OEB Staff Compendium

Panel 15 – Depreciation Expense / Site Restoration Costs

Enbridge Gas Inc.

EB-2022-0200

OEB Staff Compendium

Index

TAB 1

ENBRIDGE GAS INC.

Answer to ADR Information Request

Question:

Populate the provided table, assuming the ALG procedure, to calculate the depreciation provision impact of adopting an alternative average useful life and survivor curve and a change in the discount rate used.

Also, in relation to the inflation “double counting” issue, could Concentric please provide a “written out” calculation of its recommended depreciation provision for Account 452. That is, could they please set out the calculation in a series of equations which illustrate, in particular, how inflation is accounted for, as described at a high level in Concentric’s response in I.4.5-Staff-176. It would be most helpful if they could link each such equation to the spreadsheet model provided as Attachment 1 to I.4.5.IGUA-14.

A	B	C	D	E	F
Asset Account	Concentric Recommended Life Curve	Concentric Depreciation Provision (using CARF discount rate @3.75%)	Alternative Recommended Life Curve for Modelling	Calculated Depreciation Provision Change for Alternative Life Curve @ CARF Discount Rate	Calculated Depreciation Provision Change for Alternative Life Curve @ WACC Discount Rate (assume 6.03% for modelling)
452	40-R3		45-R2.5		
453			n/a	0	
455			n/a	0	
456	40-R4		44-R4		
457	35-R3		40-R2.5		
462			n/a	0	
463			n/a	0	
464			n/a	0	
465	60-R4		70-R4		
466	30-R4		37-R4		
467			n/a	0	
472.35	Truncation 2024		No Truncation 40-S0.5		
473.01	45-S1		50-L1		
473.02	55-S3		60-S3		
474	25-SQ		50-L1		
475.21	55-R3		70-R3		
475.3	60-R4		70-R2		
477			n/a	0	
478	15-S2.5		25-L1.5		

491.01 and 491.02 (post 2023)	4-SQ		5-SQ		
TOTALS:		[sum]		[sum]	[sum]

Response:

The following response was provided by Concentric Energy Advisors:
Table 1 below provides the estimated impact of the requested alternatives. Please note these impacts are based on the 2021 asset balances that formed the basis of Concentric's depreciation study for ease of comparability. The impacts would differ in magnitude if the revised rates/assumptions are applied to the 2024 Test Year asset balances.

Table 1
Alternative Depreciation Calculations

Asset Account	Concentric Recommended Life and Curve	Concentric Depreciation Provision TOTAL (using CARF discount rate 3.75%)	Alternative Recommended Life and Curve	Depreciation Provision for Alternative Life and Curve @ CARF Discount Rate TOTAL Change	Depreciation Provision for Alternative Life and Curve @ WACC Discount Rate (6.03%) TOTAL Change
442.00	40-S5	104,018	N/A	-	-
443.01	45-R4	51,698	N/A	-	-
443.02	55-R4	213,953	N/A	-	-
451.00	55-R4	1,070,227	N/A	-	-
452.00	40-R3	3,341,859	45-R2.5	(1,053,046)	(1,239,324)
453.00	45-R2.5	4,539,036	N/A	-	(860,284)
454.00	40-R2	134,706	N/A	-	-
455.00	55-R3	4,498,768	N/A	-	(246,673)
456.00	40-R4	18,069,972	44-R4	(2,778,143)	(3,601,335)
457.00	35-R3	1,752,619	40-R2.5	(450,804)	(578,553)
461.00	60-R4	1,409,557	N/A	-	-
462.00	50-S4	3,276,395	N/A	-	(143,044)
463.00	55-S4	148,411	N/A	-	(8,398)
464.00	50-S4	62,378	N/A	-	(2,915)
465.00	60-R4	45,746,509	70-R4	(9,313,524)	(12,269,725)
466.00	30-R4	34,401,431	37-R4	(9,515,433)	(10,311,121)
467.00	40-R4	11,247,651	N/A	-	(960,745)
471.00	60-R4	1,072,013	N/A	-	-
472.00	40-S0.5	5,155,524	N/A	-	-
472.31	40-S0.5	1,180,276	N/A	-	-
472.32	40-S0.5	885,199	N/A	-	-
472.33	40-S0.5	2,353,163	N/A	-	-
472.34	40-S0.5	628,711	N/A	-	-
472.35	40-S0.5	8,041,884	40-S0.5 - No Truncation	(7,627,722)	(7,627,722)
473.01	45-S1	15,818,533	50-L1	(4,740,643)	(6,795,099)
473.02	55-S3	110,249,554	60-S3	(15,563,480)	(30,900,537)
474.00	25-SQ	43,329,780	50-L1	(33,157,286)	(33,157,286)
475.00	25-SQ	10,469,399	N/A	-	-
475.21	55-R3	97,933,996	70-R3	(37,193,539)	(50,737,563)
475.30	60-R4	87,833,160	70-R2	(24,407,105)	(38,290,145)
476.00	17-S2.5	325,072	N/A	-	-
477.00	40-R2	21,482,552	N/A	-	172,266
477.01	35-R3	4,175,366	N/A	-	-

478.00	15-S2.5	91,419,431	25-L1.5	(62,641,782)	(62,641,782)
482.00	40-R1.5	119,585	N/A	-	-
482.01	40-R1.5	3,290,400	N/A	-	-
482.04	40-R1.5	9,286,662	N/A	-	-
482.05	40-R1.5	1,388,286	N/A	-	-
482.51	40-R1.5	3,364,448	N/A	-	-
482.52	40-R1.5	2,783,764	N/A	-	-
483.00	15-SQ	1,309,316	N/A	-	-
484.00	12-L2.5	5,083,958	N/A	-	-
485.00	17-L1.5	2,793,740	N/A	-	-
486.00	15-SQ	9,529,666	N/A	-	-
487.70	15-SQ	86,895	N/A	-	-
487.80	20-SQ	291,548	N/A	-	-
488.00	10-SQ	2,946,627	N/A	-	-
490.00	4-SQ	4,271,256	N/A	-	-
490.00 (Post 2023)	4-SQ	0	N/A	-	-
490.30	10-SQ	502,763	N/A	-	-
491.01	4-SQ	13,823,969	5-SQ	(3,126,833)	(3,126,833)
491.01 (Post 2023)	4-SQ	0	5-SQ	-	-
491.02	4-SQ	3,990,552	5-SQ	(931,868)	(931,868)
491.02 (Post 2023)	4-SQ	0	5-SQ	-	-
491.03	10-SQ	7,355,375	N/A	-	-
Software Intangibles - 10YR	10-SQ	0	N/A	-	-
491.04	10-SQ	9,153,464	N/A	-	-
TOTAL		**713,795,075**		**(212,501,208)**	**(264,258,686)**

Enbridge Gas notes that applying Emrydia and InterGroup's recommended changes to asset lives under the ALG procedure and a 6.03% WACC would result in an annual net salvage provision of only $5 million. This amount is significantly less than Enbridge Gas's forecasted annual site restoration costs of $60 million (Exhibit I.1.8-STAFF-17 Part f).

<u>Illustration of How Inflation is Accounted for in the CDNS Calculation</u>

This example uses Account 473.02 which can also be found at Exhibit I.4.5-IGUA-14 – Attachment 1.

The following inputs were entered into the calculation:

- <u>Cost of Removal Estimate</u> – 0.5 (cell F3) as determined from the traditional net salvage review provided in the Concentric Depreciation Study Exhibit 4, Tab 5, Schedule 1, Attachment 1 Pages 24 to 34. (Note: the use of -50% was very moderated from the total life historic indications of -168%.)
- <u>Average Age of Retirements</u> - 19.37 (Rounded to 19) – Calculated as a weighted average (based on original costs of the retirement) of the retirement transactions as provided in the Service Life File used in the actuarial analysis.
- <u>Credit Adjusted Risk Free Rate</u> – 3.75%
- <u>Future Inflation Rate</u> – 2.00%

Using the calculations related to the Vintage 1970 (row 20 of the Excel spreadsheet):

- Age, Vintage, Original Cost, and R/L (Remaining Life) are directly extracted from Pages 188 to 293 (Detailed Depreciation Calculations), Section 8 of the Concentric Depreciation Study (Exhibit 4, Tab 5, Schedule 1, Attachment 1) related to the same 1970 Vintage.
- Net Salvage Requirement is calculated as Original Cost X Cost of Removal Estimate = $1,563,798.64X0.5 = $781,899.32. This represents the net salvage requirement calculated in accordance with the Traditional method of net salvage analysis.
- Adjusted Original Cost brings the Vintage original cost forward by the average age of retirement (19 years) using a CPI Inflation Factor calculated by utilizing a CPI factor based on the age of the vintage (3.689). The resultant calculation is equal to $1,563,798.64X3.689 = $5,768,109.74 (Note the same adjustment period is used for all vintages because an average age of all retirement transactions is assumed for all historic retirement years)
- CPI Inflation Factor is based on Statistics Canada published CPI factors using a base year of 2002.
- Adjusted Net Salvage Rate calculates a net salvage ratio that is free of the impacts of inflation as the original cost has been normalized by the period of the average age of retirements. The sample calculation is the net salvage requirement/adjusted original cost ($781,899.32/$5,768,109.74 = 0.14).
- Future Net Salvage Requirement is the inflation adjusted requirement based on the Adjusted Original Cost ($5,768,109.74) X the Adjusted Net Salvage Rate (0.14) inflated by the Future Inflation Rate (2.00%) over the estimated remaining life of the vintage (12.3 years). The resultant calculation is: ($5,768,109.74X0.14)*((1+2.0%)^12.3) = $997,546.04
- Discounted Salvage Requirement represents the Future Salvage Requirement ($997,546.04) discounted at the Credit Adjusted Risk Free Rate (3.75%) back to the study year (12.3 years). The resultant calculation is: $997,546.04/((1+3.75%)^12.3) = $634,277.42
- Resultant CDNS rate to use in depreciation calculations is shown at the bottom of the Discounted Salvage Requirement Column and is calculated by dividing the Sum of the Discounted Salvage requirement for all vintages by the Sum of the Original Cost of all vintages. The resultant calculation is $1,165,570,929.85/$4,458,865,638.83 = 26%

As noted in the above explanation, the Adjusted Original Cost brings the original cost to the same cost base as the Net Salvage Requirement percentage. This is required because the Net Salvage Requirement in 5th column of the working file represents a percentage that has an embedded amount of inflation based on the average age of the retirements. Once the Original cost has been normalized to the same cost base of the cost of removal expenditures, the resultant adjusted net salvage rate represents the ratio of cost of removal to original cost expenditures at the same cost base that has had impacts of inflation removed from the calculation. Therefore, the Adjusted Net Salvage ratio can be used in the determination of the Future Salvage Requirement calculation.

TAB 2

deferred rebasing term and these have been applied to the respective asset bases of each of the EGD and Union rate zones.

Table 2
Summary of Key Depreciation Parameters

Topic	Approved EGD Methodology	Approved Union Methodology	Proposed Enbridge Gas Methodology
Group Depreciation Procedure (Straight Line Method)	ALG Procedure	Generation Arrangement Procedure	ELG Procedure
Amortization Accounting	n/a	Amortization Accounting for certain assets	Amortization Accounting for certain assets
Net Salvage Methodology	CDNS	Traditional Approach	CDNS

3. Proposed Changes at 2024 Rebasing

12. Enbridge Gas engaged Concentric to conduct a depreciation study based on a review of assets in service through December 31, 2021. As part of the Enbridge Gas Depreciation Study, Concentric reviewed existing depreciation parameters, methodologies, and procedures and made recommendations to be applied to the combined asset groups of Enbridge Gas. Table 2 summarizes the topics and recommendations.

3.1. Depreciation Methodology

13. As noted in paragraphs 5 and 6, EGD and Union previously followed the ALG and Generation Arrangement procedures, respectively. The recommended depreciation methodology for Enbridge Gas is the equal life group (ELG) procedure as provided at Attachment 1, pages 16-17. The ELG procedure is viewed as the best option for Enbridge Gas as it offers the following advantages over other methodologies:

a) Enhances the generational equity for customers;
b) Provides superior matching of the depreciation expense to the consumption of assets providing service to customers; and
c) More accurately reflects the actual useful life of the assets used.

14. Concentric has also recommended moving Enbridge Gas to amortization accounting for certain general plant and distribution assets. Amortization accounting is appropriate for plant accounts where there are numerous units of property that are not practical to track and retire on an individual basis (such as tools, regulators, etc.). This is a change for both the EGD and Union rate zones as EGD rate zone did not previously apply amortization accounting and Union rate zone is currently applying the method to only a few assets classes. A full list of the asset categories moving to amortization accounting is provided at Attachment 1, page 37.

15. Currently, EGD rate zone is not applying amortization accounting. These assets are retired once they are no longer in use, as opposed to retiring based on expected useful lives. Under this approach, certain asset classes could end up accumulating more (or less) depreciation if they are retired later (or earlier) than their expected useful lives. This effect is typically mitigated by regular depreciation studies to continuously rebalance the accumulated depreciation by adjusting depreciation rates.

16. Due to the deferral of rebasing, the EGD rate zone has accumulated significant balances in its computer hardware and software accumulated depreciation accounts because the depreciation rates have not been reviewed since the last OEB-approved depreciation study filed in EGD's 2013 Cost of Service[5]. As a result,

[5] EB-2011-0354.

unregulated storage. Enbridge Gas engaged Ernst & Young LLP (EY) to assist management in its determination of the Company's harmonized unregulated storage allocation methodology. The aligned methodology for Enbridge Gas adopts the Union methodology of allocating general plant assets to unregulated storage. Further details, including impacts to 2024 Test Year depreciation expense are provided at Exhibit 1, Tab 13, Schedule 2.

3.5. Summary of Impacts of Harmonization of Depreciation Policies at Rebasing

33. Enbridge Gas is proposing a depreciation expense of $892 million for the 2024 Test Year. A comparison of the proposed depreciation rates and the provision for the 2024 Test Year is provided at Attachment 2. /u

4. Energy Transition Considerations

34. In developing the proposed depreciation rates, Enbridge Gas and Concentric considered the introduction of an Economic Planning Horizon (EPH) or truncation date to reflect the potential impact that energy transition could have on the economic life of Enbridge Gas's system.

35. Enbridge Gas and Concentric concluded that introducing an EPH is not appropriate at this time. As provided at Exhibit 1, Tab 10, Schedule 5, Section 3, there remains significant uncertainty around the impacts that energy transition could potentially have on Enbridge Gas's system. However, future depreciation studies may warrant the introduction of a regional or system wide EPH, as the energy transition unfolds and more information on the future utilization of Enbridge Gas's assets becomes available.

5. Site Restoration Costs

36. In EGD's 2014 to 2018 Custom IRM Decision[16], the OEB directed EGD to examine the issue of whether a segregated fund for SRC should be established and to present such findings in EGD's next rebasing application.

37. The directive was a result of intervenors in EGD's 2014 to 2018 Custom IRM proceeding referencing the National Energy Board's (now the Canada Energy Regulator, or CER) Land Matters Consultation Initiative (LMCI) which was underway at the same time as EGD's 2014 to 2018 IRM proceeding. The LMCI proceeding directed CER-regulated entities to start collecting amounts for future abandonment from customers and to segregate the funds collected from a pipeline company's operating funds. However, the assets in the LMCI proceeding are different than the assets held by Enbridge Gas as the CER-regulated pipelines have an expected end of life whereas the utility assets are expected to be replaced over time and remain useful. Additionally, there were no retirement costs previously collected for the CER-regulated pipelines whereas Enbridge Gas has been collecting SRC for many years.

38. To respond to the directive, Enbridge Gas conducted internal research to determine whether or not a segregated fund should be established. Enbridge Gas looked for examples of other utilities that may have considered the approach of a segregated fund for SRC. In FortisBC Energy Inc. (FEI) 2012 and 2013 Revenue Requirements and Natural Gas Rates Application, FEI investigated the practicality of using a segregated fund however ultimately did not adopt the approach. Enbridge Gas did not find any examples of other utilities using segregated funds for SRC. The net salvage approach is currently used by many utilities in North America.

[16] EB-2012-0459, OEB Decision with Reasons, July 17, 2014, pp.63-64.

39. As previously described, Enbridge Gas is collecting amounts for future abandonment within the net salvage component of the depreciation rates for the EGD and Union rate zones. These amounts are included in accumulated depreciation which results in a reduction to the PP&E component of rate base. The amounts collected are used to fund working capital requirements, which in turn reduces the need for financing and therefore has a favourable impact for customers in the form of lower rates, all else being equal.

40. Enbridge Gas agrees that there are benefits to establishing a segregated fund for SRC.
    a) A fund is a prudent approach to ensuring that money will be available when ultimate abandonment of Enbridge Gas's system is undertaken;
    b) If the money in the segregated fund is invested, positive returns on the investment may decrease the amount of SRC to be collected which would benefit ratepayers through lower depreciation rate
    c) Establishing a segregated fund would also be a means of preparing for potential future energy transition impacts.

41. However, there are also drawbacks to setting up a segregated fund for SRC:
    a) Currently, the net salvage collected is a credit to rate base (recorded as part of accumulated depreciation). Establishing a fund would increase rate base, by eliminating the net salvage amounts collected from accumulated depreciation, which in turn would increase the cost of capital and increase revenue requirement. As an example, if the December 31, 2021, SRC liability balance of $1.5 billion was deposited into a segregated fund, rate base and

revenue requirement would increase by $1.5 billion and $93 million[17] respectively. The annual increase in revenue requirement thereafter is estimated to be $3.1 million;

b) Administrative costs required to set up, monitor and maintain the fund, and the administrative burden to access the funds would also increase costs;
c) Tax issues associated with establishing a fund are complex and would require significant legal and tax involvement to resolve;
d) Enbridge Gas has not identified any precedents in which a utility has voluntarily set up a segregated fund for SRC costs; and
e) Enbridge Gas does not expect a large-scale retirement of assets and anticipates that assets will be in use and useful for many years to come.

42. In addition to the above drawbacks, participants in the Customer Engagement Survey, as provided at Exhibit 1, Tab 6, Schedule 1, Attachment 1, page 9, were asked whether Enbridge Gas should have the flexibility to use reserves to avoid borrowing money. Participants expressed support in giving Enbridge Gas flexibility if it means potential savings for customers.

43. Enbridge Gas concludes that it is in the best interest of customers not to set up a segregated fund for SRC amounts at this point in time. As provided at Exhibit 1, Tab 10, Schedule 5, Enbridge Gas believes its system will be a key contributor to Ontario's ability to achieve net-zero. Additionally, Enbridge Gas does not anticipate that large sections of its system will be retired in the foreseeable future. Enbridge Gas may reconsider the establishment of a segregated fund in the future, in

[17] Assumes a SRC liability balance of $1.5 billion, a debt/equity ratio of 64/36, ROE of 8.34% and a tax gross up on ROE of 73.5%.

conjunction with the implementation of an EPH, as more information about the potential impact of energy transition becomes available.

6. Depreciation Schedules

42. Detailed depreciation schedules for the 2019 to 2024 period by plant account and rate zone are provided at Attachment 3.

TAB 3

2024 Test Year - Drivers of Delivery Revenue Deficiency

Line No.	Particulars ($ millions)	Gross (Deficiency)/ Sufficiency	Relative Contribution	
1	Net sustainable synergies and productivity	67.2	(25%)	/u
2	Changes in accounting policy and methodologies	25.6	(9%)	/u
3	Impact related to ICM and Capital Pass Through	(42.0)	16%	/u
	Deferred Rebasing Impact	50.8	(19%)	/u
4	Cost pressures	(135.0)	50%	/u
5	Higher depreciation resulting from new depreciation study	(160.4)	59%	/u
6	Increase equity thickness from 36% to 38% in 2024	(26.3)	10%	/u
	Cost of Service Impacts	(321.7)	119%	/u
7	Total Gross 2024 Test Year Deficiency	(270.9)	100%	/u

TAB 4

ENBRIDGE GAS INC.

Answer to Interrogatory from
Ontario Energy Board Staff (STAFF)

Interrogatory

Reference:

Ref 1: Exhibit 4, Tab 5, Schedule 1, pp. 3-4
Ref 2: Exhibit 4, Tab 5, Schedule 1, Attachment 1 – Depreciation Study

Question(s):

In Schedule 1 Enbridge Gas discusses depreciation methods and procedures used in the Depreciation Study.

a) Please confirm that the proposed methodology uses the ELG procedure (other than accounts that use amortization accounting), with a Remaining Life technique.

b) Please confirm that the depreciation study has generally adopted EGD's depreciation methodologies generally (straight-line method, group procedures, remaining life technique, CDNS net salvage) but with two exceptions: First, the ELG procedure rather than the Average Life Group/Average Service Life (ALG/ASL) procedure. Second, the use of amortization accounting for some groups of assets. If not confirmed, please provide a detailed explanation as to why this is not confirmed.

c) EGD previously used the ALG method, and other Ontario utilities (e.g. Ontario Power Generation in EB-2020-0290 and Hydro One Networks Inc. in EB-2021-0110) use the ALG method of depreciation. Please provide a detailed rationale for the adoption of the ELG procedure rather than the ALG procedure. Please include an explanation on whether there are circumstances specific to Enbridge Gas that renders the ALG method of depreciation less appropriate, or the ELG method more appropriate.

d) Please provide examples, if Enbridge Gas or Concentric are aware, of utilities that use the ELG method, the ALG method, or the Generation Arrangement method, in North America, specifically noting which use a Whole Life technique and which use a Remaining Life technique.

e) Please provide a version of the Concentric Depreciation Study's Table 1 (Concentric Depreciation Study page 5-2) and Section 8 for each of the following:
   i. Using the ALG procedure
   ii. Using the ELG procedure with a Whole Life technique

iii. Using the ELG Procedure with a Whole Life technique, with remaining lives calculated on the basis the ALG procedure.

Response:

The following response has been provided by Concentric Energy Advisors, Inc.:

a) Confirmed.

b) Confirmed.

c) This study incorporated the use of the Equal Life Group (also known as “Unit Summation”) procedure. In this procedure, the plant account is subdivided according to the estimated remaining service lives within the account. The relative size and life expectancy of each equal life group is determined from the survivor curve for the plant account. This results in each equal life group having the same life characteristics as a single unit of plant. In the Equal Life Group (ELG) procedure, the cost of each unit of plant is theoretically fully accrued by the time of its retirement.

   The ELG procedure has long been recognized as the most precise procedure by depreciation authorities, and has been advocated in various texts, periodicals and technical papers. Particularly, this procedure received favorable attention in Iowa Bulletin 155 published in 1942 stating:

   > “The unit summation procedure of the present worth method is shown to be the only mathematically correct method. It is not admitted that more than one correct method exists for applying an average life ratio to property groups when estimating depreciation. Recognition is given, however, to the convenience of the average-life and probable life procedures at the sacrifice of the accuracy in the mathematical calculations.”[1]

   The Average Service Life (ASL) procedure was widely used through to the late 1970’s, due mainly to the extensive data requirements and mathematical calculations required for ELG. With the development of computer programs to execute the ELG procedure, and as Plant Accounting systems were computerized, the complexity of the mathematical calculations and extensive data requirements became significantly less burdensome. Due to this increased ease of execution and the enhanced accuracy, several regulated companies have converted to ELG procedures since the early 1980’s.

[1] Robley Winfrey; Depreciation of Group Properties; Engineering Research Institute; Iowa State University; Ames, Iowa; 1942, page 6.

The use of ELG provides a more equitable distribution of depreciation expense to the current users of the gas system because the provision for depreciation at any given time is based only on the assets in service at that time. Conversely, the ALG grouping procedures results in depreciation accruals that in later years contain an incremental component of depreciation expense to compensate for the lower levels of accruals in early years. This idiosyncrasy of ALG grouping procedures has long been recognized as a deficiency by various authorities on depreciation analysis.

Specifically in the circumstances of Enbridge Gas, the above generational equity concerns are particularly relevant given the energy policy requirements that are emerging in the natural gas utility sector. As such, the ELG calculations which more closely align the depreciation rates to the retirement dispersion patterns inherent in the Iowa curve selections, will lessen the impact to customers from any type of energy transition, thereby reducing the impact of potential future carbon-based energy policies. In contrast, the use of the ALG procedure for an electric distribution utility such as Hydro One incorporates less risk of intergenerational concerns for future customers. Overall, the introduction of fossil fuel restrictions will likely increase the demand upon electric utilities, thereby mitigating the capital expenditure impact that could be required by urban electric utilities. As such, this increased demand also mitigates the need to maintain the use of the Generation Arrangement or ELG procedures for an electric distribution utility such as Hydro One, or OPG.

With the harmonization of the legacy Enbridge Gas Distribution and Union Gas systems, a review of the appropriate depreciation procedure to be used for the combined company was conducted. Union Gas had historically used the Generation Arrangement procedure, which as noted at page 3-4 of the Concentric depreciation study report, closely aligns to the results of calculations made with the ELG procedure. Given the issues with the use of the Generation Arrangement as described at pages 3-3 and 3-4 of the Concentric depreciation study report, and that the Generation Arrangement requires retirement transactions through the entire life of the account, which was not available from legacy Enbridge Gas Distribution system the use of the Generation Arrangement procedure was not considered as a viable option. However, as the concepts inherent in the ELG procedure are closely aligned to the concepts inherent in the Generation Arrangement procedure, Concentric placed higher consideration on the ELG procedure when selecting the appropriate depreciation procedure.

Overall, Concentric views that the use of the ELG procedure for this EGI study has two significant advantages as compared to the use of the ALG procedure. Firstly, the use of the ELG procedure was the best available match to the historic procedures approved for Union Gas. Secondly, given the potential changes in use of fossil fuels and the unknown impact of such change on the Enbridge Gas system, the use of the ELG procedure best reduced the future risk of intergenerational inequity.

d) Concentric is aware of the following utilities using the ELG whole life method with variances in the accumulated depreciation trued up over the composite remaining life:

- FortisAlberta;
- ENMAX Power Corporation;
- APEX Utilities;
- ATCO Gas;
- AltaLink;
- ATCO Electric;
- City of Lethbridge;
- City of Red Deer;
- SaskEnergy;
- TransGas; and
- Yukon Electrical Company Limited.

Concentric is aware of the following utilities using the ELG remaining life method:

- Gazifere;
- IntraGaz;
- Eastward Energy; and
- NB Power.

Concentric is unable to confirm any utilities currently using the Generation Arrangement, however Concentric understands that it is widely used by Fosters & Associates in the United States.

The majority of remaining studies in Canada are completed using the ALG method with either a whole life or remaining life true up. ALG Remaining Life is also the most widely used method within the United States.

e)

i. Please see Attachment 1 for Table 1 and Attachment 2 for Section 8 using the ALG Remaining Life procedure.

ii. & iii. Please see Attachment 3 for Table 1 and Attachment 4 for Section 8 using the ELG Whole Life procedure with remaining lives calculated on the basis of the ALG remaining life procedure. Doing the depreciation calculations using the ELG procedure with only ELG Whole Life used will not include any true up for accumulated depreciation variances, and as such, be incomplete. Therefore, Concentric has provided just the ELG Whole Life results with the ALG Remaining Life procedure.

TAB 5

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence (ED)

Interrogatory

Reference:

Exhibit 4, Tab 5, Schedule 1 (Depreciation)

Question(s):

a) What is the current balance of the funds that Enbridge has collected for site restoration?

b) What is the forecast balance of the funds that Enbridge has collected for site restoration as of the end of 2028?

c) Please provide an approximate estimate of the combined site restoration cost for all of Enbridge's pipeline assets (i.e. how much it would cost to abandon the pipes and restore the sites)? Please compare and reconcile this with Guidehouse's estimate that "Ontario's decommissioning costs could exceed $1.0 billion per year."[1]

d) Please provide a table showing for each of the last ten years (i) what Enbridge has collected in rates for site restoration that year, (ii) what amounts have been used for site restoration that year, and (iii) the running annual balance for site restoration costs. If possible, please also forecast these figures for 2024-2028.

e) Enbridge notes on page 18 that the "amounts collected are used to fund working capital requirements, which in turn reduces the need for financing and therefore has a favourable impact for customers in the form of lower rates, all else being equal." What is the current return (%) accruing to ratepayers on the funds Enbridge holds for future abandonment costs?

f) Please provide a table showing for each of the last ten years what ratepayers have saved on account of site restoration costs being used to fund working capital, which in turn reduces the need for financing.

g) What was the average return earned on the site restoration costs held in a segregated fund for CER-regulated pipelines for each for the last five years? If the

[1] Exhibit 1, Tab 10, Schedule 5, Attachment 2, p.45.

return differs by pipeline or company, please provide some examples (e.g. for Enbridge-owned pipelines).

h) Enbridge notes on page 19 that there would be "[a]dministrative costs required to set up, monitor and maintain the fund." What were the administrative costs as a percent of the total invested amount for site restoration costs held in a segregated fund for CER-regulated pipelines for each for the last five years? If the figure differs by pipeline or company, please provide some examples (e.g. for Enbridge-owned pipelines).

i) Enbridge notes on page 19 that "tax issues associated with establishing a fund are complex and would require significant legal and tax involvement to resolve." How are those tax issues addressed for pipelines under the CER segregated abandonment fund model?

<u>Response:</u>

a) The current balance of future removal and site restoration reserves is $1,615 million as of December 31, 2022.

b) Enbridge Gas is unable to forecast the balance out to 2028 as this is beyond the forecasting horizon used for planning purposes. The estimated balance for 2026 is $1,831 million.

c) The estimated amount of future site restoration costs for all of Enbridge Gas's assets discounted to today's dollar equivalent is $4.7 billion ($21.3 billion undiscounted).

   The following response was provided by Concentric Energy Advisors:

   Please see response at Exhibit I.4.5-IGUA-14, Attachment 1 which provides the detailed CDNS calculations for each account. The currently estimated future cost of removal requirement is identified in the column "Future Salvage Requirement".

   It is not possible to provide the requested reconciliation. The Guidehouse report reference was to studies completed in the UK, and specific details of the UK cost estimates were not provided. The net salvage estimates presented in the Concentric depreciation study were based on the data as outlined in Section 7 of the Concentric report and then adjusted using a CDNS method. These assumptions cannot be compared to the four UK studies as the specific details of the UK studies were not available.

d) Please see response at Exhibit I.1.8-STAFF-17, parts b) and f).

e) The current return accruing to ratepayers in the EGD rate zone is 6.20%, reflecting EGD's 2018 approved required rate of return. The establishment of 2018 rates was the last time the required rate of return was updated for the EGD rate zone. The current return accruing to ratepayers in the Union rate zones is 7.30%, reflecting Union's 2013 approved required rate of return. The establishment of 2013 rates was the last time the required rate of return was updated for the Union rate zones. The noted returns do not factor in any impact of price cap escalation that has occurred since the rates were approved

f) Please refer to Attachment 1 for a summary of the approximate revenue requirement reductions (or savings) attributable to site restoration cost collections (eg. the outstanding liability) which are credited to rate base, thereby reducing associated carrying costs. As identified in Attachment 1, the approximate total savings over the 10-year period 2013 to 2022 for the EGD and Union rate zones are $540 million and $489 million, respectively.

   The savings to ratepayers reflect what is included in rates. As such, the benefit to EGD rate zone ratepayers changed in each of 2013 through 2018, as rate base and the required rate of return were updated for rate setting purposes in each of those years. However, since the start of the current price cap term, the 2018 value has carried on, ignoring any potential impact of price cap escalation that has occurred. The Company notes that in order to calculate the approximate savings for the EGD rate zone, it has utilized the actual average site restoration cost liability outstanding in each of 2013 to 2018 years as a proxy for what would have been reflected in the approved accumulated depreciation included in rate base. The site restoration cost liability that was inherent within the approved forecast of accumulated depreciation in each of those years was not separately identified.

   The benefit to Union rate zones ratepayers has remained constant at the 2013 level (again ignoring any potential price cap escalation), as rate base and the required rate of return have not been updated for rate setting purposes under Union's prior price cap mechanism, or under Enbridge Gas's current price cap mechanism. Similar to the EGD rate zone, in order to calculate the approximate savings for the Union rate zones, the Company utilized the actual average site restoration cost liability outstanding for 2013 as a proxy for what would have been reflected in the approved accumulated depreciation included in rate base.

g) Enbridge Gas is not aware of the average return earned over the last five years for all CER regulated pipelines. For the 28, 2021 Abandonment Funding Trust Reports that Enbridge Gas has found on the CER web site, the reported earnings within the trust have been negative for over 60% of the trusts reporting and, in aggregate, the reported earnings have been approximately 2.4% of the closing aggregate balance of the trust funds.

Table 1 provides a summary of fund performance for the four largest segregated funds by Enbridge-owned companies based on data from Enbridge.com:

Table 1
Fund Performance Summary

Company	Total Return - 2021	Total Return - 2020
Enbridge Pipelines Inc.	(6.2%)	9.3%
Enbridge Pipelines NW Inc.	(2.6%)	4.8%
Enbridge Southern Lights Pipeline	(5.9%)	8.7%
Enbridge Bakken Pipeline	(5.6%)	8.2%

h) Enbridge Gas is not aware of the administrative costs for all CER regulated pipelines over the last five years. Table 2 provides a summary of 2021 administrative costs for the four largest segregated funds by Enbridge-owned companies based on data from Enbridge.com:

Table 2
2021 Administrative Costs

Company	Net Assets 2021 ($'000s)	Admin Costs 2021 ($'000s)	Admin Costs as % of Net Assets
Enbridge Pipelines Inc.	349,667	267	0.08%
Enbridge Pipelines NW Inc.	19,813	25	0.13%
Enbridge Southern Lights Pipeline	31,147	33	0.11%
Enbridge Bakken Pipeline	5,232	11	0.21%

The administrative costs reported by the funds do not include the cost of internal Enbridge resources required to support the management of the fund. Activities performed by Enbridge personnel include supporting audits, preparing financial statements, tax filings and regulatory filings, managing the fund trustee relationship and managing landowner relationships. Enbridge Gas further expects that additional resources would be required to manage the administrative work of requesting withdrawals from the fund for the various asset retirements that take place each year.

i) Enbridge Inc.'s CER-regulated pipelines established trusts to set aside funds for reclamation obligations associated with future pipeline abandonment. The trusts were approved by the CER (historically, NEB) to meet the requirements under the Land Matters Consultation Initiative (LMCI). Also, the trusts were accepted by the Canada Revenue Agency (CRA) in advance rulings as Qualifying Environmental Trust (QET), which is defined in the *Income Tax Act* (ITA) subsection 211.6(1).

Enbridge Inc., along with other pipeline industry peers, identified a QET as the best mechanism to both meet the LMCI requirements and remain tax efficient. The pipeline industry joined efforts to lobby for the inclusion of pipelines in the definition of "qualifying site", one of the pre-requisites for a trust to be a QET. After years of effort, "qualifying site" under ITA subsection 211.6(1) was amended to include sites used for pipeline operations. "Qualifying site" now includes the following categories:

- Operation of a mine
- Extraction of clay, peat, sand, shale or aggregates (including dimension stone and gravel)
- Deposit of waste
- Operation of a pipeline

A trust established for similar set-aside reclamation fund purposes has to be for a site that can be included in one of these categories to qualify for the QET status.

Although pipelines have been included in the scope of "qualifying site", whether a trust established by a pipeline company meets the criteria of QET status is still not straightforward due to the restrictive clauses defined in ITA subsection 211.6(1) for "excluded trust", "prohibited investment", "qualifying contract" and "qualifying law".

These complicated tax rules require specialized knowledge in this area and significantly reduce the certainty about the QET status of a trust. As a result, Enbridge and its peer pipeline companies engaged external experts in preparing and submitting applications for advance income tax ruling on the QET status for each trust. No investment activities were initiated before a ruling was issued by the CRA.

TAB 6

ENBRIDGE GAS INC.

Answer to Interrogatory from
Canadian Manufacturers & Exporters (CME)

Interrogatory

Reference:

Exhibit 4, Tab 5, Schedule 1, Attachment 3, p. 18 of 20

Question(s):

At page 18, EGI listed what it believes are the benefits and drawbacks of establishing a segregated fund.

a) Please provide a forecast for what EGI believes the administration costs would be for administering a segregated fund.

b) Please provide a forecast for what EGI believes the legal and tax involvement costs would be to deal with ‘tax issues associated with establishing the fund’.

c) Please explain why EGI believes the fact that no utility has voluntarily set up a segregated fund for SRC costs is, in and of itself, a drawback.

d) Please explain why EGI believes that not having a large-scale retirement is in and of itself, a drawback to setting up a segregated fund.

e) Has EGI forecast what positive returns it may earn on a segregated fund that was invested. Alternatively, is EGI aware of what other entities have earned from investing segregated funds?

Response:

a) Enbridge Gas has not forecasted the administration costs for administering a segregated fund. Please see response at Exhibit I.4.5-ED-136 part h) for administration costs that some CER regulated entities have reported on their segregated funds.

b) Enbridge Gas has not forecasted the legal and tax costs associated with establishing the fund, however, this would include costs related to engaging legal counsel to set up the trust, tax lawyers to petition the Canada Revenue Agency (CRA) for the setup of a Qualifying Environmental Trust (QET) and costs related to filing tax returns.

c) Enbridge Gas believes that the lack of precedent regarding natural gas utilities and segregated funds is potentially a drawback as this is indicative of the practicality of these funds for natural gas utilities and their numerous and diverse assets. The Company found that many of the conclusions for not adopting a segregated fund as described by Fortis BC in their 2012-2013 Revenue Requirements and Natural Gas Application were applicable to Enbridge Gas today.

d) Enbridge Gas does not believe that not having a large-scale retirement is necessarily in itself, a drawback. Rather, Enbridge Gas does not expect to require funds to retire a significant portion of the utility assets in the near to medium term. The company believes it would be more appropriate to set up a segregated fund when there is more certainty regarding the expected end of life of its assets and suggests that certain ‘sign posts’, as provided at Exhibit I.4.5-SEC-193 part b) could be used to initiate the establishment of a segregated fund..

e) Enbridge Gas has not forecasted any potential return scenarios for a segregated fund. Please see response at Exhibit I.4.5-ED-136 part g) for returns that some CER regulated entities have reported on their segregated funds.

TAB 7

INDUSTRIAL GAS USERS ASSOCIATION (Madsen)

Answer to Interrogatory from Ontario Energy Board Staff (STAFF)

Reference:

Exhibit M5, p.7-9
Exhibit M2, p. 6-7, 9-10

Question:

The IGUA Depreciation Report recommends different average service lives and survivor curves for various accounts than those proposed by Enbridge Gas. The Ontario Energy Board (OEB) Staff Depreciation Report also recommends different asset life parameters for various accounts than those proposed by Enbridge Gas.

Furthermore, the OEB Staff Depreciation Report recommends different net salvage parameters than those proposed by Enbridge Gas.

a) With regards to asset service life parameters, the IGUA and OEB Staff Depreciation Reports both made recommendations for Accounts 475.21 Mains – Coated and Wrapped and Account 475.3 Mains – Plastic. The OEB Staff Depreciation Report also makes recommendations for various accounts (Accounts 452, 456, 457, 465) that the IGUA Depreciation Report did not comment on. Please provide IGUA's expert's view on the asset life recommendations proposed in the OEB Staff Depreciation Report. Also, for accounts that the IGUA Depreciation Report did not comment on, please provide IGUA's expert's view on whether the asset life parameters proposed in the OEB Staff Depreciation Report or proposed by Enbridge Gas would be more appropriate.

b) With regards to the net salvage parameters recommended in the OEB Staff Depreciation Report, please provide IGUA's expert's view on these recommendations as compared to the net salvage parameters proposed by Enbridge Gas.

Response:

a) The following summarizes my opinion on each of the accounts addressed in the asset life recommendations of InterGroup's report:

   i. Account 452.00 – Underground Storage – Structures and improvements – InterGroup recommends a 45-R2.5 curve as compared to the 40-R3 proposed by Concentric. I agree with InterGroup that there is a superior mathematical fit for the 45-R2.5 given the residual measure is 0.2695 as compared to 1.0564. I also agree there is a superior visual fit to the observed retirement data, including through approximately age 10.5 to 20.5. I agree with InterGroup's recommendation for this account.

ii. Account 456.00 – Underground Storage – Compressor Equipment – InterGroup recommends a 44-R4 curve as compared to the 40-R4 proposed by Concentric. InterGroup observes that a 44-R4 curve has a superior mathematical and visual fit as compared to the 40-R4 curve. I agree. However, I also note InterGroup's evidence that Concentric, previously Gannett Fleming, recommended a 45-R3 curve in its 2016 Depreciation Study. In my opinion, a 44-R4 curve is superior to a 40-R4 curve for the reasons stated in InterGroup's evidence. However, I also consider that a 45-R3 curve, and in particular the R3 curve in general provides a superior visual fit to the observed retirement data through approximately age 25.5. The mathematical fit with a residual measure of 0.5075 is also comparable to the residual measure for a 44-R4 of 0.4221. Therefore, while I support the recommendation of InterGroup over that of Concentric, I would have recommended a 45-R3 curve.

iii. Account 457.00 – Underground Storage – Regulating and measuring equipment – InterGroup recommends a 40-R2.5 curve as compared to the 35-R3 curve proposed by Concentric. InterGroup observes there is a superior mathematical and visual fit to the observed retirement data with a 40-R2.5 curve. I agree with InterGroup's findings for this account.

iv. Account 465.00 – Transmission plant – Mains – InterGroup recommends a 70-R4 curve as compared to the 60-R4 curve proposed by Concentric. I agree with InterGroup that Concentric has provided minimal evidence from discussions with management to support its recommended curve given the mathematical fit and residual measure of 4.3693. I also agree that a 70-R4 curve provided a better visual fit and would provide a better mathematical fit. Finally, I agree that directionally a life extension for this account would better align with peer data. Therefore, I support the recommendations of InterGroup for this account.

v. Account 475.21 – Mains – Coated & Wrapped – InterGroup recommends a 70-R3 curve, I recommended a 63-R3 to 65-R3 curve, and Concentric recommended a 55-R3 curve. InterGroup concludes that "it is more appropriate at a minimum to maintain the currently approved EGD's life curve of Iowa 61-R3" and further concludes that a 70-R3 provides a better mathematical fit and is aligned with the peer data range. I agree with InterGroup's observations, and my own evidence supports a life extension albeit less than InterGroup. On the balance, while I continue to recommend a life of 65-R3, I would also accept a 70-R3 curve as being reasonable in the circumstances. I assessed both a 70-R3 and 80-R3 curve (see PDF 56, lines 6 to 11), including various life-curve combinations and agree that a 70-R3 curve would be reasonable, provide a good mathematical and visual fit, and be consistent with the peer group. My selection of a 65-R3 curve is based on the reasons stated at PDF page 56 lines 12 to 19 of my evidence, and to provide for a more moderate and gradual life extension.

vi. Account 475.30 – Mains – Plastic – InterGroup recommends a 65-R3 curve, I recommended a 70-R2 curve, and Concentric recommended a 60-R4 curve. I note

InterGroup also observe in its evidence that “a 70-R4 would also be within the range of peers and EGD’s past evidence.” In rejecting a 70-R4 curve InterGroup states “actuarial data was not analyzed for a Iowa 70-R4 and it is likely less robust than Iowa 65-R3 which was compared to Enbridge Gas’s recorded experience.” I conducted actuarial analysis of a 70-R4 curve and arrived at a similar conclusion. In particular, the R4 curve at this average service life does not provide a good fit to the observed retirement data. In particular, a 70-R4 curve would provide a poor fit to the retirement data through approximately age 60. The same conclusion can be drawn in general for the R4 curve. For this reason, I recommended a 70-R2 curve which provides a superior fit to the observed retirement data and a residual measure of 0.3116. I continue to prefer a 70-R2 curve relative to the curves recommended by Concentric and InterGroup.

b) The following summarizes my opinion on each of the accounts addressed in the net salvage recommendations of InterGroup’s report:

i. Account 465.00 – Transmission plant – Mains – InterGroup recommends a -15% net salvage rate as compared to the -25% rate proposed by Concentric.

ii. Account 466.00 – Compressor Equipment – InterGroup recommends a -5% net salvage rate as compared to the -10% rate proposed by Concentric.

iii. Account 467.00 – Measuring and Regulating Equipment – InterGroup recommends a -10% net salvage rate as compared to the -25% rate proposed by Concentric.

iv. Account 473.02 – Services – Plastic – InterGroup recommends a -40% net salvage rate as compared to the -50% rate proposed by Concentric.

v. Account 475.21 – Mains – Coated and wrapped – InterGroup recommends a -40% net salvage rate as compared to the -80% rate proposed by Concentric.

vi. Account 475.30 – Mains – Plastic – InterGroup recommends a -25% net salvage rate as compared to the -80% rate proposed by Concentric.

Each of the above recommendations of InterGroup are based on a review of the net salvage rates for Enbridge’s peers. Having reviewed the evidence, including Concentric’s conclusions regarding the same, I am generally supportive of the recommendations made by InterGroup. Specifically, I agree that many of InterGroup’s recommendations tend to maintain the level as currently approved while also aligning the rates with peers.

Maintaining salvage rates that are consistent with peers and existing experience also aligns with my own evidence which suggests more data is required to better understand the expected level of salvage costs in the future. Avoiding significant changes to existing net salvage rates is appropriate in order to better understand the full magnitude of any future obligations. This information will also permit parties a better opportunity to review the appropriateness of the CDNS calculations, and other potential alternatives to the recovery of net salvage in a wholistic manner.

TAB 8

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

4-5-1, p.5

Question(s):

SEC seeks to understand the impact of the proposed methodology as compared to the historic EGD and Union methodologies. For each methodology in Table 2, please provide what the 2024 test year depreciation expense would (is forecast to) be, broken down by 'topic'.

Response:

The following response was provided by Concentric Energy Advisors, Inc.

The depreciation expense calculated using the Average Life Group procedure is provided at Exhibit I.2.6-STAFF-173 part e) i. This response includes the ALG expense at the account level, summed to the functional group level, as at December 31, 2021.

The depreciation expense change relating to the change from Generation Arrangement to Equal Life Group is minimal. These calculations can only be carried out in Excel and take an extraordinary amount of time to complete. As such, Concentric has not included these calculations. For an example of the depreciation expense using the Generation Arrangement, please see Exhibit 4, Tab 5, Schedule 1, Attachment 1, Appendix 2.

The move to amortization accounting for certain asset classes will have a minimal impact on the depreciation rates. Both EGD and Union calculated certain asset classes using a Square curve, and this has been continued into the current study. While there is a small change in some of the detailed accounting procedures used by EGD, this will have only a minimal impact on the depreciation rate as a whole.

The change to the CDNS method of net salvage will have the impact of reducing total depreciation expense. Please see Attachment 1 for the depreciation calculations completed without the CDNS method.

TABLE 1. ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND

TABLE 1. ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND

CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO PLANT IN SERVICE AT DECEMBER 31, 2021

Related to Total Expense

Account	Description	Truncation Date	Estimated Survivor Curve	Net Salvage Percent	Surviving Original Cost as of 12/31/2021	Book Reserve	Future Accruals	Annual Accrual Amount	Composite Remaining Life	Annual Accrual Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
LOCAL STORAGE PLANT										
442.00	STRUCTURES AND IMPROVEMENTS	0	40-S5	0%	6,282,181	2,805,060	3,477,121	105,928	24.7	1.69%
443.01	HOLDER - STORAGE TANK	0	45-R4	0%	5,804,412	4,023,544	1,780,869	55,594	19.1	0.96%
443.02	HOLDER EQUIPMENT	0	55-R4	0%	21,554,522	11,363,396	10,191,126	229,183	36.8	1.06%
TOTAL LOCAL STORAGE PLANT					**33,641,115**	**18,192,000**	**15,449,115**	**390,705**		1.16%
UNDERGROUND STORAGE PLANT										
451.00	LAND RIGHTS INTANGIBLE	0	55-R4	0%	74,762,354	45,841,825	28,920,529	1,102,904	23.0	1.48%
452.00	STRUCTURES AND IMPROVEMENTS	0	40-R3	-15%	104,433,820	47,148,032	72,950,861	4,698,552	19.8	4.50%
453.00	WELLS	0	45-R2.5	-50%	143,144,395	50,040,540	164,676,052	6,926,251	25.9	4.84%
454.00	WELL EQUIPMENT	0	40-R2	0%	13,364,517	8,575,936	4,788,581	175,831	21.4	1.32%
455.00	FIELD LINES	0	55-R3	-15%	201,920,080	53,298,115	178,909,977	5,616,753	33.4	2.78%
456.00	COMPRESSOR EQUIPMENT	0	40-R4	-10%	682,328,757	228,311,196	522,250,437	21,249,337	25.5	3.11%
457.00	REGULATING AND MEASURING EQUIPMENT	0	35-R3	-20%	77,194,133	51,829,828	40,803,132	2,379,151	15.6	3.08%
TOTAL UNDERGROUND STORAGE PLANT					**1,297,148,055**	**485,045,470**	**1,013,299,570**	**42,148,779**		3.25%
TRANSMISSION PLANT										
461.00	LAND RIGHTS INTANGIBLE	0	60-R4	0%	88,171,402	20,599,533	67,571,869	1,507,598	44.3	1.71%
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	0	50-S4	-10%	163,351,958	40,353,631	139,333,523	3,661,764	37.7	2.24%
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	0	55-S4	-10%	11,252,284	7,167,268	5,210,244	176,656	26.2	1.57%
464.00	EQUIPMENT	0	50-S4	-10%	2,920,218	523,642	2,688,598	70,260	39.7	2.41%
465.00	MAINS	0	60-R4	-25%	2,783,251,797	919,330,147	2,559,734,599	59,316,643	42.3	2.13%
466.00	COMPRESSOR EQUIPMENT	0	30-R4	-10%	1,005,060,039	331,530,582	774,035,461	39,670,580	19.6	3.95%
467.00	MEASURING AND REGULATING EQUIPMENT	0	40-R4	-25%	395,646,542	119,798,512	374,759,665	13,851,658	27.7	3.50%
TOTAL TRANSMISSION PLANT					**4,449,654,239**	**1,439,303,314**	**3,923,333,959**	**118,255,159**		2.66%
DISTRIBUTION PLANT										
471.00	LAND RIGHTS INTANGIBLE	0	60-R4	0%	63,907,560	12,099,619	51,807,941	1,150,753	45.2	1.80%
472.00 *	STRUCTURES AND IMPROVEMENTS - OTHER	0	40-S0.5	0%	220,832,605	64,014,227	156,818,378	7,005,487	21.7	3.17%
472.31	STRUCTURES AND IMPROVEMENTS - STONEY CREEK	2046	40-S0.5	0%	29,662,115	5,056,171	24,605,944	1,325,428	18.6	4.47%
472.32	STRUCTURES AND IMPROVEMENTS - WIN-RHODES	2046	40-S0.5	0%	23,216,546	5,549,955	17,666,591	991,735	17.9	4.27%
472.33	STRUCTURES AND IMPROVEMENTS - LONDON ADMIN	2026	40-S0.5	0%	19,789,902	9,778,917	10,010,985	2,365,393	4.2	11.95%
472.34	STRUCTURES AND IMPROVEMENTS - KINGSTON OFFICE	2046	40-S0.5	0%	16,737,576	4,069,504	12,668,072	704,663	18.0	4.21%
472.35	STRUCTURES AND IMPROVEMENTS - MAINWAY	2023	40-S0.5	0%	15,937,297	3,958,252	11,979,045	8,045,939	1.5	50.48%
473.01	SERVICES - METAL	0	45-S1	-50%	549,648,294	268,325,815	556,146,627	25,746,480	23.0	4.68%
473.02	SERVICES - PLASTIC	0	55-S3	-50%	4,458,883,265	1,384,833,504	5,303,491,393	154,964,249	35.7	3.48%
474.00	REGULATORS	0	25-SQ	0%	488,870,931	59,858,893	429,012,038	43,329,780	15.5	8.86%
475.00	MAINS - ENVISION	0	25-SQ	0%	181,264,676	59,887,548	121,377,128	10,469,399	12.2	5.78%
475.21	MAINS - COATED & WRAPPED	0	55-R3	-80%	3,320,418,328	1,051,359,036	4,925,393,956	158,851,818	34.9	4.78%
475.30	MAINS - PLASTIC	0	60-R4	-80%	3,480,106,028	928,431,883	5,335,758,968	132,415,199	42.0	3.80%
476.00	COMPANY NGV COMPRESSOR STATIONS	0	17-S2.5	0%	9,878,703	5,181,735	4,696,968	365,238	9.7	3.70%
477.00	MEASURING AND REGULATING EQUIPMENT	0	40-R2	-15%	950,956,098	367,887,432	725,712,080	29,849,277	23.3	3.14%
477.01	CUSTOMER M&R EQUIPMENT	0	35-R3	0%	143,726,981	52,094,469	91,632,512	4,800,551	19.4	3.34%
478.00	METERS	0	15-S2.5	0%	1,020,910,894	469,525,898	551,384,996	104,686,373	6.4	10.25%
TOTAL DISTRIBUTION PLANT					**14,994,747,798**	**4,751,912,857**	**18,330,163,621**	**687,067,762**		4.58%
GENERAL PLANT										
482.00	STRUCTURES AND IMPROVEMENTS - OTHER	0	40-R1.5	0%	13,255,572	8,677,610	4,577,962	191,336	23.2	1.44%
482.01	STRUCTURES AND IMPROVEMENTS - VPC	2033	40-R1.5	0%	53,463,354	19,270,729	34,192,626	3,400,629	10.0	6.36%
482.04	STRUCTURES AND IMPROVEMENTS - THOROLD	2022	40-R1.5	0%	15,678,640	6,391,978	9,286,662	9,286,663	0.5	59.23%
482.05	STRUCTURES AND IMPROVEMENTS - MARKHAM	2046	40-R1.5	0%	36,671,818	6,852,980	29,818,839	1,544,848	19.3	4.21%
482.51	STRUCTURES AND IMPROVEMENTS - KEIL HEAD OFFICE	2049	40-R1.5	0%	69,558,675	11,589,939	57,968,736	3,906,954	16.4	5.62%
482.52	STRUCTURES AND IMPROVEMENTS - BLOOMFIELD TRAINING CENTER	2028	40-R1.5	0%	19,237,692	1,664,764	17,572,928	2,814,701	6.2	14.63%
483.00	OFFICE FURNITURE AND EQUIPMENT	0	15-SQ	0%	29,776,062	20,323,396	9,452,666	1,200,881	6.0	4.03%
484.00	TRANSPORTATION EQUIPMENT	0	12-L2.5	0%	134,722,078	89,525,829	45,196,249	6,268,747	5.7	4.65%
485.00	HEAVY WORK EQUIPMENT	0	17-L1.5	0%	44,128,921	12,811,266	31,317,655	3,658,037	8.6	8.29%
486.00	TOOLS AND WORK EQUIPMENT	0	15-SQ	0%	79,966,854	26,128,214	53,838,641	9,529,666	7.6	11.92%
487.70	RENTAL - REFUEL APPL	0	15-SQ	0%	864,755	92,164	772,591	86,895	9.3	10.05%
487.80	RENTAL - NGV STATIONS	0	20-SQ	0%	7,774,175	2,397,143	5,377,032	288,265	18.4	3.71%
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	0	10-SQ	0%	11,224,609	4,990,530	6,234,079	2,946,627	2.6	26.25%
490.00	COMPUTER EQUIPMENT	0	4-SQ	0%	30,306,679	20,774,567	9,532,112	4,041,429	1.7	13.34%
	COMPUTER EQUIPMENT - POST 2023	0	4-SQ	0%	0	0	0	0	0.0	25.00%
490.30	COMPUTER EQUIPMENT - WAMS	0	10-SQ	0%	4,680,899	2,418,465	2,262,435	502,763	4.5	10.74%

* Annual Accrual Rates for new major structures in Account 472.00 after 2023 are 4.02%.
** New depreciation rate for major longer term intangible asset additions post 2023
*** Adjustments between regulated and unregulated storage operations to align with updated exhibits in Enbridge Gas's 2021 Utility Earnings and Disposition of Deferral & Variance Account Balances proceeding (EB-2022-0110), as filed on September 2, 2022

TABLE 1. ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND

TABLE 1. ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND

CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO PLANT IN SERVICE AT DECEMBER 31, 2021

Related to Total Expense

Account	Description	Truncation Date	Estimated Survivor Curve	Net Salvage Percent	Surviving Original Cost as of 12/31/2021	Book Reserve	Future Accruals	Annual Accrual Amount	Composite Remaining Life	Annual Accrual Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
491.01	SOFTWARE ACQUIRED INTANGIBLES	0	4-SQ	0%	155,164,785	107,550,337	47,614,448	13,604,128	2.0	8.77%
	SOFTWARE ACQUIRED INTANGIBLES - POST 2023	0	4-SQ	0%	0	0	0	0	0.0	25.00%
491.02	SOFTWARE DEVELOPED INTANGIBLES	0	4-SQ	0%	38,776,288	25,519,357	13,256,930	3,892,471	2.2	10.04%
	SOFTWARE DEVELOPED INTANGIBLES - POST 2023	0	4-SQ	0%	0	0	0	0	0.0	25.00%
491.03	CIS ACQUIRED SOFTWARE	0	10-SQ	0%	87,626,214	20,250,171	67,376,042	7,217,716	8.4	8.24%
**	SOFTWARE INTANGIBLES - 10 YEAR	0	10-SQ	0%	0	0	0	0	0.0	10.00%
491.04	WAMS	0	10-SQ	0%	85,221,905	44,031,318	41,190,587	9,153,464	4.5	10.74%
TOTAL GENERAL PLANT					**918,099,975**	**431,260,756**	**486,839,219**	**83,536,220**		9.10%
TOTAL UTILITY PLANT STUDIED					**21,693,291,183**	**7,125,714,397**	**23,769,085,484**	**931,398,625**		**4.29%**
PLANT NOT STUDIED										
401.00	Franchises and Consents - Total Comp				1,175,081					
402.04	Other Intangibles - Lakeland Acquisition Adjustment				494,761					
458.00	Base Pressure and Line Pack Gas				76,135,052					
	Land (Including MacLeod Property)				177,293,391					
	Plant Held for Future Use				1,670,861					
	Inventory Adjustment				59,309,971					
***	Post Study Adjustments				5,005,525					
TOTAL PLANT NOT STUDIED					**321,084,642**					
TOTAL UTILITY PLANT IN SERVICE					**22,014,375,825**					

* Annual Accrual Rates for new major structures in Account 472.00 after 2023 are 4.02%.
** New depreciation rate for major longer term intangible asset additions post 2023
*** Adjustments between regulated and unregulated storage operations to align with updated exhibits in Enbridge Gas's 2021 Utility Earnings and Disposition of Deferral & Variance Account Balances proceeding (EB-2022-0110), as filed on September 2, 2022

TAB 9

ENBRIDGE GAS INC.

Answer to Interrogatory from
Industrial Gas Users Association (IGUA)

Interrogatory

Reference:

Exhibit 4, Tab 5, Schedule 1, Attachment 1, page 3-14.

Preamble:

Concentric frequently refers to a peer analysis that it has completed for both lives and net salvage rates, but the analysis does not appear to be filed.

Question(s):

a) Please provide a copy of the peer analysis in a working Excel file for both lives and net salvage or refer to where the information is included in the record for each account studied.

b) If the peer analysis is not included in the Concentric report, please fully explain why the evidence was not included as part of the original filing. For example, if not filed, does Concentric consider the peer analysis to be of less relevance or weight to Concentric's conclusions and recommendations? Please explain.

c) Please explain in detail why each of the peers included in Concentric's analysis are relevant peers that should be compared to the EGI assets. Similarly, if any possible peers in the Canadian utility industry were excluded, please fully explain why this was the case.

d) For each of the companies included in the peer analysis, please also provide a separate table showing the life or net salvage rate recommended by Concentric for the peer, if Concentric performed the depreciation and net salvage study.

Response:

The following responses were prepared by Concentric:

a) Please see Attachment 1 for the peer analysis in a working Excel file for both lives and net salvage.

b) As the results of the peer analysis are included in each relevant account write-up in the filed report, Concentric does not believe that there should be less weight placed on the analysis even though the tables were not filed. The peer analysis for both life and salvage are one of the many factors considered by Concentric for the recommendations for each account studied. The other factors include:

- Data available from the client;
- Common Regulatory Practice within the client jurisdiction;
- The historic practice and company policies of the client;
- Prior directions from the client's regulatory authority;
- The evaluation of the recent changes in the depreciation practice implemented for a specific utility.

c) All of the peers included in Concentric's analysis include Canadian gas distribution and transmission companies. These are included as their assets share similar attributes with Enbridge Gas's, such as climate and government policies.

d) Please see Attachment 2 for the list of recommendations for the peer companies whose study was completed by Mr. Kennedy. Mr. Kennedy was employed by Gannett Fleming until April 2017, and any studies completed after April 2017 were done by Concentric.

PEER ANALYSIS

		EGD	UGL	AltaGas	FortisBC	ATCO Gas	Centra Gas	IntraGaz	PNG	Gazifere	Recommend
LOCAL STORAGE PLANT											
442	STRUCTURES AND IMPROVEMEN		2050-200-SC					40-R4			40-S5
443.01	HOLDER - STORAGE TANK		2050-200-SC						40-SQ		45-R4
443.02	HOLDER EQUIPMENT		2050-200-SC								55-R4
UNDERGROUND STORAGE PLANT											
451	LAND RIGHTS INTANG	65-R4	45-L4					40-SQ			55-R4
452	STRUCTURES AND IMP	40-R2.5	2040-200-SC					40-R4			40-R3
453	WELLS	50-R2	45-L4					40-R4			45-R2.5
454	WELL EQUIPMENT	55-R2.5						30-R3			40-R2
455	FIELD LINES	60-R4						40-R4			55-R3
456	COMPRESSOR EQUIPI	45-R3	40-R3					30-R3			40-R4
457	REGULATING AND ME	35-R4	35-R3								35-R3
TRANSMISSION PLANT											
461	LAND RIGHTS INTANGIBLE		60-R4	70-R3			75-R4		75-R4		60-R4
462	COMPRESSOR STRUCTURES ANE		55-S4		30-S4		50-R5		30-R4		50-S4
463	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS										55-S4
464	EQUIPMENT										50-S4
465	MAINS		60-R4	70-R3	65-R4		65-R4		65-R4		60-R4
466	COMPRESSOR EQUIPMENT		35-S3		37-R4				35-R3		30-R4
467	MEASURING AND REGULATING		45-S1	42-R3	37-R1.5		50-S2.5		35-S2.5		40-R4
DISTRIBUTION PLANT											
471	LAND RIGHTS INTANG	75-R4	60-L2	65-R4		75-SQ	75-R4		75-R4		60-R4
472	STRUCTURES AND IMP	50-R1	40-R0.5		38-R1.5	60-R3	45-R1.5		30-R3		40-S0.5
473	SERVICES	45-S1	50-R1.5 (Metal)/55-R3 (Plastic)	55-R3	47-R2	57-R2.5	55-R2.5		50-R4	53-R3.5	45-S1 Metal / 55-S3 Plastic
474	REGULATORS		20-SQ	35-S3	20-S0						25-SQ
475	MAINS - ENVISION	25-SQ									25-SQ
475.21	MAINS - COATED & W	70-R3	55-R4	65-R2	65-R2.5	66-R2.5	65-R4		65-R4	80-R3	55-R3
475.3	MAINS - PLASTIC	70-R4	60-L2	65-R2	65-R2.5	66-R2.5	65-R4		65-R4	80-R3	60-R4
476	COMPANY NGV COM	17-S2.5									17-S2.5
477	MEASURING AND REC	42-R1.5	50-S1	42-R2.5	33-R2	45-R1.5	35-R2		35-R4	30-R4	40-R2
477.01	CUSTOMER M&R EQUIPMENT										35-R3
478	METERS	15-S2.5	25-L1.5	25-R3	18-R4	18-R3	26-S1.5		20-R4	18-R0.5	15-S2.5
GENERAL PLANT											
482	STRUCTURES AND IMPROVEMEN		2045-200-SC	75-R2		44-R2.5	45-R3		30-R3		40-R1.5
483	OFFICE FURNITURE AN	15-SQ	15-SQ	15-SQ	20-SQ	20-SQ	15-SQ	7-SQ	15-SQ	15-SQ	15-SQ
484	TRANSPORTATION EQI	12-L1.5	8-L1.5	7-L1.5	7-L1	12-L2.5	10-R5	6-L3	8-L3	13-R4	12-L2.5
485	HEAVY WORK EQUIPN	18-L1	13-L2	10-L1	13-L0.5	13-L2	20-R5		18-R3	15-S3	17-L1.5
486	TOOLS AND WORK EC	15-SQ	15-SQ	20-SQ	20-SQ	15-SQ	15-SQ	10-SQ	20-SQ	10-SQ	15-SQ
487.7	RENTAL - REFUEL APPL	20-SQ				24-R3					15-SQ
487.8	RENTAL - NGV STATIOI	20-SQ				20-R5					20-SQ
488	COMMUNICATION ST	10-SQ	15-SQ	5-SQ	15-SQ	23-R1			14-SQ	7-S4	10-SQ
490	COMPUTER EQUIPMEI	5-SQ	4-SQ	3-5-SQ	4-SQ	6-SQ	5-SQ	5-SQ	5-SQ	4-SQ	4-SQ
490.3	COMPUTER EQUIPMEI	10-SQ									10-SQ
491.01	SOFTWARE ACQUIRED	4-SQ	10-SQ	3-SQ	5-8-SQ	3-10-SQ	5-SQ			4-SQ	4-SQ
491.02	SOFTWARE DEVELOPE	5-SQ		10-SQ	5-8-SQ					4-SQ	4-SQ
491.03	CIS ACQUIRED SOFTW	10-SQ								7-SQ	10-SQ
491.04	WAMS	10-SQ									10-SQ
TOTAL GENERAL PLANT											

PEER ANALYSIS

		EGD	UGL	AltaGas	FortisBC	ATCO Gas (Requested)	CentraGas	PNG (Requested)	Gazifere (requested)	Recommended
LOCAL STORAGE PLANT										
442	STRUCTURES AND IMPROVEMENTS		-0.4%		-10%					0%
443.01	HOLDER - STORAGE TANK		-0.4%		-20%					0%
443.02	HOLDER EQUIPMENT		-0.4%		-20%					0%
UNDERGROUND STORAGE PLANT										
451	LAND RIGHTS INTANGIBLE									0%
452	STRUCTURES AND IMPROVEMENTS		-10%							-15%
453	WELLS	-6%	-20%							-50%
454	WELL EQUIPMENT									0%
455	FIELD LINES	-7%								-15%
456	COMPRESSOR EQUIPMENT	-2%	-10%							-10%
457	REGULATING AND MEASURING EQUIPMENT	-7%	-10%							-20%
TRANSMISSION PLANT										
461	LAND RIGHTS INTANGIBLE									
462	COMPRESSOR STRUCTURES AND IMPROVEMENTS		-5%		-3%			-3%		-10%
463	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS		-5%		-15%					-10%
464	EQUIPMENT		-5%							-10%
465	MAINS		-15%	-30%	-20%			-20%		-25%
466	COMPRESSOR EQUIPMENT		-5%		-3%			-2%		-10%
467	MEASURING AND REGULATING EQUIPMENT		-10%	-75%	-5%			-7%		-25%
DISTRIBUTION PLANT										
471	LAND RIGHTS INTANGIBLE									
472	STRUCTURES AND IMPROVEMENTS	-40%			-15%	-65%		-10%		-5%
473	SERVICES	-34%	-35%	-100%	-70%	-125%		-60%	-125%	-50%
474	REGULATORS			0%	-20%					
475	MAINS - ENVISION									
475.21	MAINS - COATED & WRAPPED	-34%	-40%	-75%	-25%	-70%		-25%	-90%	-80%
475.3	MAINS - PLASTIC	-41%	-75%	-75%	-25%	-70%		-25%	-90%	-80%
476	COMPANY NGV COMPRESSOR STATIONS									
477	MEASURING AND REGULATING EQUIPMENT	-3%	-40%	-15%	-12%	-30%		-7%	-10%	-15%
477.01	CUSTOMER M&R EQUIPMENT									
478	METERS	5%		0%		10%		1%		0%
GENERAL PLANT										
482	STRUCTURES AND IMPROVEMENTS		20%		-4%	-15%				10%
483	OFFICE FURNITURE AND EQUIPMENT									
484	TRANSPORTATION EQUIPMENT	5%		20%	15%	15%	10%	15%		10%
485	HEAVY WORK EQUIPMENT	25%		15%	5%	20%	20%	10%		15%
486	TOOLS AND WORK EQUIPMENT									
487.7	RENTAL - REFUEL APPL					-4%				
487.8	RENTAL - NGV STATIONS					-4%				
488	COMMUNICATION STRUCTURES AND EQUIPMENT					-3%				
490	COMPUTER EQUIPMENT									
490.3	COMPUTER EQUIPMENT - WAMS									
491.01	SOFTWARE ACQUIRED INTANGIBLES									
491.02	SOFTWARE DEVELOPED INTANGIBLES									
491.03	CIS ACQUIRED SOFTWARE									
491.04	WAMS									

TAB 10

ENBRIDGE GAS INC.

Answer to Undertaking from
Ontario Greenhouse Vegetable Growers (OGVG)

Undertaking

Tr: 158

To provide an example of how, from a regulatory and [audio dropout] perspective, a situation where a sort of average residential customer with assets connecting into a system that haven't been fully depreciated completely disconnects from the system, and those assets then become stranded in the sense that they're no longer used or useful by the company, to advise what are the steps that follow from that from a regulatory and accounting perspective.

Response:

Based on the discussion which occurred during the Technical Conference, Enbridge Gas interprets the undertaking to ask about the regulatory and accounting treatment of two scenarios:

a) A residential customer with assets connecting into a system that have not been fully depreciated completely disconnects from the system (Scenario 1); and

b) An entire neighbourhood gets a grant from the federal government to go electric (Scenario 2).

As provided in response at Exhibit I.1.10-OGVG-1, Enbridge Gas defines the term stranded asset as an investment that becomes no longer used or useful in the provision of service to customers before the end of its expected physical life due to changes in market conditions or government policies. The recovery of costs related to stranded assets is a separate issue from the determination of whether an asset is stranded. Costs of stranded assets which are found not to be recoverable would become stranded costs. Further, Enbridge Gas's understanding, based on discussions with Concentric Energy Advisors, is that depreciation rates are determined with the expectation that some assets will be retired before they are fully depreciated.

In Scenario 1, where a single customer disconnects from the system, the assets would not be considered stranded as they are considered as part of typical retirements already contemplated within the depreciation study. In such instances, the Company may not even know why the customer is disconnecting (e.g. an existing structure is being demolished with intent is to build a new structure in the future).

In Scenario 2, where an entire neighbourhood disconnects from the system resulting from a change in government policy, the assets would meet Enbridge Gas's definition of stranded assets if they cannot be repurposed to remain used or useful.

However, Enbridge Gas does not believe there would be stranded asset costs in either scenario, to the extent the scenarios were reasonably contemplated in prior depreciation studies. From an accounting and regulatory perspective, Enbridge Gas applies group depreciation procedures to plant assets, including gas meters and distribution service lines. If the assets disconnected are retired before their expected average service life is reached (as reflected for the group), the implied loss is captured in accumulated depreciation. The loss would be reflected in subsequent depreciation studies and recovered through depreciation expense over the remaining life of the assets left within the group.

Enbridge Gas expects that large scale retirements (e.g. municipalities transitioning to full electrification) as a result of changes in market conditions or government policies would be implemented over an extended period of time and would be communicated in advance. As a result, subsequent depreciation studies reflecting the need for accelerated depreciation and economic planning horizons, or some other regulatory mechanism, could be implemented to address stranded asset costs.

TAB 11

ONTARIO ENERGY BOARD

FILE NO.:	**EB-2022-0200**	**Enbridge Gas Inc.**

VOLUME: **Technical Conference**

DATE: **March 27, 2023**

concern, or you explain why it fails to deal with this concern. And if I understand it correctly that's because there would still be assets in service, some of the assets in service, and customers at that time would still be enjoying that benefit. So that would create, in fairness, in effect, in the other direction; correct?

MR. KENNEDY: Correct.

MR. POCH: All right. And you then gave an example how explaining how the ELG approach helps somewhat, compared to the average life approach because it recognizes some of the -- some subset of assets is going to retire earlier. And we saw that example discussed earlier with the thousand dollars in five years and a thousand that lasts 15 years. And in that circumstance, obviously, it eases the situation.

But Enbridge's projections, which you may or may not be aware of in this case, are that while the assets will actually all remain in service, although they will be used a lot less in terms of the BTUs that get transported through them. Are you aware of that?

MR. KENNEDY: I understand that to be the case, yes.

MR. POCH: All right. And so I you mention in passing, then, in part (d) that there's -- I think it was in part (d) -- you go on to mention that this other approach, the unit of production-based depreciation and you are aware of that being reconsidered in some circles, and you've not recommended it, but it might be something you'd look at in future hearings.

So I want to just bring this to an understanding, if we can.

First of all, the equal life group approach isn't going to address this issue of all the assets remaining in service but being used less, correct?

MR. KENNEDY: Actually, it does, sir, to some extent. It would -- it structures -- the structure of the equal life group is it would depreciate more investment earlier in the life of an account, because it recognizes there will be some retirements of those accounts that have a shorter life.

So largely my view is the use of the equal life group as a good first step towards this trying to reconcile the question around stranded costs, without being as aggressive as, for example, an ECHOP (ph), a planning horizon.

MR. POCH: No, I understand --

MR. KENNEDY: I was trying to put that in context a little bit, sir. So it does have some mitigation impact on stranded costs because it assumes that the assets aren't -- more the service value of the asset is consumed, not necessarily the whole asset. So I want to be clear with that.

MR. POCH: I understand what you're saying about stranded assets. That's when some subgroup is actually stops being used.

MR. KENNEDY: Or used to a lesser extent. It also deals that.

MR. POCH: All right, so if there is simply less BTUs going throughout pipes the ELG approach will, in fact, depreciate those factors into rates?

MR. KENNEDY: Yes.

MR. POCH: Now, sir, can you perhaps explain what's the distinction between that and the unit of production methodology?

MR. KENNEDY: Actually they both do surprisingly a very similar structure.

Unit of production says, for example, if a storage field can hold X number of decajoules of gas at any point in time, and over its life, if it's a 60-year life, it has X amount of terajoules of gas capacity, you would appreciate the investment in that field through the annual throughput through that field.

So in other words, you have an ultimate capacity and you take the annual usage of that total capacity and that becomes your depreciation expense.

So in that manner, if in fact this theory [audio dropout] throughput through, we would include that in the enumerator of that equation, in other words, those fewer numbers of potential, and then we would then take the average throughput -- or the annual throughput, I'm sorry, over that reduced numerator, and so it is a bit of a refinement as we have traditionally known the unit of production.

And frankly, I have been in conversations with the number of other depreciation consultants, and we're investigating amongst our own group of, does it make sense, and it was presented at the Society of Depreciation Professionals conference last year. It was something that is maybe emerging as a solution to this in a softer manner than, perhaps, some economic planning horizon.

As for a number of times we've seen the Equal Life Group being presented. So, sir, I think I want to be really clear about my evidence, and I think it is important.

I view the energy transition is still unknown, because the degree and the magnitude, when it's going to occur and how much it's going to occur.

I'm writing testimony right now before the Federal Energy Regulatory Commission about, you know, are we -- is this 2040 realistic dates, is it all the natural gas, how much is hydrogen going to impact that? There are a lot of questions that are being answered.

So at this point in time, my view is the Equal Life Group is a very nice transition mechanism into trying to deal with those questions. It is right irregardless of energy transition. I do believe the Equal Life Group is an appropriate approach, but it is especially right at this point in time among unknown, not to say that when, as I sit here in five years from now, and when we talk again, that we may not be talking more strongly about an EPH if it is known that certain aspects -- for example, it's -- major lines in their entirety are known to go out of service, and we see it on federally-regulated large-diameter transmission pipes. We put EPHs on those facilities. So they had both -- there's a number of tools that are available for use.

The Equal Life Group, the perhaps unit of production, the use of an economic planning horizon. They are all tools that we can use as a matter of the appropriateness of timing of introducing those tools.

MR. POCH: So let me just ask. You've said a moment ago that you can use the Equal Life Group and to accommodate a situation where part of the distribution infrastructure is being relied on to a lesser extent.

It is still all being used, because gases are going through all those pipes and compressors and what-have-you, but some are putting through less.

And has -- in your study in this hearing, has that -- has that kind of adjustment been made in any case, going forward?

MR. KENNEDY: Not directly, sir, no. I mean, it's in the back of our minds, but not directly in terms of being quantified, absolutely not.

MR. POCH: So the adjustments in this case are simply where some group of those assets, you know it's going to be -- they are going to be retired sooner than -- and then some defined group, than the larger group, and you can quantify that?

MR. KENNEDY: Yes, we can hope to try to quantify that, yes.

MR. POCH: Now, if we went for the unit of production methodology, it just sounds to me, correct me if I'm wrong, there is a little more flexibility as to what you tie such adjustments to. You could pick, as you said, terajoules in storage.

Could you pick, for example, because we're talking about a future that might be with hydrogen, which has a different energy content for -- to volume ratio, could you try to BTUs delivered or perhaps BTUs on-peak since we're taking physical assets?

MR. KENNEDY: Conceptually, no, you could do that.

I answered that badly. My grammar is bad. Those kind of concepts could be built into a unit of production calculation conceptually.

I haven't put my mind to how we would do that and how you'd even try to forecast that, but conceptually, it could be -- a unit of production method could be used.

It may -- it is going to take some thinking to -- how you would implement that and how would you make the proper forecast, but conceptually it could work.

MR. POCH: Sure, but if we are just picking a structure to work in, I mean, you would just -- every time you are doing one of these studies, you are adjusting it going forward based on the best information you have in your judgment, and you are doing it now, and will presumably do it again in five years or sooner, correct?

MR. KENNEDY: Correct, sir.

MR. POCH: So I am just saying, it sounds to me like the unit of production methodology would give you a little more flexibility in terms of what you chose to adjust and on what basis as the information emerges.

I think we all agree we are in an era of uncertainty here, and I'm just wondering if that gives -- if that is something that is going to be a helpful option going forward to deal with that.

MR. KENNEDY: I think it would, sir.

For example, I used unit of production in Alberta for the Alberta [audio dropout] for some reason some TC's energy pipelines 30 years ago, and sometimes things that old come back to re-emerge.

I do -- to answer your question very directly is, yes, it could. It's going to take some work.

Frankly, I'm starting to envision within our models how that could ever happen, but it is going to take a lot of modelling and a lot of work to think about it.

Conceptually, I think the idea holds merit.

MR. POCH: Thank you. Then I'm going to leave it there. Those are my questions, I'm quite sure compared to my estimate, I'm sure everyone is happy to hear, and if we actually get to the next panel, I know Mr. Elson was asking if I could send him some time, and I would be happy to do so. Thank you.

MR. MILLAR: Thank you, Mr. Poch.

We will now move to Mr. Elson. Kent, we're looking to have our first afternoon break in about 20 minutes or so, so if that assists you in finding an appropriate spot to break, thanks.

MR. ELSON: Thank you, Mr. Millar.

MR. KENNEDY: The answer to that would be that is incorporated into our service-life estimates.

It would be -- the end of life is when your pipeline can no longer undertake the function for which it's designed, so in other words, if your pipe won't pass inspections, well, then it's done --

MR. ELSON: So when you say "average service life", does that mean if there's a 50 percent chance of this date being the end date then you pick that one?

MR. KENNEDY: No, I'm afraid that I need you to ask that question again.

MR. ELSON: You'd said the answer is the average service life. You know, you never know how long it is going to last. You've got your curve.

Where do you pick your line? Do you pick it roughly at the mid-point?

MR. KENNEDY: So that's -- so this is depreciation kind of textbook theory 101, is that you pick the curve and the area underneath your curve describes the average service life, so considering the whole curve, the total area underneath that curve, so we pick the shape of the curve, and then the shape of that curve applied to certain life estimate, or the life estimate is based on the area underneath that shape of the curve, so it is an algorithm at each life point, and when that curve runs to zero, and then we pick the average area underneath that curve.

MR. ELSON: Thank you.

Attachment 3, page 19, and my final question here.

This is another report that you did, Mr. Kennedy, and I'll read from my page while it's getting pulled up. Thank you for that:

> "Ultimately, the risk of recovery of a pipeline's investment, which is its fundamental risk, rests with the pipeline company to manage through such tools as depreciation studies and capitalization policies. Moreover, this fundamental risk is asymmetric. If, in the fullness of time, Enbridge's truncation date turns out to be too short, differs ultimately benefit through a lower future rate base and rates. On the other hand, should the truncation date have been set too long, then the pipeline may be unable to charge rates to allow it to recover its remaining investment."

Can you elaborate on this point about asymmetric risks?

MR. KENNEDY: I can try off the top of my head. So in other words, there is a risk of being too short. That risk falls to the toll payers of the customers. They are paying more than the service value of the system that they are consuming.

On the other side of the coin, if it's too long, the risk accrues to the company in that they may be then discussing a stranded cost application.

Now, a stranded cost is always a tricky bird, because cost isn't stranded until the commission deems it to be stranded. But the -- so the risk is on two-sided.

On one side too short, risk to the customers; too log, puts the risk onto the pipeline. And so the goal is to try to get it right.

MR. ELSON: It seems to me, Mr. Kennedy, that it is asymmetric in that it if it's too short customers get a benefit in the future, whereas if it's too long you have the problem of not being able to recover your full costs and the possibility of a death spiral.

Would it not be asymmetric in that sense?

MR. KENNEDY: Yes, it would be, you know, in terms of if it's too short your current customers are subsidizing the future customers. And I think that's just saying what you said but slightly differently. But it's my words.

MR. ELSON: So if it's too short your risk is intergenerational equity, but if it's too long, your risk is death spiral?

MR. KENNEDY: Yes. Or stranded costs.

MR. ELSON: Thank you, Mr. Kennedy. Those are my questions. And thank you, panel.

MR. MILLAR: Thank you, Mr. Elson. Mr. Quinn, we have you next. Are you here? Dwayne, I put you down for -- are you about 10 minutes?

MR. QUINN: I won't need to be (inaudible) and Enbridge panels . I think I could be close to that.

MR. MILLAR: Okay, well, we're --

MR. QUINN: I'll keep my eye on it --

MR. MILLAR: -- when we will break. Can we get you in