- 1Q.At page 1 of Appendix A you state, "[t]he required rate of return in dollars is2obtained by multiplying the established rate of return set by the regulator by the3'rate base.' The rate base is essentially the net book value of the utility's plant4considered used and useful in dispensing service." Please explain how your equity5return recommendation should be employed within this rate of return on rate base6framework in this case.7
- 8 A. The return component of the revenue requirement can be obtained by either of two
  9 methods: Total Invested Capital method or Asset Rate Base method.
  10

To illustrate, consider a utility with total invested capital of \$1,100 supplied by investors and an asset rate base (net plant & equipment, working capital) of \$1,000. The reason for the discrepancy is that investors have financed utility-related assets in the amount of \$1,100, but only \$1,000 is included in the asset rate base owing to a particular definition of the rate base. The \$100 difference between the two is usually attributable to deferred charges, deferred pension expenses for example, that are related to the operations of the utility but are not bricks and mortar hard assets supplying utility services directly.

18 The utility's capital structure is made up of 55% debt and 45% common equity, with a 19 cost of debt of 8% and a cost of common equity of 11%. The Weighted Average Cost of 20 Capital ("WACC") is obtained by summing the weighted costs of each type of capital as 21 shown in the table below, producing a WACC of 9.35%. 22

## Weighted Average Cost of Capital

Capital	Weight	Cost	Weighted Cost
Debt	55%	8.00%	4.40%
Common equity	45%	11.00%	4.95%
		WACC	9.35%

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## 25 Alternative # 1 Invested Capital Approach

The Total Invested Capital approach, currently employed by the Board, computes the return component of the revenue requirement as follows:

29 Allowed Return = 
$$\underline{\text{Invested Capital}}$$
 x 9.35% = 10.285%  
30 Rate Base

31

28

1	Dollar Return on Rate Base = Rate Base $x$ Allowed Return
2	= \$1,000 x .10285 $=$ \$102.85
3	
4	Alternative # 2: Asset Rate Base Approach
5 6 7 8 9	The rate base of \$1000 is increased by the amount of the asset deferral of \$100 because the costs of financing the deferred assets must legitimately be recovered for the utility to be kept whole and are properly recoverable from ratepayers. This brings the rate base to \$1,100. The adjusted rate base is then multiplied by the WACC of 9.35% to produce the revenue requirement:
10	Dollar Return on Rate Base = Rate Base x WACC
11	= \$1,100 x .0935 $=$ \$102.85
12	Both approaches produce the same dollar return.
13 14 15 16 17 18 19 20	Although both methodologies result in the same dollar figure, the Asset Rate Base methodology is the most prevalent methodology for regulating U.S. energy utilities and most Canadian utilities. Nevertheless, the Total Invested Capital adopted by the Public Utilities Board for Newfoundland Power produces the same dollar result as explicitly including other utility-related deferred items in the definition of rate base. The costs of financing Newfoundland Power's deferred charges, which account for the majority of the difference between its rate base and invested capital, can be recovered by either method.