

ENBRIDGE GAS INC.
Answer to Interrogatory from
Energy Probe Research Foundation (EP)

Reference: Exhibit C1, Tab 2, Pages 41 and 42

Preamble: *“The overall portfolio has an LRROI of 119%. The breakdown by asset class has been summarized in Table 1.9-1. While different asset classes have higher or lower LRROI values, the value of the lifetime risk reduced is greater than the capital investment.”*

Question:

- a) Please explain the significance of LRROI of 119% for the overall portfolio. What should the OEB conclude from that number?
- b) In Table 1.9-1 Storage has the highest LRROI of 284%. Does that mean that Storage is the most profitable asset class? Please show how the 284% number was calculated.
- c) In Table 1.9-1 Pipe has the lowest LRROI of 41%. Does that mean that Pipe is the least profitable asset class? Please explain how the 41% number was calculated.

Response

- a) Based on an LRROI of 119% for the overall portfolio, the OEB should conclude that the value of Lifetime Risk reduced is greater than the capital investment for such risk reduction. For more details, please refer to section 1.9, page 42 in the EGD rate zone's AMP, filed at Exhibit C1, Tab 2, Schedule 1
- b) LRROI is not used to measure profitability. Storage having the highest LRROI means that the ratio of risk mitigation to capital requirements for this asset class is the highest, or per dollar of capital, the storage asset class is able to mitigate the most risk compared to the other asset classes. As described in section 4.2.5, page 89 in the EGD rate zone's AMP, filed at Exhibit C1, Tab 2, Schedule 1, the LRROI was calculated using the equations below:

Lifetime Risk Return on Investment (LRROI) is used to inform optimization where the risk mitigated by a capital investment is normalized by the net direct capital required. LRROI is a measure indicating the efficiency with which risk is reduced across all asset classes. It is calculated using **Equation 1**. The Discounted Lifetime Risk Reduction is calculated using **Equation 2** and represents the present value of the risk reduction over the useful life of the asset. Customer satisfaction and financial risk are discounted over the life of the asset, while safety risk is not, as it is of paramount importance.

$$LRROI = \frac{\text{Discounted Lifetime Risk Reduction}}{\text{Total Net Capital Investment}}$$

Equation 1: LRROI Calculation

$$\text{Discounted Lifetime Risk Reduction} = (\text{Safety Risk Mit} \times \text{Useful Life}) + \left(\text{Fin Risk Mit} \times \frac{1 - (1 + \text{pretax WACC})^{-\text{useful life}}}{\text{pretax WACC}} \right) + \left(\text{CSAT Risk Mit} \times \frac{1 - (1 + \text{pretax WACC})^{-\text{useful life}}}{\text{pretax WACC}} \right)$$

*WACC: Weighted Average Cost of Capital

Equation 2: Discounted Lifetime Risk Reduction

- c) LRROI is not used to measure profitability. Pipe’s LRROI of 41% indicates that the capital requirements for the pipe asset class exceed the risk mitigated based on the portfolio of work. Please refer to (b) for the calculation of LRROI.