54% of the electricity expended at the PSF, the proposal is to raise the threshold by that same amount, 54% of the electricity expended at the PSF. The effect is to align the proposed incentive**

with its original stated purpose and explanation, by eliminating the effect of the pumping on "the threshold at which market prices begin to apply". OPG would still get to keep the net proceeds of the pumping itself, but would not profit from the downward shift in the threshold.

109. Finally, although we are less familiar with Segregated Mode Operation ("SMO") than with the Pump Generation Station, we suspect that shifting water and generation from OPG's normal regulated production to SMO would create a similar and additional perverse incentive under the proposed mechanism, perhaps in both directions (i.e., to increase OPG's profit from shifting production from regulated to SMO, and to decrease OPG's profit from shifting production the other way). If so, we urge the Board to extend its preferred solution to the SMO's activities as well, to avoid perverse incentives there.

Issue 8.2 Is the fixed payment of 25% of revenue requirement an appropriate design for the nuclear facilities?

110. Energy Probe submits that the most frequently stated justification for the nuclear fixed payment -- that 90 percent of nuclear costs are fixed -- has little or no merit. OPG has conceded in its response to Undertaking J15.7 (Tr. Vol. 15, page 154) that the fixed-cost component of its hydroelectric represents 67% of revenue requirement and the variable-cost component 33%, yet OPG is obviously content to get all its hydroelectric revenues based on its generation output. We concede that 90% is greater than 67%, but it is clear that neither of those figures has previously prompted OPG or its predecessor to seek any fixed guarantee of revenues above 0% until now, and OPG is still obviously content with 100% variable revenue for its hydroelectric generation.

111. We therefore conclude that the main motivation for the nuclear proposal must lie elsewhere. And we believe it is remarkably easy to find, in the obviously erratic and uncertain output of OPG's nuclear generators. Unfortunately for OPG, the very same unreliability that makes these stations' owner seek the comfort of a

guaranteed income stream, independent of their unreliable output, makes their customers seek the comfort of maximum incentives on OPG, and minimum risk of rate shock to ratepayers. We also note that Ontario electricity customers are already forced to pay a number of fixed charges for non-performing and prematurely retired nuclear reactors, including the Debt Retirement Charge on our electricity bills, which is virtually 100% attributable to fixed nuclear costs that will never be covered by nuclear revenues.

112. In short, we find the justifications for the 25% guarantee unconvincing and contrary to the public interest, and we urge the Board to reject them, and to reject the requested guaranteed fixed nuclear payment.

Costs

113. Energy Probe submits that it participated responsibly in this proceeding. Energy Probe requests the Board award 100% of its reasonably incurred costs.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

July 21, 2008

Peter Faye, Counsel to Energy Probe Research Foundation