

ENBRIDGE GAS INC.
Answer to Interrogatory from
Vulnerable Energy Consumers Coalition (VECC)

Reference: Exhibit C1/T2/S1/ pgs. 694 – NPS 20 Don River Relocation & pgs.-
pg.854 Service Relay

Preamble: The purpose of this interrogatory is to better understand the calculation
and relative use of the Lifetime Risk Return on Investment Analysis

Question:

- a) Please provide the actual calculation for the LRROI for these two projects.
Specifically show how the variables “*Safety Risk Mit, Fin Risk Mit, CSAT Risk Mit*”
are determined for each project.
- b) The Don River Relocation project has an LRROI of 119. The Relays project has an
LRROI of 24. In terms of the relative need between these two projects please
explain how the LRROI informs the selection of the projects to be included (or
excluded) in the capital plans of the Utility.
- c) Do the capital projects considered in the Union Rate Zone go through the same
LRROI process as those in the EGD rate zone?

Response

- a) As per Exhibit C1, Tab 2, Schedule 1, page 89, LRROI is calculated using
Equation 1:

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

Equation 1: LRROI Calculation

The Discounted Lifetime Risk Reduction is calculated using **Equation 2**:

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

*WACC: Weighted Average Cost of Capital

Equation 2: Discounted Lifetime Risk Reduction

The variables “Safety Risk Mit, Fin Risk Mit, CSAT Risk Mit” in **Equation 2** represent risk reductions for the three risk dimensions as described in Table 4.1.2.¹ Through the Quantitative Risk Assessment (QRA) process, risks were quantified for these dimensions in each project.² The consequence ratings that are used to assess the level of risk in each of these dimensions are presented in Table 4.1-3.³

Values for variables used **Equation 2** are provided below:

Variables	Project #	
	10087 – NPS 20 Don River Relocation	16907 – Relay Blanket – All Areas
Safety Risk Mit	36,230	34,216
Fin Risk Mit	2,413,116	299,811
CSAT Risk Mit	226,592	57,824
Useful Life (Years)	70	45
Pretax WACC	0.062147	0.062147

By applying the values in the above table to **Equation 2**, Discounted Lifetime Risk Reduction for both business cases are:

10087, NPS 20 Don River Relocation: 44,387,289
 16907, Relay Blanket All Areas: 6,912,692

As Total Net Direct Capitals for NPS 20 Don River Relocation and Relay Blanket All Area are \$35,872,742⁴ and \$28,252,443⁵ respectively, according to **Equation 1**, LRROIs for both business cases are:

NPS 20 Don River Relocation (ID No. 10087): 124%
 Relay Blanket All Areas (ID No. 16907): 24%

¹ Exhibit C1, Tab 2, Schedule 1, page 72.

² Ibid., pages 71, and pages 79 to 82.

³ Ibid., page 73.

⁴ Ibid., page 695.

⁵ Ibid., page 855.

For NPS 20 Don River Relocation, the slight discrepancy between the LRROI shown here versus the value published in Exhibit C1, Tab 2, Schedule 1, page 695 is due to a change in the Total Net Direct Capital at the time of the filing.

- b) LRROI is a measure indicating the efficiency with which risk is reduced across all asset classes.⁶ When the comparison is done solely on the basis of LRROI between the two selected projects, the Don River Relocation project has higher risk reduction efficiency than the Service Relay project. In addition to LRROI, other aspects are considered in the capital plans of the Utility; please refer to Figure 4.1-7: Risk Tolerance Framework and Table 4.1-4 Types of Risk.⁷
- c) No, the Union rate zones use a more qualitative risk evaluation approach to facilitate a prioritization of their investments. This process is outlined at Exhibit C1, Tab 3, Schedule 1, pages 51 to 58.

⁶ Ibid., page 89.

⁷ Ibid., page 74.