

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.1

Reference:

Exhibit M1

Preamble

To understand which aspects were in and out of scope and what the mandate was.

Question(s):

Please provide the retainer agreement and the scope of work OEB Staff requested InterGroup to conduct in relation to depreciation and copies of all communications between OEB Staff and InterGroup that relate in any way to the opinions stated by InterGroup in its report.

Response from OEB Staff:

Attachment 1 - N.M1.EGI.1 in Appendix A is the Statement of Work dated January 26, 2023. Pricing information has been redacted.

OEB staff will not provide “all communications between OEB Staff and InterGroup that relate in any way to the opinions stated by InterGroup in its report.” Such communications are subject to litigation privilege (*Moore v. Getahun*, 2015 ONCA 55).

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.2

Reference:

Exhibit M1

Question(s):

Please identify where InterGroup considered in its report the initiatives being led by the OEB to examine energy transition and its impact on consumers and rate regulated utilities in Ontario? Please specifically list these initiatives. Please then reference the sections relied upon for the purposes of your report.

Response from InterGroup:

InterGroup did not review documents regarding energy transition for Enbridge Gas or for Ontario broadly in the preparation of the evidence, outside of the noted report prepared by Concentric (Appendix 1 of Concentric's report, which is EB-2022-0200 Exhibit 4, Schedule 1, Attachment 1).

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.3

Reference:

Exhibit M1

Question(s):

Did InterGroup review/discuss the evidence on depreciation prepared by Emrydia prior to submitting their report to the OEB? If so, please provide all communications between InterGroup and Emrydia.

Response from InterGroup:

InterGroup staff had one conversation with Dustin Madsen of Emrydia prior to the technical conference regarding the main areas on which each party was focusing.

InterGroup did not review any drafts of the Emrydia report or recommendations, nor discuss specific final recommendations with Mr. Madsen.

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.4

Reference:

Exhibit M1

Question(s):

Please confirm that InterGroup has not provided evidence, as part of any proceeding, that supports a depreciation method other than ALG or ASL methodology. If not confirmed, please identify the proceeding and provide a complete copy of InterGroup's (or its predecessor's) evidence.

Response from InterGroup:

The authors of the InterGroup Report have provided testimony on depreciation in at least six provinces and territories working for both utilities and consumer groups of various sizes. In many of those cases, the group procedures were not at issue, and were not proposed to be altered by the Applicant. In those cases, InterGroup's evidence has generally not taken issue with the procedures used (whether ASL or ELG or other).

When group procedures are at issue, for all of the reasons set out in the InterGroup testimony, the recommendations to date from InterGroup have consistently been to adopt the ASL procedure.

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.5

Reference:

Exhibit M1, pages 1 and 12

Preamble

At page 1, InterGroup states:

“InterGroup has also reviewed the previous depreciation studies prepared by the former Enbridge Gas Distribution (“EGD”) and Union Gas (“Union”) as they relate to the now amalgamated operations.”

At page 12, InterGroup states:

“... Generation arrangement applies calculations to determine the depreciation accrual amounts that are normally the same as ASL (applied to each vintage) but can also use ELG methods.”

Question(s):

- a) Based on InterGroup’s review of the prior Union depreciation study, please confirm that the depreciation calculations were performed using a generation arrangement that closely mirrors the ELG procedure.
- b) If not confirmed, please describe the method used in the prior Union depreciation study in detail, comparing the procedure used to both ELG and ALG procedures.

Response from InterGroup:

(a) and (b)

Not confirmed.

The key variable to a Remaining Life study (which is what Union used, per the response to EB-2022-0200 Exhibit I.4.5-Staff 172, Attachment 3, page 6 of 49)<sup>1</sup> is the determination of the Remaining Life. This value differs between ELG and ASL. The remaining life is the period over which the as-yet unrecovered net book value needs to be recovered, based on current estimates.

The following references indicate that Fosters used an ASL remaining life, not an ELG remaining life, when determining the necessary depreciation accruals.

First, the depreciation accruals are set out at Page 22 of 49. Under column F, the life accrual for Southern Meters was \$11,280,232. This is derived based on life characteristics as set out at Page 31 of 49 (25-L1.5, with a remaining life of 18.18 years).

The calculation of the 18.18 years is at pages 36-37 of 49, which is at the bottom of column E. This value is the weighted average of the remaining lives for each of the vintages shown above. The values in Column E are ASL remaining lives, not ELG remaining lives. This is most immediately evident by the fact that assets from 2015 (who are one and one-half years old) show a remaining life of 23.56 years. An ELG remaining life for a 25-L1.5 curve for the 1.5-year age class would show 16.82 years.

For evidence of this last comparison, please see attached two excerpts from a recent Concentric depreciation study prepared for Manitoba Hydro<sup>2</sup>, where Concentric performs both an ASL and an ELG analysis. In this case, the account in question are for Large Soft-Track Motor Vehicles, but this uses the same 25-L1.5 Iowa curve as Fosters uses for Southern Meters. The first Table shown is for the Average Life Group (ALG) procedure, and indicates in the column called “Exp” the expected remaining life. As noted, for the 2018 assets (acquired in 2017/18) which would be 1.5 years old as of this study, the expected remaining life is 23.56, years, the same as in the Union study. This same matching occurs for each previous vintage throughout the table – the Concentric ALG remaining lives and the Union remaining lives are the same.

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<sup>1</sup> Note that references in this response are to the draft Union depreciation study from 2017 as it is in evidence in this proceeding. Though this study is in draft form, all of the comments in this response apply equally to the final Union study from 2011, which was filed in EB-2011-0210 Exhibit D2.

<sup>2</sup> Manitoba Hydro 2023/23 and 2024/25 General Rate Application, Minimum Filing Requirements #95, Attachment 1.

## Manitoba Hydro

Account #: 60001 - Motor Vehicles - Large Soft-Track Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
BASED ON ORIGINAL COST AS OF MARCH 31, 2019

ALG - Whole Life  
Survivor Curve: L1.5  
ASL: 25  
Net Salvage: 15%  
Truncation Year:

Year	Original Cost	Average		----- Annual Accrual -----		----- Accrued Depreciation -----	
		Life	Rate	Amount	Exp	Factor	Amount
1971	102,739.26	25.0	4.00%	4,110	5.18	0.7928	81,448
1972	224,854.85	25.0	4.00%	8,994	5.37	0.7851	176,526
1975	164,212.18	25.0	4.00%	6,568	5.98	0.7610	124,961
1976	644,187.22	25.0	4.00%	25,767	6.19	0.7526	484,814
1977	20,539.58	25.0	4.00%	822	6.40	0.7440	15,282
1992	83,396.66	25.0	4.00%	3,336	10.08	0.5970	49,784
1995	28,930.64	25.0	4.00%	1,157	10.87	0.5651	16,347
1997	138,371.38	25.0	4.00%	5,535	11.42	0.5430	75,140
1998	130,450.57	25.0	4.00%	5,218	11.71	0.5316	69,345
1999	113,619.13	25.0	4.00%	4,545	12.01	0.5197	59,048
2001	249,366.72	25.0	4.00%	9,975	12.65	0.4941	123,223
2002	2,300,502.90	25.0	4.00%	92,020	13.00	0.4802	1,104,641
2005	916,087.83	25.0	4.00%	36,644	14.21	0.4317	395,486
2006	619,042.61	25.0	4.00%	24,762	14.68	0.4128	255,570
2007	479,002.37	25.0	4.00%	19,160	15.19	0.3923	187,909
2008	1,016,049.13	25.0	4.00%	40,642	15.75	0.3699	375,840
2009	1,635,525.70	25.0	4.00%	65,421	16.36	0.3456	565,282
2010	456,803.58	25.0	4.00%	18,272	17.01	0.3195	145,956
2011	245,232.52	25.0	4.00%	9,809	17.71	0.2917	71,542
2012	1,313,026.72	25.0	4.00%	52,521	18.44	0.2625	344,625
2013	185,615.96	25.0	4.00%	7,425	19.21	0.2318	43,024
2014	2,954,624.87	25.0	4.00%	118,185	20.01	0.1997	589,962
2015	610,921.98	25.0	4.00%	24,437	20.85	0.1661	101,488
2016	4,773,385.89	25.0	4.00%	190,935	21.72	0.1312	626,196
2017	631,006.64	25.0	4.00%	25,240	22.63	0.0950	59,922
2018	364,648.52	25.0	4.00%	14,586	23.56	0.0576	21,008
TOTAL	20,402,145.41			816,086			6,164,369
NET SALVAGE ADJUSTMENT				-122,413			-924,655
TOTAL				693,673			5,239,714

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT 3.40%

Compare to the Concentric ELG calculations from the same study (the following table), where the ELG procedure is used. In this case, that same 1.5-year aged vintage is shown to have an "ELG Remaining Life" of 16.82 years.

## Manitoba Hydro

Account #: 6000I - Motor Vehicles - Large Soft-Track Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
BASED ON ORIGINAL COST AS OF MARCH 31, 2019

ELG - Whole Life  
Survivor Curve: L1.5  
ASL: 25  
Net Salvage: 15%  
Truncation Year:

Year	Original Cost	Calculated Annual Accrual		Calculated Accumulated Depreciation		Average Age	ELG Remaining Life
		Rate	Amount	Factor	Amount		
1971	102,739.26	1.87%	1,925	0.9089	93,381	48.5	4.86
1972	224,854.85	1.90%	4,281	0.9043	203,337	47.5	5.03
1975	164,212.18	2.00%	3,282	0.8893	146,035	44.5	5.54
1976	644,187.22	2.03%	13,089	0.8839	569,391	43.5	5.71
1977	20,539.58	2.07%	424	0.8782	18,039	42.5	5.89
1992	83,396.66	2.77%	2,307	0.7608	63,448	27.5	8.65
1995	28,930.64	2.97%	860	0.7284	21,072	24.5	9.14
1997	138,371.38	3.13%	4,331	0.7042	97,442	22.5	9.45
1998	130,450.57	3.21%	4,193	0.6911	90,158	21.5	9.61
1999	113,619.13	3.30%	3,754	0.6772	76,948	20.5	9.77
2001	249,366.72	3.49%	8,715	0.6466	161,230	18.5	10.11
2002	2,300,502.90	3.60%	82,747	0.6295	1,448,076	17.5	10.30
2005	916,087.83	3.93%	35,962	0.5692	521,453	14.5	10.97
2006	619,042.61	4.04%	25,017	0.5456	337,728	13.5	11.24
2007	479,002.37	4.16%	19,918	0.5198	248,971	12.5	11.55
2008	1,016,049.13	4.28%	43,439	0.4917	499,549	11.5	11.89
2009	1,635,525.70	4.39%	71,828	0.4611	754,199	10.5	12.27
2010	456,803.58	4.51%	20,589	0.4282	195,599	9.5	12.69
2011	245,232.52	4.62%	11,336	0.3929	96,354	8.5	13.13
2012	1,313,026.72	4.74%	62,218	0.3554	466,638	7.5	13.60
2013	185,615.96	4.86%	9,014	0.3156	58,588	6.5	14.09
2014	2,954,624.87	4.97%	146,969	0.2736	808,327	5.5	14.60
2015	610,921.98	5.09%	31,110	0.2292	139,995	4.5	15.14
2016	4,773,385.89	5.21%	248,709	0.1824	870,482	3.5	15.69
2017	631,006.64	5.33%	33,632	0.1332	84,079	2.5	16.26
2018	364,648.52	5.46%	19,902	0.0819	29,852	1.5	16.82
<b>TOTAL</b>	<b>20,402,145.41</b>		<b>909,552</b>		<b>8,100,373</b>		
<b>NET SALVAGE ADJUSTMENT</b>			<b>-136,433</b>		<b>-1,215,056</b>		
<b>TOTAL</b>			<b>773,119</b>		<b>6,885,317</b>		

In regard to the Union study, the detailed generation arrangement tables at pages 33-34 calculate that an annual accrual of \$11,359,665 is required for this account. As noted above, the actual annual accrual proposed for this account is slightly lower (\$11,280,232) reflecting that the account accumulated depreciation is in a slight surplus, per page 21 of 49, which shows that the reallocated actual reserve (accumulated depreciation) at \$82,980,506 is slightly larger than the calculated reserve at \$81,770,608.



Based on the above comparison, it appears Fosters prepared the Union Generation Arrangement calculations using an ASL approach to determining remaining lives, not an ELG procedure.

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.6

Reference:

Exhibit M1, page 2 and Section 6.2

Preamble

At page 2, Mr. Bowman states that he is a member of the Society of Depreciation Professionals (SDP).

At Section 6.2, Mr. Bowman describes Issues with the CDNS calculations prepared by Mr. Kennedy.

Question(s):

- a) Please confirm if Mr. Bowman has attended any of the SDP training sessions or Open Mic Forums (OMF). If confirmed, please provide a listing of the courses or OMF's attended.
- b) Please confirm that the SDP offers training in a number of specialized area of depreciation rate calculations, including the offering of a course titled "Analyzing Net Salvage in the Real World".
- c) Please confirm that the teaching faculty of the titled "Analyzing Net Salvage in the Real World" course includes, Dr. Susan Jensen, Ph.D., CDP; Mr. William Stout, Mr. Ned Allis, CDP, and Mr. Dane Watson, PE, CDP.
- d) Please also confirm that Mr. Kennedy is a member of the teaching faculty of the SDP training program.
- e) Please confirm that the CDNS calculations are grouped in the teaching module related to Inflation Adjusted Net Salvage Models and are not discussed as a refinement to the Traditional Method of net salvage.

- f) Please confirm that the calculations as prepared by Mr. Kennedy are in accordance with the calculations taught in the SDP course titled “Analyzing Net Salvage in the Real World”. Specifically, please confirm Mr. Kennedy’s calculations are consistent with those shown in the module titled Age/Inflation adjusted Analysis.

Response from InterGroup:

- (a) Mr. Bowman became a member of the SDP in 2022 and attended the annual conference in September 2022, as well as the extended training modules for Depreciation and Ratemaking Issues and Life Analysis. Prior to this, Mr. Bowman’s training in depreciation was through mentorship, primarily with Ms. Patricia Lee formerly of the Florida Public Service Commission. Mr. Bowman worked on depreciation matters with Ms. Lee since 2009. There has been no Open Mic Forums since Mr. Bowman became a member of the SDP.

**(b) to (d)**

It is Mr. Bowman’s understanding that the SDP offers a number of courses that vary from year to year. It appears from a review of the SDP newsletters that “Analyzing Net Salvage in the Real World” was developed in 2019 by Bill Stout of Gannett Fleming<sup>3</sup>. This course was not offered in 2022. It was not possible to identify a ready source for historical trainers, but the individuals listed in the question are part of the SDP training faculty for various course offerings.

**(e) and (f)**

InterGroup does not have access to the course materials referenced.

However, Constant Dollar Net Salvage as applied by Enbridge Gas is both a variant on the Traditional Method (as Concentric explicitly starts with the Traditional Method and then revises the percentage to convert the collection to Constant Dollars<sup>4</sup>) and also as an Inflation Adjusted model. The use of constant dollars versus nominal (or “current dollars”) is a very typical and common practice as part of the field of economics.

It should be noted that the pure theory of net salvage, whether calculated on a current or constant dollar basis, is set out in the manual Depreciation Systems at Chapter 4 (Wolf and Fitch); however, this theory is not applied by Concentric in its simplified analysis (for

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<sup>3</sup> Summer 2019 SDP Newsletter.

<sup>4</sup> Final Transcript EB-2022-0200 TC4 March 27, 2023 page 20.

example, Concentric does not use salvage curves, where the cost or recovery from salvage varies depending on the age of the asset at the time it is retired). Instead, Concentric assumes a single ratio can be applied for all retirements within an asset account (e.g., in the case of Account 452, it is set at 15% in nominal dollars, as per EGI Rebasing IRR Exhibit I.4.5-IGUA-14 Attachment 1, Tab 452, cell F3). As this ratio is fixed, regardless as to age at retirement, there is no attempt nor need to convert a salvage curve into constant (i.e., real) dollars. The only calculation remaining, given the study is attempting to achieve 10% of original cost accrued as salvage at the time of retirement, is to determine the timing for this recovery. The traditional method allocates this recovery on a straight-line based on nominal or current dollars, while the CDNS approach proposed by Enbridge Gas is attempting to allocate this same recovery on a straight-line basis using constant, or real, dollars.

To do a full constant dollar analysis akin to that outlined in Wolf and Fitch, Concentric would need to start applying the inflation adjustments as part of the main Concentric study, section 7, rather than starting by developing a traditional current dollar net salvage ratio, as was done by Concentric. This would be far more data intensive, and require data that may not be available (specifically, each removal activity and net salvage recovery would need to be tagged to a specific asset at a known age, in order to develop the salvage curve comparing salvage spending to the real value of the original cost of the asset).

In other words, Concentric is not analyzing net salvage on a constant dollar basis – it is analyzing salvage on a nominal (current) dollar basis. Concentric is simply allocating collection on a constant dollar basis.

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.7

Reference:

Exhibit M1, page 5

Preamble

At page 5, InterGroup states:

“ELG is premised on highly accurate input data and does not match well with the concept of designing rates to reflect the average life performance of assets organized into groups (e.g. a set of trucks, or a set of pipes).”

At page 5, footnote 4, InterGroup states:

“EGD used the ASL procedure and Union used a different approach known as Generation Arrangement”

At page 5, bullet 1 part a., InterGroup states:

“...yet, the average performance across the group will be experienced by all generations of ratepayers. ELG excessively burdens the early generations of ratepayers with costs that do not reflect average or expected asset group performance.”

Question(s):

- a) Please confirm that the ELG procedure is also known as the “Unit Summation Procedure”. If not confirmed, please describe the differences between the ELG and Unit Summation Procedures.
- b) Please provide a detailed depreciation rate calculation for Account 462.00 using the Iowa 60-S4 and a net salvage percentage of negative 5% prepared in accordance with the ELG – Remaining Life procedure, the ALG – Remaining Life

procedure and Generation Arrangement Procedure. Please respond with all the calculation details to support all three calculations.

- c) Please confirm that over the life of a group of assets, all three procedures (ELG, AGL and Generation Arrangement) will recover only the prudently made investment in the group of assets – nothing more-nothing less.
- d) Please confirm that the comments reflected in Reference 3 above, are based on a premise of Mr. Bowman that the same ratepayers are in both the early generation of ratepayers and later generations of ratepayers.
- e) If part d) is not confirmed, please explain why later generations of ratepayers should bear a cost burden for a short-lived group of assets that were fully consumed by a differing set of ratepayers.

Response from InterGroup:

**(a)** Confirmed.

**(b)** Please see Attachment 2 – N.M1.EGI.7 in Appendix A for a detailed depreciation rate calculation for account 462.00 prepared in accordance with the requested procedures, which produce the following depreciation rates:

- ELG – Remaining Life procedure: 1.65% (including -5% net salvage rate)
- ALG/ASL – Remaining Life procedure: 1.58% (including -5% net salvage rate)
- Generation Arrangement: 1.58% (including -5% net salvage rate)

With respect to the Generation Arrangement procedure, the annual accrual rate prior to accounting for the depreciation reserve is 1.76%. However, the Generation Arrangement approach would indicate that a present accumulated depreciation reserve surplus of over \$10 million is present in the noted account. As explained in “Public Utility Depreciation Practices” manual, a weighting method for determining composite lives must also satisfy the requirement of an appropriate proration of the depreciation reserve and that actual reserves be maintained and used to the detailed degree practicable.<sup>5</sup>

Account 462.00 shows accumulated book reserve of \$40.357 million as of December 31, 2021, which is used by Concentric in calculating the composite

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<sup>5</sup> National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices, 1996, p. 138-139

annual accrual rate under ELG - Remaining Life and ALG/ASL – Remaining Life procedures. Accordingly, this book reserve was applied in the Generation Arrangement procedure as well, as shown in Attachment 2 – N.M1.ELG.7. As expected, the resulting composite annual accrual rate of 1.58% is similar to the rate derived under the ALG/ASL – Remaining Life procedure. The degree of difference will depend on the Iowa curve selected for analysis.

- (c) Generally confirmed, with the exception of unique transactions, such as disallowances, extraordinary retirements that are not included in depreciation estimates, or errors.
- (d) Not confirmed. In fact it is the opposite. The ASL procedure is fair to all generations of ratepayers whether they are solely customers in the early years, or in the later years, and whether the population changes between the two periods.
- (e) The issue at hand is the asset group, not the assets individually. This is addressed as pages 12-19 of the InterGroup InterGroup Report set out in Exhibit M1.

The ELG approach leads to customers paying different amounts for the same service. Even using the Concentric Example as appended below (which is itself oversimplified – see the InterGroup Report at page 12-19 for a discussion of the issues) under ELG the customers in years 1-5 are paying \$267 for the service of 2 units (or \$133/asset per year) and the customers in years 6-10 are paying \$67 for the service of 1 unit (or \$67/asset per year). There is no suggestion that the units provide different levels of service or value to customers.

The following table sets out the differences in the two methods:

Average Life Group Procedure				Equal Life Group Procedure			
Year	Accruals (\$)	Retirements (\$)	Acc. Deprn Balance (\$)	Year	Accruals (\$)	Retirements (\$)	Acc. Deprn Balance (\$)
1	200		200	1	267		267
2	200		400	2	267		534
3	200		600	3	267		801
4	200		800	4	267		1,068
5	200	1,000	0	5	267	1,000	335
6	100		100	6	67		402
7	100		200	7	67		469
8	100		300	8	67		536
9	100		400	9	67		603
10	100		500	10	67		670
11	100		600	11	66		736
12	100		700	12	66		802
13	100		800	13	66		868
14	100		900	14	66		934
15	100	1,000	0	15	66	1,000	0

Under Average Life Group, the customers in years 1-5 pay \$200 per year for the service of 2 units (or \$100/unit per year) and in years 6-10 pay \$100 for the service of one unit (or \$100/unit per year). The customers in years 6-10 are not being burdened by the failure to have used ELG.



OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.8

Reference:

Exhibit M1, page 11  
Exhibit JT4.17

Preamble

At page 11, InterGroup has recommended changes to Enbridge Gas's depreciation proposal which directionally decrease annual depreciation compared to Enbridge Gas's proposal.

At Exhibit JT4.17, Concentric estimated the impact on depreciation expense from applying a 2050 EPH if it were to start being applied in future periods.

Question(s):

Please confirm that if InterGroup's recommended changes were adopted under each of the ALG and ELG procedures the impact of applying a 2050 EPH in a future period would further increase the depreciation expense impacts presented in the response to Exhibit JT4.17. Please provide the estimated impact on the response provided at JT4.17 at the times stated either specifically or directionally under both ALG and ELG. Please state any simplifying assumptions and caveats necessary to provide a response.

Response from InterGroup:

Generally confirmed. Any depreciation approach adopted today that results in lower depreciation expense or lower net salvage collection will lead to higher net book value balances in future periods. These higher new book values, if needing to be collected over a short life span (Economic Planning Horizon, or EPH) will lead to higher depreciation expense to the extent the full net book value and full net salvage is being recovered from remaining customers.

This same relationship holds for any 1) life shortening versus extension, or 2) for use of more aggressive depreciation procedures (ELG) versus less aggressive (ASL) or 3) for

use of the traditional approach to net salvage (or other more accelerated approaches), versus CDNS. In each case, the former approach will lead to lower net book values, and hence less change needed if an EPH is added to future depreciation studies.

InterGroup does not have software in place to readily calculate depreciation expense under EPHs.

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.9

Reference:

Exhibit M1, page 24

Preamble

At page 11, Table 1 outlines Mr. Bowman's estimated impact of his recommendations related to Enbridge Gas's recommended depreciation rates.

At Exhibit I.4.5-STAFF-168, Enbridge Gas provided a working model of the CDNS calculations and depreciation rates based on selected scenarios of CDNS discount rates.

Question(s):

- a) Please confirm that the \$24.9 million variance as shown in Table 1 in Mr. Bowman's evidence is not based on a recalculated ELG annual accrual amount.
- b) If the above is not confirmed, please provide the detailed ELG calculations in support of the "Annual Accrual in 2021" amounts in Attachment 2 to Mr. Bowman's evidence on all tabs except "CDNS" and "CDNS Concentric". For example, please provide the detailed ELG calculations in support of the \$387,428 as shown in cell M67 of Tab "452".
- c) Please confirm that Mr. Bowman's calculations have followed ALG vintage group procedure in the above calculations.
- d) Please provide the detailed ELG annual accrual calculations in support of the figures listed under "Estimated Impact on Enbridge Gas's Proposed Depreciation for 2024" for lines 2 to 7 and lines 10 to 15.
- e) Please confirm that a discount rate of 5.87% would result in a lower total depreciation expense than a discount rate of 5.27%.

Response from InterGroup:

- (a) Confirmed. The \$24.9 million variance is calculated as the difference between annual CDNS accrual under the InterGroup's proposed approach with a discount rate of 3.75% (CARF) and a discount rate of 5.87% (return on rate base rate).
- (b) See the response to part (a).
- (c) The CDNS calculation is not sensitive to the procedure used (ELG or ASL), as the CDNS calculation in this proceeding is always based on ASL remaining life, as confirmed by Mr. Kennedy in the technical conference as follows:<sup>6</sup>

MR. BOWMAN: Thank you, Michael. And one other question while we are here, and then we'll move on to another account and doing a similar comparison with a bit more detail. Under the column "original cost" we just went through, that is the assets in the books. The second column is shown as "R/L", which I understand to be remaining life; is that correct?

MR. KENNEDY: Mr. Kennedy. Yes, that's correct.

MR. BOWMAN: And as I look down that column and I compare to both your filed October study as well as the ALG version of your study, I note that those are in fact from the ALG study, not the ELG study; is that correct? And is that what was intended here, that the remaining life for the purposes of calculating CDMS, you would use an ALG approach?

MR. KENNEDY: Yes. It is Mr. Kennedy. Yes, that is the intent. Very wide practice across Canada when we calculate the remaining life for functions other than the depreciation rate calculation, the ALG remaining life is a more pure of an account level remaining life calculation, comes straight from the textbooks, and so we do use that ALG remaining life for these style of calculations.

- (d) As stated on page 5 of the evidence and in Note 1 to Table 1 of the evidence, the impacts that were quantified for each recommendation are high level estimates of the materiality of the change in annual depreciation compared to the Enbridge Gas's proposals, and reflect only the impact on life parameters (the

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<sup>6</sup> Final Transcript EB-2022-0200 TC4 March 27, 2023 page 16

expense needed to depreciate the original cost), not the net salvage component (which also can change with a change in lives given different periods over which the recovery will occur). The estimates were not based on detailed ELG annual accrual calculations.

InterGroup does not maintain software for high volume depreciation rate calculations. When detailed calculations are required, InterGroup develops rates from first principles using the polynomials in the Iowa State University Research Bulletin 155 Appendix (by Robert Winfrey) and cross referenced for quality control to Wolf and Fitch Depreciation Systems, Tables A through D. This is time consuming and is not normally done for preparing high-level estimates.

The life parameter estimates used in the InterGroup Report reflect simple annualized average service life differences (without considering a net salvage component) between Enbridge Gas's proposal and InterGroup's recommendations applied to the 2024 forecast gross plant balances for each account.

Please see Table 1 for the calculation of the high-level estimates of the recommended life parameter impacts shown in lines 2 to 7 of Table 1 in the evidence.

**Table 1: Life Parameter Recommendation Depreciation Expense Estimates  
– High Level**

Account	Recommended Change from Concentric Proposal	2024 Forecast Gross Plant Balance (\$Million) <sup>1</sup>	Average Service Life Annual Accrual Rate <sup>2</sup>		High Level Depreciation Expense Impact (\$ Million) D=Ax(C-B)
			At Average Life as Proposed by Concentric	At Average Life Recommended by IG	
			A	B	
452	From Iowa 40-R3 to Iowa 45-R2.5	114.8	2.50%	2.22%	-0.3
456	From Iowa 40-R4 to Iowa 44-R4	725.8	2.50%	2.27%	-1.6
457	From Iowa 35-R3 to Iowa 40-R2.5	108.9	2.86%	2.50%	-0.4
465	From Iowa 60-R4 to Iowa 70-R4	3,128.6	1.67%	1.43%	-7.4
475.21	From Iowa 55-R3 to Iowa 61-R3	4,008.8	1.82%	1.64%	-7.2
475.21	From Iowa 55-R3 to Iowa 70-R3	4,008.8	1.82%	1.43%	-15.6
475.3	From Iowa 60-R4 to Iowa 65-R3	3,839.1	1.67%	1.54%	-4.9
475.3	From Iowa 60-R4 to Iowa 70-R4	3,839.1	1.67%	1.43%	-9.1

Notes:

1. Exhibit I.4.5-IGUA-25 Attachment 3, column (a)

2. Average Service Life annual accrual is calculated as 1 divided by recommended average life (expressed in percentage)

As requested by Enbridge Gas, InterGroup has now prepared detailed ELG annual accruals in support of the depreciation expense impact estimates of InterGroup's recommendations. The detailed ELG annual accrual impacts are notably higher than provided in the high level estimate shown in Table 1 of the evidence, in part reflecting the younger age of the assets in these accounts (which skews ELG costs higher than assumed in the high level approach), and in part reflecting Enbridge's current

accumulated depreciation shortfalls in some accounts (which can lead to quite extreme cost impacts where old assets require large accruals for shortfalls over extremely short remaining lives). These factors are not fully captured in the high level approach, but are captured in Table 2 below.

Depreciation expense impacts of the detailed calculation are summarized in Table 2. Please see Attachment 3 - N.M1.EGI-9 in Appendix A for the detailed calculations.

**Table 2: Life Parameter Recommendation Depreciation Expense Estimates  
– Detailed ELG Annual Accrual**

Account	Recommended Change from Concentric Proposal	2024 Forecast	ELG Life	ELG Life	Depreciation Expense Impact (\$ Million)
		Gross Plant Balance (\$Million) <sup>1</sup>	Depreciation Rate Proposed by Concentric <sup>2</sup>	Depreciation Rate at IG Recommended Curves (ELG)	
		A	B	C	D=Ax(C-B)
452	From Iowa 40-R3 to Iowa 45-R2.5	114.8	3.58%	2.44%	-1.3
456	From Iowa 40-R4 to Iowa 44-R4	725.8	2.72%	2.28%	-3.2
457	From Iowa 35-R3 to Iowa 40-R2.5	108.9	2.28%	1.85%	-0.5
465	From Iowa 60-R4 to Iowa 70-R4	3,128.6	1.58%	1.30%	-8.7
475.21	From Iowa 55-R3 to Iowa 61-R3	4,008.8	2.38%	2.01%	-14.9
475.21	From Iowa 55-R3 to Iowa 70-R3	4,008.8	2.38%	1.68%	-28.0
475.30	From Iowa 60-R4 to Iowa 65-R3	3,839.1	1.94%	1.85%	-3.5
475.30	From Iowa 60-R4 to Iowa 70-R4	3,839.1	1.94%	1.59%	-13.3

Notes:

1. Exhibit I.4.5-IGUA-25 Attachment 3, column (a)
2. Exhibit I.4.5-IGUA-25 Attachment 3, column (f)

Please see Table 3 for the ELG accruals impact of the recommended net salvage parameters shown in lines 10 to 15 of Table 1 in Intergroup's Report<sup>7</sup>. Please see Attachment 4 - N.M1.EGI-9 in Appendix A for the net salvage depreciation rates calculation shown in column C of Table 3.

<sup>7</sup> In preparing a response to this question, InterGroup noted an error in a high level estimate for the recommended net salvage rate for Account 475.21 shown in Table 1 of the evidence. The correct estimate of the impact using negative 40% as a basis for CDNS calculation for Account 475.21 is a depreciation expense reduction of approximately \$20 million

**Table 3: Net Salvage Rates Recommendation Depreciation Expense Estimates – Detailed ELG Annual Accrual**

Account	Recommended Change from Concentric Proposal	2024 Forecast	ELG Life	CDNS Net Salvage Rate at IG's Recommendation <sup>3</sup>	Net Salvage	Net Salvage	Depreciation Expense Impact (\$ Million)
		Gross Plant Balance (\$Million) <sup>1</sup>	Depreciation Rate Proposed by Concentric <sup>2</sup>		Depreciation Rate Proposed by Concentric <sup>4</sup>	Depreciation Rate at IG's Recommendation	
		A	B	C	D	E=BxC	F=Ax(D-E)
465	Maintain negative 15%	3,128.6	1.58%	7%	0.19%	0.11%	-2.4
466	Maintain negative 5%	1,031.8	3.44%	4%	0.28%	0.12%	-1.6
467	Maintain negative 10%	526.4	2.65%	6%	0.41%	0.15%	-1.4
473.02	Use negative 40%	5,036.2	2.16%	21%	0.57%	0.45%	-6.0
475.21	Use negative 40%	4,008.8	2.38%	21%	1.00%	0.50%	-20.2
475.30	Use negative 25%	3,839.1	1.94%	12%	0.78%	0.23%	-21.1

Notes:

1. Exhibit I.4.5-IGUA-25 Attachment 3, column (a)
2. Exhibit I.4.5-IGUA-25 Attachment 3, column (f)
3. Calculated in Concentric's spreadsheet from Exhibit I.4.5-IGUA-14 Attachment 1. See N.M1.EGI-9 Attachment 2.
4. Exhibit I.4.5-IGUA-25 Attachment 3, column (e)

(e) Confirmed, so long as the same approach to calculating CDNS is used.

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.10

Reference:

Exhibit M1, pages 32, 41-43, 45  
Exhibit I.4.5-STAFF-172, Attachment 1

Preamble

At Exhibit I.4.5-STAFF-172, Attachment 1, Gannett Fleming completed a draft depreciation study in February 2017 to support the expected 2019 Rebasing application for EGD. The study was not completed or reviewed by management and is not relevant to this application.

Question(s):

Please confirm when factoring in interviews with management and operations staff, InterGroup only used EGD interviews from 2016. If not confirmed, please identify and provide the interviews that were used.

Response from InterGroup:

Not confirmed. InterGroup used all available evidence provided in the proceeding record. This includes the 2022 interview notes prepared by Concentric (EB-2022-0200 Exhibit I.4.5-Staff 171 Attachment 5) which is referenced multiple times in the InterGroup evidence.

InterGroup did not have copies of the interview notes from 2016. However, InterGroup did have a copy of the draft Gannett Fleming study from 2016<sup>8</sup> which frequently references excerpts from the interviews Gannett Fleming conducted with Enbridge staff. It is assumed that Gannett Fleming electing to highlight these extracts from the staff

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<sup>8</sup> Exhibit I.4.5 STAFF-172 Attachment 1.



interviews means that Gannett Fleming found these insights to particularly valuable in assessing life parameters.

InterGroup did not have access to any Union staff interview notes.

OEB Staff  
Answer to Interrogatory from  
Enbridge Gas

Interrogatory M1. EGI.11

Reference:

Exhibit M1, page 66

Supreme Court of Canada Decision, Docket 35506, September 25, 2015, Ontario Energy Board vs. Ontario Power Generation, paragraph 161

Court of Appeal of Alberta, Docket 1901-0344AC, April 14, 2023, ATCO Electric Ltd. vs. Alberta Utilities Commission, paragraph 452

Australian Energy Regulatory (AER), Regulating gas pipelines under uncertainty, November 2021<sup>3</sup>

Preamble

At page 66, Mr. Bowman states:

“The underlying assumption in the calculation [a scenario of a 2050 EPH which was attached as Appendix 1 to the Concentric Depreciation Study Report] is that the utility operator is entitled to a complete recovery of their invested capital, which has been invested in now stranded utility assets. This may or may not be an assumption in accord with the policy regarding energy transition in the province.”

At paragraph 16, the Supreme Court of Canada Decision states:

“[16] This means that the utility must, over the long run, be given the opportunity to recover, through the rates it is permitted to charge, its operating and capital costs (“capital costs” in this sense refers to all costs associated with the utility’s invested capital).”<sup>4</sup>

At paragraph 45, the Supreme Court of Canada Decision states:

“The “allocation of risks and benefits associated with property ownership” and “fundamental property and corporate law principles” are only of peripheral importance to determining if a utility should be given the opportunity to recover prudently incurred costs.”

At Section 4.2, the Australian Energy Regulator, provides a number of pros and cons related to the acceleration of depreciation expense (including the shortening of asset lives) to deal with the issue of Energy Transition for gas pipelines.<sup>6</sup>

Question(s):

- a) Please confirm that Mr. Bowman was aware of the above two Decisions directly related to the concept of utility recovery of prudently incurred capital costs in Canada.
- b) Please confirm that Mr. Bowman is aware of the discussion of the AER regarding energy transition.

Response from InterGroup:

**(a)** Generally, yes; however, Mr. Bowman is not a lawyer and does not opine on legal questions. Mr. Bowman is generally aware that the decisions in question are lengthy and should be considered in full.

**(b)** No, Mr. Bowman is not aware of decisions of Australian energy regulators.

OEB Staff  
Answer to Interrogatory from  
Environmental Defence

Interrogatory M1. ED.1

Reference:

Report, p. 65-66

Question(s):

- a) If a 2050 Economic Planning Horizon is not appropriate, please comment on alternative, more appropriate methods to accelerate depreciation to account for the possibility that assets will no longer be used and useful prior to what the Iowa Curves would predict based on physical factors alone?
- b) For the sake of discussion, say that a review of scenarios determined that there is a X% chance that Y% of steel pipes would no longer be used and useful by 2050. Could this be reflected in depreciation amounts by way of adjusting the Iowa Curves for that asset class? What other mechanisms could be used?
- c) Would InterGroup agree that the current depreciation methodology implicitly assigns a 0% probability that a substantial portion of assets will reach the end of their economic life before the end of their physical life due to decarbonization? If not, please explain, and provide the probability of this implicitly accounted for in the current methodology.
- d) Does InterGroup agree that the current depreciation methodology implicitly assigns a 0% probability that a substantial portion of assets will reach the end of their economic life before the end of their physical life due to decarbonization?
- e) Please discuss the merits of addressing decarbonization risks through accelerated depreciation for: (A) all assets, (B) only new assets, and/or (C) assets facing the greatest stranded asset risks (e.g. “small pipes” serving residential customers that can easily switch to more cost-effective heat pumps, pipes that are incompatible with hydrogen, etc.).

Response from InterGroup:

**(a)** Please see M1.PP.2 through M1.PP.4

**(b)** In theory, yes.

Technically, this would not be an application of “Iowa curves” as these are statistical projections of the patterns of retirement of industrial property as developed in literature from the early to mid 1900s. However, starting from first principles of probabilistic assessment, there could be many ways that more complicated mathematics could be implemented. But at its core, the end result would simply be an acceleration of depreciation and a higher collection of depreciation expense in revenue requirement.

It seems unlikely that the depreciation estimate could be improved by adding more subjective assessments such as those set out in the question. If there was a credible basis for the assessment, such as the ability to put a specific set of assets into their own group and impose a life span date because of a known retirement plan, that could be more easily implemented than developing novel probability calculations.

**(c)** Generally confirmed.

The current depreciation estimates as prepared by Concentric explicitly take into account “causes which are known to be in current operation and against which the utility is not protected by insurance” (Concentric report, Application Chapter 4.5.1 Attachment 1, page 3-1). This specifically does not include decarbonization.

The current depreciation approach assumes many assets will reach the end of their economic life within the time frames considered for decarbonization activities, but the assumptions do not arise “due to decarbonization”.

However, the current approach is also consistent with a framework where the assets are retired in the coming years in accordance with physical life limitations, and that any added costs from decarbonization driven retirements are not recovered through depreciation expense. For example, perhaps these recoveries are from Government, or from exit fees imposed on customers who prematurely leave the system, or from Enbridge shareholders, or from a special assessment on the utility sector broadly. If the only tool for addressing the stranded asset costs of decarbonization is accelerated depreciation, it is entirely possible that those customers with the largest personal financial means will exit the system early through investment (such as in electrification and/or self-generation), and leave an ever growing cost burden on the remaining gas utility customers who may

be the least able to fund the ever increasing share of depreciation that is included in their rates. Accelerated depreciation is an extremely coarse tool to address a novel and nuanced problem.

**(d)** Please see the response to (c).

**(e)** Please see the response to (c).

OEB Staff  
Answer to Interrogatory from  
GEC

Interrogatory M1.GEC.1

Reference:

Exhibit M1 – OEB Staff – Depreciation

InterGroup discusses an example, illustrated in its Figure 1, where the assets in service appear to provide the same level of service throughout the period.

Preamble:

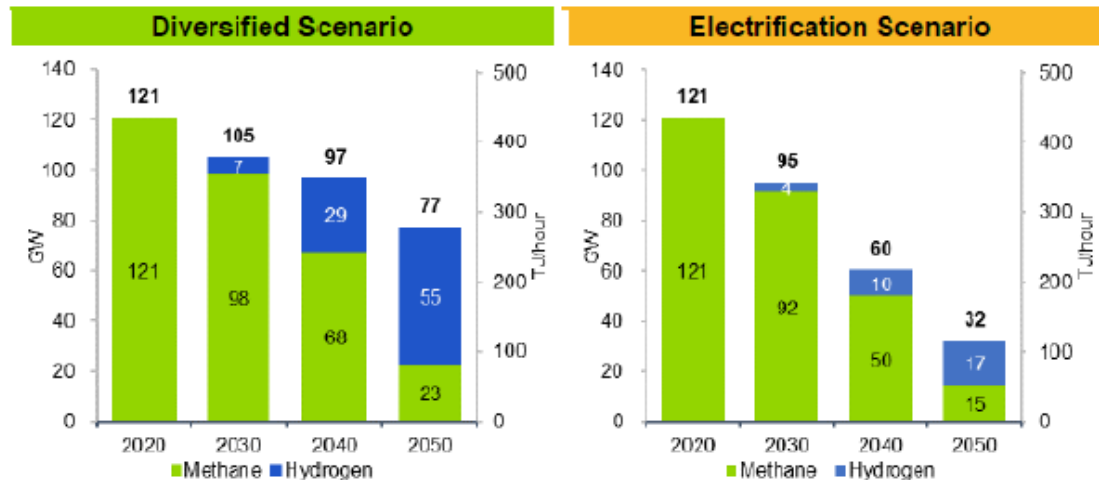
Enbridge has filed evidence produced by Guidehouse which provides two illustrative futures ('Electrification' and 'Diversified') that are postulated to conform to an energy transition that achieves net zero by 2050. The peak energy delivery and peak capacity impacts of the two scenarios can be found at ex. 1.10.5 attachment 2 Figures 10 and 11 (see below). In the 'Electrification' scenario the move off gas is very significant but even in the 'Diversified' scenario, given the fact that hydrogen has approximately 1/3rd the energy content of methane, the system is projected to meet a significantly reduced peak energy demand by 2050 (as evidenced by Guidehouse Figure 10 vs Figure 11). Further, Guidehouse (at page 30) finds that by 2050 85% of all buildings will convert to electric heating systems in the electrification scenario and 40% will do so in the diversified scenario. Accordingly, the impact on annual energy services delivered by the gas system to customers is even greater than the impact on peak energy delivery and there may be far fewer customers left 'holding the bag'.



## Pathways to Net Zero Emissions for Ontario

Figure 10. Gas System Peak Demand<sup>59</sup>

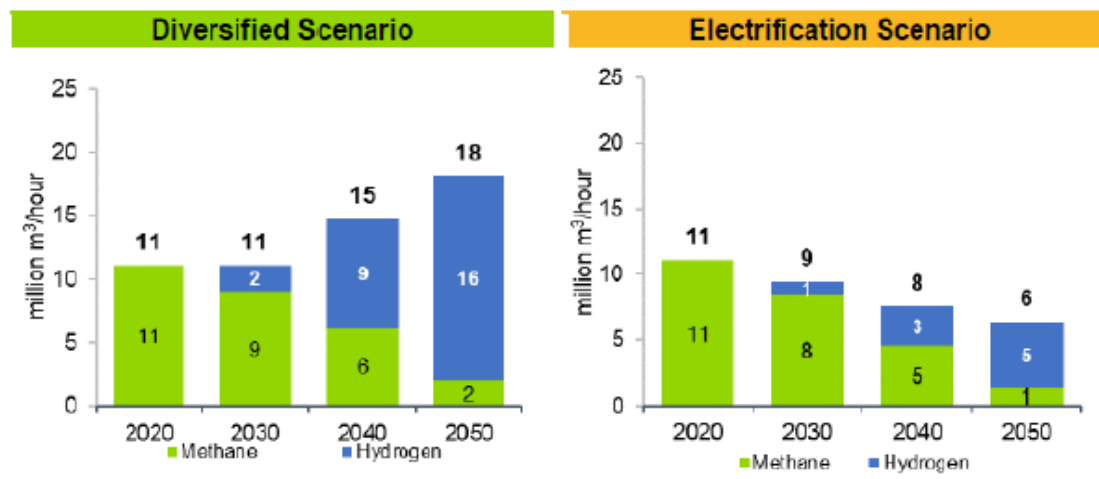
/u



While the gas system peak declines for both scenarios in energy terms, the volumetric gas system peak rises significantly in the Diversified scenario. This is because hydrogen has a lower energy density than methane, so more volume is needed to provide the same amount of energy. This trend, along with the volumetric gas system peak for the Electrification scenario can be seen below in Figure 11.

Figure 11. Volumetric Gas System Peak Demand<sup>59</sup>

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### Question(s):

- Does InterGroup agree that the economic value of an asset can change if it provides significantly different level of service and value to its users over time?



- b) Please assume that by 2050 Enbridge's assets currently in service will accommodate significantly fewer customers at peak than at present and that a large portion of customer annual energy needs will move off gas, and comment on the relative merits of ALG, ELG, EPH, Capacity-based Units of Production, and Energy-based Units of Production depreciation methodologies as a means of achieving inter-generational equity given those assumptions

Response from InterGroup:

- (a) Yes. However, there is typically resistance to tying depreciation practices too closely to the strict economic value of an asset in most cases. For example, a pipeline may be developed that is highly underutilized in the early years of its life, anticipating growth. It is very uncommon to depreciate an asset of this type using anything other than straight-line methods, which largely attribute equal annual depreciation expense (in nominal terms) to each year of the asset's life. There are other methods, such as the units of production or sinking fund approaches that could be used to better match such a growing economic value from an asset, but these are rarely applied and typically cited to be unacceptable to auditors for most utility assets.
- (b) Achieving inter-generational equity will require consideration of the public interest in setting just and reasonable rates, not limited to depreciation. Given the assumptions in the question, it can only be possible to solve for a fair approach through consideration of all aspects that go into rate development, including risks borne by the shareholder versus the customers, the level and timing of returns on capital (return on rate base), not just return of capital (depreciation), as well as operating costs and stranded costs. Consequently, a full response to the question is outside the scope of our review.

With respect to depreciation proper, none of ELG, ALG, APH, or units of production are in themselves a solution or even an improvement over any other approach listed in respect of a highly uncertain future (and where the utility, who is under the obligation to address proposals for adequate depreciation, does not propose such recovery).

Also please see the response to M1.ED.1 and M1.PP.4.

OEB Staff  
Answer to Interrogatory from  
Industrial Gas Users Association (IGUA)

Interrogatory M1.IGUA.1

Preamble:

Intergroup considers asset life parameters for a number of asset accounts at pages through 45 of its report, and summarizes the impact on depreciation expense of its asset life recommendations for these accounts at page 45. IGUA understands that these impacts are calculated by Intergroup assuming the ELG procedure recommended by Concentric and proposed by Enbridge Gas Inc. (EGI) (as indicated at page 5 of the report).

Intergroup canvasses the disadvantages of adopting the ELG procedure as compared to the ALG/ASL procedure. IGUA has sponsored the evidence of Emrydia Consulting Corporation (Emrydia, Exhibit M5) which also favours use of the ALG/ASL procedure.

Question(s):

- a) Could Intergroup please recalculate the impacts of its recommended asset life parameters using the ALG/ASL procedure, and provide those impacts.
- b) Please provide the underlying calculations of the impacts of Intergroup's recommended asset life parameters for both the figures presented in the evidence (based on the ELG procedure) and the figures requested in part of this question (based on the ALG/ASL procedure).

Response:

- (a) Please see Table 1 for a summary of the impacts of InterGroup's recommended asset life parameters using the ASL - Remaining Life procedure.

**Table 1: Life Parameter Recommendation Depreciation Expense Estimates  
Using ASL Procedure**

Account	Recommended Change from Concentric Proposal	2024 Forecast Gross Plant Balance (\$Million) <sup>1</sup>	ELG Life Depreciation Rate Proposed by Concentric <sup>2</sup>	ASL Life Depreciation Rate at IG Recommended Curves	Depreciation Expense Impact (\$ Million)
		A	B	C	D=Ax(C-B)
452	From Iowa 40-R3 to Iowa 45-R2.5	114.8	3.58%	1.98%	-1.8
456	From Iowa 40-R4 to Iowa 44-R4	725.8	2.72%	2.11%	-4.4
457	From Iowa 35-R3 to Iowa 40-R2.5	108.9	2.28%	1.56%	-0.8
465	From Iowa 60-R4 to Iowa 70-R4	3,128.6	1.58%	1.21%	-11.6
475.21	From Iowa 55-R3 to Iowa 61-R3	4,008.8	2.38%	1.74%	-25.7
475.21	From Iowa 55-R3 to Iowa 70-R3	4,008.8	2.38%	1.42%	-38.5
475.30	From Iowa 60-R4 to Iowa 65-R3	3,839.1	1.94%	1.60%	-13.1
475.30	From Iowa 60-R4 to Iowa 70-R4	3,839.1	1.94%	1.48%	-17.7

Notes:

1. Exhibit I.4.5-IGUA-25 Attachment 3, column (a)

2. Exhibit I.4.5-IGUA-25 Attachment 3, column (f)

**(b)** As stated on page 5 of InterGroup's Report set out in M1 and in Note 1 to Table 1 of the Report, the impacts that were quantified for each recommendation are high level estimates of the materiality of the change in annual depreciation compared to the Enbridge Gas's proposals, and reflect only the impact on life parameters (the expense needed to depreciate the original cost), not the net salvage component (which also can change with a change in lives given different periods over which the recovery will occur). The estimates were not based on detailed ELG annual accrual calculations.

Please see N.M1.EGI.9(d) Table 1 for calculations of the impacts of InterGroup's recommended asset life parameters for the figures presented in the evidence and N.M1.EGI.9(d) Table 2, as well as Attachment 3 - N.M1.EGI-9 in Appendix A, for the figures based on the detailed ELG procedure.

Please see Attachment 5 - N.M1.IGUA-1 in Appendix A for calculation of the impacts of InterGroup's recommended asset life parameters using the ASL procedure.

OEB Staff  
Answer to Interrogatory from  
Industrial Gas Users Association (IGUA)

Interrogatory M1.IGUA.2

Preamble:

At page 56 of its Report Intergroup states (emphasis added):

*Review of Enbridge Gas's evidence suggests that Concentric's proposal with respect to the net salvage rates is not well supported for several accounts discussed below. In particular, the findings raise concerns with peer information used for these accounts; accuracy of the retirement data; and reasonableness of the proposed net salvage rates.*

*At the outset, it is important to note that the net salvage analysis is working with a very short record for many of the largest accounts, often only since 2010 or later. Also it is possible that the merging of data from the two utilities has proven more problematic in the case of salvage, as the data alignment and quality is significantly less coherent than the capital asset data used to assess life. Examples are given of this effect in the following sections.*

Emrydia in its evidence sponsored by IGUA makes the following recommendations in respect of net salvage considerations [Exhibit M5, pages 90-93];

- a. That the OEB direct EGI to begin separately tracking and reporting the annual changes in the current net salvage liability; i.e. the existing balance in the account inclusive of any approved funding to the account and actual costs incurred. [Exhibit M5, page 90]
- b. That there would be significant benefit from EGI calculating and reporting the expected future net salvage cost liability based on two assumptions:
  1. The applied for net salvage rates.
  2. The five-year average actual experienced net salvage costs for each account.
- c. That the OEB consider directing EGI to conduct a study for its 10 largest property accounts and report on the following;
  1. The current approach to salvaging the assets, including the approximate unit material and labour costs to salvage assets.

2. Alternative approaches available to salvage certain assets, such as abandonment in situ, and the implications such approaches may have on salvage costs.
3. EGI's best estimate of the future costs to salvage the assets within each account, including the assumptions used to develop those estimates.

Mr. Madsen of Emrydia suggests that the information provided by the foregoing tracking, reporting and investigation would provide transparency on potential future salvage costs, and provide additional data points to assist in developing future net salvage estimates.

Question(s):

In light of the data concerns expressed by Intergroup does Intergroup see merit in the tracking, reporting and investigation recommendations offered by Mr. Madsen? Please discuss.

Response from Intergroup:

Generally, yes.

One of the issues with Net Salvage estimation is a tendency to focus on the total cost of removal as a ratio compared to the original cost of installation, and to conduct analysis on this ratio. This approach can suffer from insufficient consideration as to whether the net salvage activities are being conducted in a manner that is prudent and at the lowest reasonable cost for the work conducted. The Emrydia evidence cited in respect of point (c) could serve as an important start in developing more focused and data-driven assessment of the spending levels.

In respect of point (a) in respect of annual tracking and reporting the net salvage liability balance, this is typically a normal part of account reconciliation that utilities are able to provide when asked, as part of revenue requirement reviews. As net salvage is proposed to become an increasingly large annual accrual amount, such tracking is likely merited, and would form a sensible component of Enbridge Gas's regular filing requirements for future rate reviews.

In contrast, in respect of point (b), it is not clear whether Emrydia means the five-year average dollar value spent on salvage activities, or the five-year average ratio between dollars spent on salvage as a percentage of original cost of the assets retired. Either way, such data appears readily available in the Concentric study and the information requests

filed in this proceeding, and could be used by any party if the particular five-year averages are expected to be informative.

OEB Staff  
Answer to Interrogatory from  
Pollution Probe

Interrogatory M1. PP.1

Reference:

Table from Exhibit JT5.33 of major pipeline projects constructed but not approved for rate recovery.

Project Name	Applicant	Docket Number	Total Capital Cost (Forecasted)	Total Capital Cost (Actual)	Total Capital Cost Ex. 1.2.1-SEC-98	Variance Driver	Capital Overhead Amount	In-Service Date (Actual or Expected)	Amortization Period	Amortization Period - Leave to Construct
2018 Oxford Reinforcement Project	Union Gas	EB-2018-0009	\$ 7,308,000.00	\$ 4,852,784.00	n/a	Not included in Ex. 1.2.1-SEC-98	\$ 873,304.84	October 4, 2018 (Actual)	55 years	40 years
Kingsville Transmission Reinforcement Project	Union Gas	EB-2018-0019	\$ 105,170,000.00	\$ 77,042,959.00	\$ 91,559,895.00	The Forecasted and Actual costs are presented without overheads. Ex. 1.2.1-SEC-98 includes overheads.	\$ 15,440,922.00	October 24, 2019 (Actual)	50 years	40 years
Liberty Village Project	Enbridge Gas Distribution	EB-2018-0004	\$ 3,623,283.00	\$ 4,151,681.00	n/a	Not included in Ex. 1.2.1-SEC-98	\$ 1,124,945.73	March 28, 2019 (Actual)	55 years	40 years
Bathurst Reinforcement Project	Enbridge Gas Distribution	EB-2018-0097	\$ 9,147,651.00	\$ 9,442,615.00	n/a	Not included in Ex. 1.2.1-SEC-98	\$ 3,287,782.72	December 11, 2019 (Actual)	55 years	40 years
Don River 30" Pipeline Project	Enbridge Gas Distribution	EB-2018-0109	\$ 25,318,141.00	\$ 23,706,759.00	\$ 31,013,294.00	The Forecasted and Actual costs are presented without overheads. Ex. 1.2.1-SEC-98 includes overheads.	\$ 7,394,061.00	April 21, 2020 (Actual)	50 years	
Chatham-Kent Rural Project	Union Gas	EB-2018-0188	\$ 16,100,000.00	\$ 14,797,605.00	\$ 14,813,202.00	Immaterial completion costs	\$ 1,298,871.24	November 22, 2010 (Actual)	55 years	20 years
Georgian Sands Pipeline Project	Enbridge Gas Inc.	EB-2018-0225	\$ 2,827,537.00	\$ 2,112,532.00	n/a	Not included in Ex. 1.2.1-SEC-98	\$ 823,330.48	June 1, 2020 (Actual)	50 years	40 years
Goreford Reinforcement Project	Union Gas	EB-2019-0008	\$ 28,540,000.00	\$ 24,726,718.00	\$ 26,002,541.00	Immaterial completion costs	\$ 4,217,275.69	September 14, 2019 (Actual)	50 years	40 years
St. Laurent Pipeline Project	Enbridge Gas Inc.	EB-2019-0005	\$ 5,510,519.00	\$ 5,546,518.00	n/a	Not included in Ex. 1.2.1-SEC-98	\$ 1,627,354.47	September 4, 2020 (Actual)	50 years	
Winlock Line Replacement Project	Enbridge Gas Inc.	EB-2019-0172	\$ 106,800,000.00	\$ 82,925,800.00	\$ 83,123,044.00	Immaterial completion costs	\$ 14,090,009.00	September 10, 2021 (Actual)	50 years	
Owen Sound Reinforcement Project	Enbridge Gas Inc.	EB-2019-0183	\$ 88,065,000.00	\$ 70,121,772.00	\$ 70,165,000.00	Immaterial completion costs	\$ 11,059,200.08	October 20, 2020 (Actual)	50 years	40 years
Sauguen-Long Point Community Expansion	Enbridge Gas Inc.	EB-2019-0187	\$ 2,527,300.00	\$ 3,058,969.00	n/a	Not included in Ex. 1.2.1-SEC-98	\$ 2,132.13	August 28, 2021 (Actual)	50 years	40 years
North Bay Community Expansion Project	Enbridge Gas Inc.	EB-2019-0188	\$ 10,955,559.00	\$ 11,681,940.00	\$ 11,681,940.00	No variance	\$ 37,864.00	October 1, 2021 (Actual)	50 years	40 years
Samia Reinforcement Project	Enbridge Gas Inc.	EB-2019-0218	\$ 30,781,000.00	\$ 38,058,804.00	\$ 38,058,804.00	No variance	\$ 6,831,845.22	November 1, 2021 (Actual)	50 years	30 years
Low Carbon Energy Project	Enbridge Gas Inc.	EB-2019-0294	\$ 5,232,205.00	\$ 5,776,329.00	n/a	Not included in Ex. 1.2.1-SEC-98	\$ 1,250,873.50	October 1, 2021 (Actual)	50 years	
NPS 30 Replacement Cherry to Bathurst Project	Enbridge Gas Inc.	EB-2020-0198	\$ 193,047,891.00					December 5, 2022 (Actual)	55 years	
Landon Lines Replacement Project	Enbridge Gas Inc.	EB-2020-0192	\$ 154,099,039.00					December 10, 2021 (Actual)	55 years	
Greenstone Pipeline Project	Enbridge Gas Inc.	EB-2021-0208	\$ 25,777,739.00					March 2023 (Expected)	55 years	20 years
Waterfront Toronto Relocation Project	Enbridge Gas Inc.	EB-2022-0003	\$ 23,481,558.00					August 2024 (Expected)	55 years	
Down to Corwin Pipeline Project	Enbridge Gas Inc.	EB-2022-0080	\$ 250,748,703.00					November 1, 2023 (Expected)	50 years	
Haldimand Shores Community Expansion Project	Enbridge Gas Inc.	EB-2022-0088	\$ 4,949,799.00					February 9, 2023 (Actual)	55 years	40 years
Covey and Kimball-Colmille Well Drilling Project (Gathering Lines)	Enbridge Gas Inc.	EB-2021-0249	\$ 5,078,800.00					September 9, 2022 (Actual)	55 years	

Enbridge has proposed that the OEB approve in this proceeding an amortization period significantly greater (in some cases increasing from 20 years to 60 years) than what was filed in several major pipeline applications through the OEB Leave to Construct proceeding for those projects.

Question(s):

Please provide what additional costs and other risks would likely occur if the OEB were to approve the longer amortization period for these projects. Please provide any other appropriate comments or opinions on the appropriateness of this proposal.

Response from InterGroup:

Depreciation expense in a year should reflect the consumption of the asset group's service value.

The consumption of service value is generally defined as:

...the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities.<sup>9</sup>

Enbridge Gas uses group asset accounting. This means that assets of generally similar characteristics are grouped together in a single account, and depreciated as a group. Some assets will last shorter than the average for the group, and some will last longer. In setting depreciation expense under any procedure (either ELG or ASL), this group averaging nature is incorporated in the assessment of asset lives.

In the case of projects or assets justified on the basis of a given service life, for which the utility properly understands will face retirement prior to the average life of a group, a decision must be made as to whether the assets are sufficiently distinct to merit becoming their own group, or whether they are sufficiently similar to other assets that they can be included in a group together. By “similar”, this means in respect of any of the major criteria above for defining depreciable lives (e.g., effects of wear and tear, risks of obsolescence).

If there are a select number of assets that face potentially different characteristics than the remaining group with which they would otherwise be included, the asset manager must decide if the differences (and the number of assets in question) are material. If they are material, then the creation of a new group may be merited. If the differences or the magnitude of investment is not materially different, then the assets can be included in the main group, and their general outlook for lives can be part of creating the average life projected for the group.

As a result, it is not inconsistent to have a few individual assets which are expected to retire early grouped with a large account of similar assets, assuming the former is not sufficiently material to merit its own group and its own depreciation parameters.

While the above sets out a general response to the question, the specifics may be more complicated. Messrs. Bowman and Mahmudov do not have direct experience with the examples cited in the question; however, a quick review indicates that the final column in the table may not in fact be the projected life of the projects. For example, in the case of

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<sup>9</sup> This sample definition comes from 18 CFR 101. The same general definition, with minor modifications, is used pervasively throughout the utility industry.



Chatham Kent Rural Project, to take one example, the 20 year Leave to Construct period appears to simply be the horizon that was used for the DCF calculations, based on the fact that there was one contract with this length<sup>10</sup>. It does not appear that it was necessarily the fixed life of the asset, or that there is a precommitment to remove or retire the asset at that date. It is not uncommon for new projects to be tested economically over a specific horizon (such as the length of a contract or a franchise agreement) even though the reasonable expectation is that the asset may well be in service much longer than this single contract horizon.

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<sup>10</sup> See EB-2018-0188 OEB Staff Submission 2019-05-24, page 10.

OEB Staff  
Answer to Interrogatory from  
Pollution Probe

Interrogatory M1. PP.2

Reference:

Question(s):

Please clarify what responsibility Enbridge has to ensure that amortization periods are not longer than the expected useful life of capital assets and what options are open to the OEB to mitigate rate payer risks and related costs in cases where Enbridge proposes amortization periods that are longer than what is prudent.

Response from InterGroup:

It is incumbent on a utility operator to propose just and reasonable rates, including appropriate periods for depreciation of assets<sup>11</sup>. It is the role of the regulator to fully test these estimates and proposals.

It should also be noted that there is, if anything, typically an assumed tendency among utilities to err to the shorter end of what can reasonably be expected for asset life, rather than the longer end. This is for three reasons. First, a shorter depreciation period increases cash flow to the utility, which can be attractive to some investors. Second, a shorter depreciation period decreases the risk of there being large undepreciated net book value at the time of any extraordinary retirements, which can be determined to be to the account of the utility shareholder rather than customers. Finally, shorter depreciation lives sometimes arise from the perspectives of internal operations staff who are exposed first-hand to the impacts of failing assets. Just as a capital plan for most utilities often starts as a longer "wish list" and then must be pared down to a credible level through considered review by senior utility staff and regulators, the same tendency can lead to operations staff suggesting many assets are on the cusp of being replaced when in actual fact there can be many years of further useful life in the facilities. It is necessary

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<sup>11</sup> This issue has been addressed before other regulators, such as National Energy Board proceeding RH-003-2011 which explicitly notes the utility obligation and responsibility to provide reasonable estimates and keep depreciation rates current. (pages 40-44)

to ensure that a depreciation study has corrected for these factors – otherwise utilities may propose lives that are too short.

The question about “ratepayer risks” ties to the OEB’s ability to disallow recovery of assets that are no longer used and useful, or are no longer able to be financed with rates that would otherwise be determined to be just and reasonable. Ratepayer risks from unrecovered capital costs only arise to the extent that the OEB determines these costs can and should be recovered from customers long after the group of assets in question may have been retired, or is only providing highly underutilized service. Fundamentally, the question as to whether the OEB can and should allow such recovery includes questions of law that are outside Messrs. Bowman and Mahmudov’s scope.

Outside of questions of energy transition, it is the conclusion of the InterGroup Report set out in Exhibit M1 that, if anything, Enbridge has erred towards lives that are somewhat too short in this proceeding, not too long.

OEB Staff  
Answer to Interrogatory from  
Pollution Probe

Interrogatory M1. PP.3

Reference:

Question(s):

Please list any tools and regulatory approaches you are aware of that are used by regulators to mitigate rate payer risks and related costs due to regulated utilities using longer amortization periods for capital assets.

Response from InterGroup:

Please see the response to M1.PP.2.

OEB Staff  
Answer to Interrogatory from  
Pollution Probe

Interrogatory M1. PP.4

Reference:

Concentric has outlined energy transition and other risks to natural gas capital assets becoming stranded, yet Enbridge is proposing to increase the amortization period for capital assets (e.g. pipeline) which would increase risk of stranded assets if the issues raised by Concentric have merit.

Question(s):

- a) Please explain your position on this apparent dichotomy and what approach(es) the OEB could use to mitigate the risks, including to those to rate payers.
- b) What are the pros and cons of decreasing the amortization period for capital assets (e.g. pipelines) from the existing amortization period rather than increasing them as proposed by Enbridge.

Response from InterGroup:

First, the preamble to the question indicates Concentric has raised issues related to risks of stranded assets. This does not appear to be quite correct. Concentric has performed a mathematical exercise to show the implications if a truncated economic planning horizon is included in the coarse assumptions of the depreciation study. A detailed discussion of stranded assets and risks posed by energy transition are generally not addressed in Concentric's evidence.

**(a) and (b)**

Opinions regarding the appropriate lives for assets, outside of major questions of energy transition, are set out in the InterGroup Report, Exhibit M1.

The question of how to manage energy transition, who pays for assets that may have their lives truncated by any energy transition, who and when are assessments made about which assets may have their lives truncated, and what economic incentives are in

place during the intervening period to the energy transition are broad policy questions taking in the full extent of the public interest, far beyond depreciation.

For example, if accelerated depreciation is available universally for all assets, with guaranteed accelerated recovery to the utility of all capital amounts spent at the expense of ratepayers, there will be little incentive on the utility to implement an orderly transition. If the utility knows it will recover every dollar it spends on capital going forward, it may have an ineffective economic signal to constrain capital spending where that may be sensible given pending transition and potential truncated lives. The utility may also not dispose of assets where it may incur a loss, but which would otherwise be prudent transactions, because it knows it has guaranteed recovery through rates. On the other hand, if the utility expects they are at substantial risk of failing to collect depreciation on the full value of capital spent in the next years or decades, there is a risk that an economic signal is imposed to underspend, which may undermine key public interests in safety and reliability and continued customer service.

# Appendix A

# **ATTACHMENT 1**

**N.M1.EGI.1**



**Ontario Energy Board**  
P.O. Box 2319  
2300 Yonge Street  
27th. Floor  
Toronto ON M4P 1E4  
Telephone: (416) 481-1967  
Facsimile: (416) 440-7656

**Commission de l'énergie de l'Ontario**  
C.P. 2319  
2300, rue Yonge  
27e étage  
Toronto ON M4P 1E4  
Téléphone: (416) 481-1967  
Télécopieur: (416) 440-7656



This Statement of Work is entered into, effective as of January 26, 2023, pursuant to the Master Agreement between InterGroup Consultants Ltd. (the "Contractor") and the Ontario Energy Board (the "OEB") made as of August 1, 2018, Contract No. RFPOEBRE11232017 (the "Master Agreement"). All capitalized terms used but not otherwise defined in this Statement of Work have the meaning set out in the Master Agreement.

### **1. Services and Deliverables**

Enbridge Gas Inc. (Enbridge Gas) filed an application with the OEB for rates effective January 1, 2024 (the Application). The Contractor will provide services as an expert relating to Enbridge Gas' proposed depreciation, including but not limited to depreciation methodology, amortization accounting, asset account categorization and alignments, useful lives, depreciation rates, depreciation expense and net salvage methodology (including the discount rate, if applicable). The Contractor may also assist OEB staff in areas relating to segregated funds for site restoration costs and the use of economic planning horizon for depreciation purposes.

The Contractor will provide the following Services and Deliverables:

- (a) Analyze the evidence and assist OEB staff with the preparation of interrogatories to enable the expert to fully assess Enbridge's evidence.
  - Interrogatories due February 10, 2023
- (b) Review interrogatory responses and organize a discussion with OEB staff to discuss issues identified from the review
  - February 10 to March 22, 2023
- (c) Participate in any technical conference(s) or assist OEB staff in preparing for any technical conference(s), to follow-up on any details required following the expert's review of the interrogatory responses.
  - Technical Conference scheduled for March 22, 2023
- (d) Draft a report assessing Enbridge's evidence, and that of its expert, and/or prepare an alternative study to rebut or augment the evidence filed. This report will be filed on the record of the proceeding. Hold discussions with OEB staff on the expert's conclusions, as required.
  - Expert Report due April 14, 2023
- (e) Respond to interrogatories filed with respect to the expert's report.
  - IR Responses due May 5, 2023
- (f) Assist OEB staff in developing a position for the settlement conference
  - Settlement Conference scheduled for May 9, 2023
- (g) Assist OEB staff in preparing cross-examination for any oral hearing.
  - Oral Hearing scheduled for June-July 2023

- (h) The expert may be required to testify at the oral hearing to explain the analysis and findings in the expert's report.
  - o Oral Hearing scheduled for June-July 2023
- (i) Assist OEB staff in preparing a final submission.
  - o Submission due August 2023

## **2. Statement of Work Term**

The term of this Statement of Work shall begin on January 26, 2023 and will end no later than December 31, 2023 (the "Statement of Work Initial Term"), or any earlier date on which this Statement of Work is terminated in accordance with the terms of the Master Agreement. The Contractor shall perform the Services and provide all of the Deliverables no later than the expiration of the Statement of Work Initial Term, and in accordance with the schedule specified in this Statement of Work, unless agreed to in writing by the OEB.

The Statement of Work Initial Term is for one (1) year with an option to extend for one (1) additional one (1) year term, or for such duration which may be required for the Contractor to complete the Services and Deliverables set out in this Statement of Work and as agreed upon by the OEB and the Contractor.

The parties acknowledge that the Master Agreement expires on July 31, 2023, at which time this Statement of Work Initial Term will also expire. As the Contractor is required to provide services beyond the expiry of the Master Agreement, the parties agree to enter into an amending agreement to extend the term of this Statement of Work on mutually agreeable terms. The OEB will be issuing a Request for Proposals (RFP) to establish a new, updated Vendor of Record (VoR) arrangement for Regulatory Expertise effective August 1, 2023. The Contractor may submit a proposal in response to the RFP and, if selected, will enter into a new master agreement and this Statement of Work may be amended, if required to allow the Contractor to complete the services set out in this Statement of Work. In the event that the Contractor does not enter into a new master agreement under a VoR arrangement, the parties agree to execute a new agreement or amendment to this Statement of Work, on mutually agreeable terms, if required to allow the Contractor to complete the services under this Statement of Work.

## **3. Key Personnel**

### **Team Members:**

<b>Name</b>	<b>Role</b>	<b>Firms</b>
Patrick Bowman*+	Principal Consultant	Bowman Economic Consulting Inc.
Hayitbay Mahmudov+	Principal and Consultant	InterGroup Consultants Ltd.

+Team members' roles have evolved from the role descriptions in the Master Agreement, but the hourly rates are consistent with the Master Agreement.

\* The parties acknowledge that this team member is no longer engaged with InterGroup Consultants Ltd. The OEB consents to the Contractor sub-contracting with the firm Bowman Economic Consulting Inc. subject to the terms set out in the Master Agreement.

**4. Consultants Permitted to have Access to OEB's Confidential Information**

<b>Name</b>	<b>Role</b>	<b>Firms</b>
Patrick Bowman	Principal Consultant	Bowman Economic Consulting Inc.
Hayitbay Mahmudov	Principal and Consultant	InterGroup Consultants Ltd.

**5. Phases, Milestones, Schedule and Reporting**

<b>Task</b>	<b>Description</b>	<b>Deliverable Dates</b>
1	Analyze the evidence and assist OEB staff with the preparation of interrogatories to enable the expert to fully assess Enbridge's evidence.	Interrogatories due February 10, 2023
2	Review interrogatory responses and organize a discussion with OEB staff to discuss issues identified from the review.	February 10 to March 22, 2023
3	Participate in any technical conference(s) or assist OEB staff in preparing for any technical conference(s), to follow-up on any details required following the expert's review of the interrogatory responses.	Technical Conference scheduled for March 22, 2023
4	Draft a report assessing Enbridge's evidence, and that of its expert, and/or prepare an alternative study to rebut or augment the evidence filed. This report will be filed on the record of the proceeding. Hold discussions with OEB staff on the expert's conclusions, as required.	Expert Report due April 14, 2023
5	Respond to interrogatories filed with respect to the expert's report.	IR Responses due May 5, 2023
6	Assist OEB staff in developing a position for the settlement conference.	Settlement Conference scheduled for May 9, 2023
7	Assist OEB staff in preparing cross-examination for any oral hearing.	Oral Hearing scheduled for June-July 2023
8	The expert may be required to testify at the oral hearing to explain the analysis and findings in the expert's report.	Oral Hearing scheduled for June-July 2023
9	Assist OEB staff in preparing a final submission.	Submission due August 2023

**6. Rates**

Fixed Hourly Rate for one (1) Consultant is [REDACTED] CANADIAN DOLLARS

Fixed Combined Hourly Rate for multiple Consultants is [REDACTED] CANADIAN DOLLARS

The breakdown is as follows:

Task	Description	Fixed Hourly Rate for 1 (one) Consultant  / Fixed Combined Hourly Rate for more multiple Consultants	Extended Cost (HST)
1	Fixed Hourly Rate for one (1) Consultant	██████████	N/A
2	Fixed Combined Hourly Rate for multiple Consultants. Provide estimated contributions of individual Consultants (hours or %)	██████████  50% Patrick Bowman 50% Hayitbay Mahmudov	N/A

The hourly rate is exclusive of charges, fees or disbursements that the Contractor may incur if the Contractor is required to attend in person at the OEB offices in Toronto. Any charges, fees or disbursements not included in this Statement of Work require prior written authorization by the OEB and are subject to the Ontario government “*Travel, Meal and Hospitality Expenses Directive* and *General Expenses Directive*”.

#### **7. Total Agreement Value**

The total fees for the services and deliverables are ██████████ exclusive of HST and any charges, fees, disbursements that Contract may be required to incur for potential attendance in person at OEB offices.

The breakdown of Services and Deliverables and associated costs is set out in Schedule A to this Statement of Work.

#### **8. Invoicing and Payment**

- (a) Subject to section 9.1 of the Master Agreement, the Contractor shall invoice the OEB on a time and materials basis subject to the following conditions:
  - (i) the Contractor shall provide the OEB with a monthly invoice no later than ten (10) business days after the end of each month, and that invoice shall include: (A) the name of the Contractor; (B) the amount for which the invoice is rendered; (C) the reference number assigned to the Master Agreement and applicable Statement of Work by the OEB; (D) a brief description of the Services performed or Deliverables provided for the relevant month; (E) the identity of the persons performing those Services or providing those Deliverables and the time expended by each such person during the relevant month; (F) an itemized breakdown of the charges being included on the invoice; (G) the time period that is being included on the invoice; and (H) taxes, if payable by the OEB, identified as separate items;

- (ii) the billing rate used in relation to each person that performed the Services or provided Deliverables during the relevant month shall be no greater than that specified in this Statement of Work in relation to that person or the fixed hourly rates specified in this Statement of Work, if applicable;
  - (iii) upon request of the OEB, the Contractor shall have a responsible officer of the Contractor certify that the invoice submitted to the OEB is true, complete and correct; and
- (b) In the event that the OEB rejects an invoice, it shall promptly so notify the Contractor and the Contractor shall provide additional information as required by the OEB to substantiate the invoice. Each invoice must be approved by the OEB before any payment is released to the Contractor.


#### **9. Counterparts**

This Statement of Work may be executed and delivered by the Parties in one or more counterparts, each of which will be an original, and each of which may be delivered by facsimile, e-mail or other functionally equivalent electronic means of transmission and those counterparts will together constitute one and the same instrument.

[Signature page follows.]

Each of the Parties has executed this Statement of Work as of the dates stated below.

INTERGROUP CONSULTANTS LTD.

By:  \_\_\_\_\_  
51A5C51EA179444...

Name: Hayitbay Mahmudov

Title: Principal & Consultant

Date: 1/26/2023

ONTARIO ENERGY BOARD

By:  \_\_\_\_\_  
C5A3F2FC9CD7410...

Name: Theodore Antonopoulos

Title: VP, Applications

Date: 1/26/2023

## **Schedule A Contractor's Bid**

Attached to and forming part of the Master Agreement between InterGroup Consultants Ltd. and the OEB made as of the August 1, 2018, and the Statement of Work entered into by the same parties as of January 26, 2023.

This Schedule consists of the financial portion of the Contractor's Bid and estimated allocation of Contractor hours budgeted for each of the Services and Deliverables.



### Estimated Allocation of Contractor Hours for Services and Deliverables

#	Tasks	Major Deliverables and Milestones	Allocation of Effort (hours)
1	Review and analyse Enbridge Gas' 2024 Rebasing application and evidence, including depreciation study and assist OEB staff with preparation of interrogatories to enable full assessment of Enbridge's evidence	Draft and Final information requests (IRs) to Enbridge Gas  Timeline: by February 10, 2023	50
2	Review Enbridge Gas' application and evidence, as well as proceeding from other Canadian jurisdictions, for consideration of segregated funding for site restoration costs	Timeline: throughout the assignment	30
3	Analyse depreciation approach and Enbridge Gas' current and future revenue requirement implications of economic planning horizon option for depreciation purposes	Timeline: throughout the assignment	30
4	Analysis of Enbridge's IR responses	Issues list for follow up on IR responses	40
5	Organize review/discussion session with the OEB staff on depreciation matters and issues identified from the IR responses review	Timeline: February-March, 2023	30
6	Prepare and participate in technical conferences and/or assist OEB in preparing for technical conferences; follow up on any issues/details identified in the IR responses review (March 22, 2023)	Timeline: March 22, 2023	30
7	Prepare assessment of Enbridge's evidence (draft report); prepare expert evidence on depreciation; and/or alternative study to rebut or augment Enbridge's evidence, and hold discussions with OEB staff on the expert's conclusions, as required.	Assessment report; Expert evidence; and/or alternative study (if required)  Timeline: by April 14, 2023	120
8	Respond to any IRs filed with respect to the expert evidence on depreciation	Responses to IRs  Timeline: by May 5, 2023	50



#	Tasks	Major Deliverables and Milestones	Allocation of Effort (hours)
9	Assist OEB in preparing for settlement session participation with respect to depreciation matters	Timeline: by May 9, 2023	40
10	Assist OEB in preparing cross-examination for oral hearing; if required, testify in the oral hearing on the filed expert evidence	Timeline: June-July, 2023	60
11	Assist OEB staff in preparing a final submission with respect to the depreciation matters	Timeline: August, 2023	20
	<b>Total Budget Hours</b>		<b>500</b>
	<b>Total Initial Estimated Budget (at blended rate of [REDACTED])</b>		<b>[REDACTED]</b>

## **ATTACHMENT 2**

**N.M1.EGI-7**

Account 462.00 - Transmission Plant - Compressor Structures and Improvements  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life

Survivor Curve: S-4

ASL: 60

Net Salvage: -5%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1971	1,187,168	1,008,054	1,275,836	0.8087	-	11.95		50.5
1973	391,090	323,468	409,395	0.7877	1,249	13.07	96	48.5
1988	282,073	170,210	215,425	0.5747	80,751	24.79	3,257	33.5
1989	12,325,934	7,222,465	9,141,059	0.5581	3,801,172	25.74	147,687	32.5
1991	14,715,775	8,102,685	10,255,103	0.5244	5,196,461	27.66	187,852	30.5
1994	110,397	54,861	69,434	0.4733	46,483	30.61	1,519	27.5
1995	629,438	301,469	381,551	0.4561	279,358	31.60	8,842	26.5
1997	227,989	100,973	127,796	0.4218	111,593	33.59	3,323	24.5
1998	160,773	68,301	86,445	0.4046	82,367	34.58	2,382	23.5
2000	120,575	46,866	59,316	0.3702	67,287	36.58	1,839	21.5
2001	24,159	8,954	11,332	0.3530	14,035	37.58	373	20.5
2002	20,358	7,177	9,084	0.3358	12,292	38.58	319	19.5
2004	197,385	62,449	79,039	0.3013	128,216	40.58	3,160	17.5
2005	19,216	5,732	7,255	0.2841	12,922	41.58	311	16.5
2006	31,819	8,916	11,285	0.2669	22,125	42.58	520	15.5
2007	5,084,373	1,332,850	1,686,912	0.2497	3,651,680	43.58	83,796	14.5
2008	2,175,037	530,855	671,873	0.2324	1,611,915	44.58	36,159	13.5
2009	1,004,664	227,042	287,354	0.2152	767,543	45.58	16,840	12.5
2010	310,888	64,636	81,807	0.1980	244,626	46.58	5,252	11.5
2011	604,639	114,779	145,269	0.1808	489,602	47.58	10,290	10.5
2012	410,069	70,430	89,139	0.1636	341,434	48.58	7,029	9.5
2013	811,486	124,703	157,829	0.1464	694,232	49.58	14,003	8.5
2014	20,001,023	2,711,998	3,432,420	0.1291	17,568,654	50.58	347,356	7.5
2015	33,713,841	3,961,845	5,014,280	0.1119	30,385,253	51.58	589,110	6.5
2016	23,302,948	2,317,125	2,932,652	0.0947	21,535,443	52.58	409,589	5.5
2017	34,622,648	2,816,753	3,565,002	0.0775	32,788,779	53.58	611,979	4.5
2018	154,781	9,794	12,396	0.0603	150,124	54.58	2,751	3.5
2019	189,237	8,553	10,825	0.0430	187,874	55.58	3,380	2.5
2020	268,143	7,272	9,203	0.0258	272,347	56.58	4,814	1.5
2021	10,254,031	92,692	117,314	0.0086	10,649,418	57.58	184,956	0.5

<b>Total</b>	163,351,958	31,883,908	40,353,631		131,195,235		2,688,781	
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<b>Composite Annual Accrual Rate</b>							1.65%	
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<b>Life Portion of the Composite Rate</b>							1.57%	
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Account 462.00 - Transmission Plant - Compressor Structures and Improvements  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 2 - N.M1.EGI-7  
 ASL Remaining Life  
 Survivor Curve: S-4  
 ASL: 60  
 Net Salvage: -5%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1971	1,187,168	973,594	1,273,303	-	13.14	-
1973	391,090	312,422	408,597	2,048	14.35	143
1988	282,073	164,681	215,376	80,801	26.64	3,033
1989	12,325,934	6,988,476	9,139,787	3,802,443	27.60	137,762
1991	14,715,775	7,841,338	10,255,192	5,196,372	29.55	175,843
1994	110,397	53,099	69,444	46,473	32.52	1,429
1995	629,438	291,793	381,618	279,291	33.51	8,335
1997	227,989	97,736	127,823	111,566	35.50	3,142
1998	160,773	66,112	86,464	82,348	36.50	2,256
2000	120,575	45,365	59,330	67,274	38.50	1,747
2001	24,159	8,667	11,335	14,032	39.50	355
2002	20,358	6,947	9,086	12,290	40.50	303
2004	197,385	60,449	79,058	128,197	42.50	3,016
2005	19,216	5,549	7,257	12,920	43.50	297
2006	31,819	8,631	11,288	22,122	44.50	497
2007	5,084,373	1,290,160	1,687,319	3,651,273	45.50	80,248
2008	2,175,037	513,853	672,035	1,611,753	46.50	34,661
2009	1,004,664	219,770	287,424	767,473	47.50	16,157
2010	310,888	62,566	81,826	244,606	48.50	5,043
2011	604,639	111,102	145,304	489,567	49.50	9,890
2012	410,069	68,174	89,161	341,412	50.50	6,761
2013	811,486	120,709	157,867	694,194	51.50	13,479
2014	20,001,023	2,625,135	3,433,249	17,567,825	52.50	334,625
2015	33,713,841	3,834,951	5,015,491	30,384,043	53.50	567,926
2016	23,302,948	2,242,910	2,933,361	21,534,735	54.50	395,133
2017	34,622,648	2,726,535	3,565,864	32,787,917	55.50	590,773
2018	154,781	9,480	12,399	150,121	56.50	2,657
2019	189,237	8,279	10,828	187,871	57.50	3,267
2020	268,143	7,039	9,206	272,345	58.50	4,655
2021	10,254,031	89,723	117,343	10,649,389	59.50	178,981
<b>Total</b>	163,351,958	30,855,246	40,353,631	131,192,701		2,582,418

**Composite Annual Accrual Rate** 1.58%

**Life Portion of the Composite Rate** 1.51%

Account 462.00 - Transmission Plant - Compressor Structures and Improvements  
CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 2 – N.M1.EGI.7  
Generation Arrangement  
Survivor Curve: S-4  
ASL: 60  
Net Salvage: -5%

								Remaining Life Weight (Future Book Accruals)		Calculated Accrued Depreciation			Annual Accrual w/Reserve
Vintage	Age as of 1/1/22	Original Cost	Proportion Surviving	Realized Life	Remaining Life (Years)	Average Life (Years)	Average Life Weight	Plant in- Service		Allocated Book Reserve	Annual True-up		
	A	B	C	D	E	F	G	H	I	J	K	L	M
2021	0.5	10,254,031	1.0000	0.50	59.50	60.00	179,446	10,677,009	10,254,031	89,723	120,296	514	178,932
2020	1.5	268,143	1.0000	1.50	58.50	60.00	4,693	274,512	268,143	7,039	9,437	41	4,652
2019	2.5	189,237	1.0000	2.50	57.50	60.00	3,312	190,420	189,237	8,279	11,100	49	3,263
2018	3.5	154,781	1.0000	3.50	56.50	60.00	2,709	153,040	154,781	9,480	12,711	57	2,651
2017	4.5	34,622,648	1.0000	4.50	55.50	60.00	605,896	33,627,245	34,622,648	2,726,535	3,655,587	16,740	589,157
2016	5.5	23,302,948	1.0000	5.50	54.50	60.00	407,802	22,225,186	23,302,948	2,242,910	3,007,169	14,023	393,778
2015	6.5	33,713,841	1.0000	6.50	53.50	60.00	589,992	31,564,582	33,713,841	3,834,951	5,034,987	22,431	567,562
2014	7.5	20,001,023	1.0000	7.50	52.50	60.00	350,018	18,375,939	20,001,023	2,625,135	3,519,636	17,038	332,980
2013	8.5	811,486	1.0000	8.50	51.50	60.00	14,201	731,352	811,486	120,709	161,839	799	13,402
2012	9.5	410,069	1.0000	9.50	50.50	60.00	7,176	362,399	410,069	68,174	91,404	460	6,716
2011	10.5	604,639	1.0000	10.50	49.50	60.00	10,581	523,769	604,639	111,102	148,960	765	9,816
2010	11.5	310,888	1.0000	11.50	48.50	60.00	5,441	263,866	310,888	62,566	83,885	440	5,001
2009	12.5	1,028,610	0.9767	12.28	47.50	58.67	18,409	874,415	1,004,664	180,482	241,981	1,295	17,114
2008	13.5	2,184,503	0.9957	13.46	46.50	59.76	38,382	1,784,778	2,175,037	499,010	669,046	3,657	34,726
2007	14.5	5,084,373	1.0000	14.50	45.50	60.00	88,977	4,048,432	5,084,373	1,290,160	1,729,775	9,662	79,315
2006	15.5	31,819	1.0000	15.50	44.50	60.00	557	24,779	31,819	8,631	11,572	66	491
2005	16.5	91,504	0.2100	9.00	43.50	18.14	5,297	230,399	19,216	-210,222	-210,222	0	5,297
2004	17.5	197,385	1.0000	17.50	42.50	60.00	3,454	146,805	197,385	60,449	81,047	485	2,970
2002	19.5	20,358	1.0000	19.50	40.50	60.00	356	14,429	20,358	6,947	9,314	58	298
2001	20.5	25,772	0.9374	19.91	39.50	56.94	475	18,773	24,159	6,595	8,842	57	418
2000	21.5	157,927	0.7635	19.25	38.50	48.64	3,409	131,256	120,575	-4,653	-6,238	-41	3,450
1998	23.5	283,951	0.5662	19.38	36.50	40.05	7,444	271,736	160,773	-102,924	-102,924	0	7,444
1997	24.5	227,989	1.0000	24.50	35.50	60.00	3,990	141,653	227,989	97,736	131,039	938	3,052
1995	26.5	629,438	1.0000	26.50	33.51	60.01	11,013	369,055	629,438	291,855	391,303	2,968	8,046
1994	27.5	110,397	1.0000	27.50	32.52	60.02	1,931	62,797	110,397	53,120	71,220	557	1,375
1991	30.5	14,722,764	0.9995	30.50	29.55	60.04	257,477	7,608,767	14,715,775	7,842,796	10,515,186	90,432	167,044
1989	32.5	12,725,757	0.9686	32.37	27.60	59.10	226,092	6,240,487	12,325,934	6,701,744	8,985,326	82,734	143,358
1988	33.5	282,073	1.0000	33.50	26.64	60.14	4,925	131,189	282,073	164,987	221,205	2,110	2,814
1985	36.5	109,663	0.0000	27.00	23.82	27.00							
1974	47.5	1,350,128	0.0000	44.93	15.00	44.93							
1973	48.5	391,090	1.0000	48.50	14.35	62.85	6,534	93,769	391,090	316,876	424,849	6,534	0
1971	50.5	1,192,080	0.9959	50.46	13.14	63.54	19,699	258,793	1,187,168	987,734	1,324,299	19,699	0
1966	55.5	3,824	0.0000	50.00	10.55	50.00							
1958	63.5	783,217	0.0000	54.00	7.53	54.00							

<b>Total</b>	166,278,357		2,879,687	141,421,629	163,351,958	30,097,927	40,353,631	294,566	2,585,121
<b>Composite Annual Accrual Rate</b>			1.76%						1.58%
<b>Life Portion of the Composite Rate</b>									1.51%

## **ATTACHMENT 3**

**N.M1.EGI-9**

Account 452.00 - Underground Storage - Structures and Improvements  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life

Survivor Curve: R-2.5

ASL: 45

Net Salvage: -10%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1950	1,443,866	1,523,496	1,593,396	0.9592	-	3.04		71.5
1952	1,104,879	1,052,472	1,100,761	0.9526	114,606	3.46	33,117	69.5
1954	3,098,356	2,930,453	3,064,906	0.9458	343,286	3.87	88,762	67.5
1962	8,198	7,499	7,843	0.9147	1,175	5.55	212	59.5
1964	161,210	145,963	152,660	0.9054	24,671	6.01	4,108	57.5
1966	257	230	241	0.8953	42	6.49	6	55.5
1967	38,330	34,110	35,675	0.8899	6,488	6.74	962	54.5
1969	2,925	2,569	2,687	0.8781	531	7.29	73	52.5
1971	97,662	84,482	88,358	0.8650	19,070	7.88	2,421	50.5
1972	573,999	492,450	515,044	0.8579	116,355	8.20	14,195	49.5
1973	396,639	337,309	352,785	0.8504	83,518	8.53	9,790	48.5
1975	84,378	70,383	73,613	0.8341	19,203	9.25	2,077	46.5
1976	159,361	131,530	137,565	0.8254	37,732	9.63	3,919	45.5
1978	1,112,794	897,421	938,596	0.8065	285,477	10.44	27,346	43.5
1979	48,559	38,669	40,444	0.7963	12,972	10.87	1,193	42.5
1980	45,811	35,997	37,648	0.7858	12,744	11.32	1,126	41.5
1981	459,112	355,692	372,011	0.7747	133,012	11.78	11,295	40.5
1982	126,906	96,864	101,308	0.7633	38,289	12.25	3,125	39.5
1983	637,075	478,676	500,638	0.7514	200,145	12.74	15,710	38.5
1984	12,357	9,132	9,551	0.7390	4,041	13.24	305	37.5
1985	6,398,911	4,647,240	4,860,460	0.7263	2,178,342	13.76	158,335	36.5
1986	585,015	417,154	436,293	0.7131	207,224	14.29	14,506	35.5
1987	23,832	16,670	17,434	0.6995	8,781	14.82	592	34.5
1988	438,390	300,494	314,281	0.6854	167,948	15.37	10,925	33.5
1989	7,175,283	4,814,889	5,035,801	0.6710	2,857,010	15.93	179,321	32.5
1990	384,532	252,343	263,920	0.6562	159,065	16.50	9,640	31.5
1991	10,690,648	6,853,128	7,167,558	0.6410	4,592,156	17.08	268,878	30.5
1992	1,442,301	902,107	943,496	0.6255	643,035	17.67	36,402	29.5
1993	4,619,529	2,815,643	2,944,828	0.6095	2,136,654	18.26	117,019	28.5
1994	1,045,498	620,168	648,622	0.5932	501,425	18.86	26,586	27.5
1995	1,766,850	1,018,555	1,065,287	0.5765	878,248	19.47	45,111	26.5
1996	694,195	388,342	406,160	0.5594	357,455	20.08	17,798	25.5
1997	3,980,697	2,157,465	2,256,451	0.5420	2,122,316	20.70	102,505	24.5
1998	1,097,523	575,307	601,703	0.5242	605,572	21.33	28,389	23.5
1999	356,922	180,614	188,901	0.5060	203,713	21.96	9,275	22.5
2000	437,533	213,305	223,092	0.4875	258,194	22.60	11,424	21.5
2001	262,245	122,901	128,540	0.4686	159,930	23.24	6,881	20.5
2002	32,408	14,565	15,233	0.4494	20,416	23.89	855	19.5
2003	52,561	22,593	23,630	0.4298	34,188	24.54	1,393	18.5
2004	5,135	2,105	2,201	0.4099	3,447	25.19	137	17.5
2005	120,336	46,888	49,039	0.3896	83,330	25.85	3,224	16.5
2006	6,134,326	2,263,648	2,367,507	0.3690	4,380,252	26.50	165,268	15.5
2007	165,149	57,478	60,116	0.3480	121,548	27.16	4,475	14.5
2008	2,022,149	660,680	690,992	0.3267	1,533,371	27.82	55,118	13.5
2009	1,127,928	344,083	359,870	0.3051	880,851	28.48	30,933	12.5
2010	3,231,053	914,543	956,503	0.2830	2,597,655	29.13	89,177	11.5
2011	2,648,624	690,474	722,154	0.2607	2,191,333	29.78	73,590	10.5
2012	3,093,660	736,246	770,026	0.2380	2,632,999	30.42	86,559	9.5
2013	448,472	96,388	100,810	0.2149	392,509	31.05	12,642	8.5
2014	2,896,332	554,660	580,108	0.1915	2,605,857	31.66	82,298	7.5
2015	860,535	144,321	150,942	0.1677	795,647	32.26	24,666	6.5
2016	15,595,268	2,238,338	2,341,036	0.1435	14,813,758	32.82	451,359	5.5
2017	7,302,385	868,457	908,303	0.1189	7,124,320	33.34	213,699	4.5
2018	2,833,243	265,965	278,168	0.0939	2,838,400	33.78	84,015	3.5
2019	953,462	65,115	68,103	0.0683	980,706	34.11	28,754	2.5
2020	497,356	20,919	21,878	0.0421	525,214	34.16	15,373	1.5
2021	3,400,859	50,536	52,855	0.0149	3,688,090	33.15	111,262	0.5

**Total** 104,433,820 45,079,723 47,148,032 67,734,314 2,798,128

**Composite Annual Accrual Rate** 2.68%

Account 452.00 - Underground Storage - Structures and Improvements  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 3 - N.M1.EGI-9  
 ELG Remaining Life  
 Survivor Curve: R-2.5  
 ASL: 45  
 Net Salvage: -10%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>Life Portion of the Composite Rate</b>							2.44%	



Account 456.00 - Underground Storage - Compressor Equipment  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life

Survivor Curve: R-4

ASL: 44

Net Salvage: -6%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1964	3,122,735	3,196,732	3,298,341	0.9658	11,758	2.04	5,766	57.5
1969	39,587	39,474	40,728	0.9407	1,234	3.31	373	52.5
1971	1,966,168	1,936,514	1,998,066	0.9292	86,072	3.85	22,358	50.5
1973	3,059,500	2,971,317	3,065,761	0.9162	177,309	4.44	39,973	48.5
1975	3,560,744	3,401,629	3,509,751	0.9012	264,638	5.10	51,935	46.5
1976	869,820	823,184	849,349	0.8928	72,660	5.46	13,302	45.5
1980	534,003	481,914	497,232	0.8514	68,811	7.24	9,498	41.5
1981	3,857,456	3,430,389	3,539,424	0.8390	549,479	7.77	70,676	40.5
1982	21,553,978	18,866,309	19,465,979	0.8258	3,381,238	8.33	405,680	39.5
1983	35,604	30,641	31,615	0.8119	6,125	8.92	687	38.5
1984	36,826	31,129	32,118	0.7974	6,918	9.53	726	37.5
1985	3,035,927	2,518,166	2,598,207	0.7825	619,876	10.15	61,101	36.5
1986	174,742	142,092	146,609	0.7671	38,618	10.78	3,584	35.5
1987	191,541	152,540	157,388	0.7513	45,645	11.42	3,997	34.5
1988	13,449,779	10,479,003	10,812,080	0.7350	3,444,686	12.08	285,227	33.5
1989	1,154,800	879,217	907,163	0.7183	316,925	12.75	24,861	32.5
1990	20,655,615	15,348,974	15,836,845	0.7010	6,058,106	13.43	450,953	31.5
1991	3,067,806	2,222,049	2,292,677	0.6833	959,198	14.14	67,858	30.5
1992	33,864,526	23,875,471	24,634,358	0.6651	11,262,040	14.85	758,244	29.5
1993	2,473,866	1,695,213	1,749,095	0.6465	873,203	15.59	56,024	28.5
1994	1,776,508	1,181,345	1,218,894	0.6273	664,204	16.34	40,659	27.5
1995	10,667,840	6,872,689	7,091,139	0.6078	4,216,771	17.10	246,573	26.5
1996	45,381,028	28,274,772	29,173,492	0.5878	18,930,398	17.88	1,058,560	25.5
1997	11,640,151	7,000,725	7,223,244	0.5674	5,115,316	18.68	273,832	24.5
1998	1,391,664	806,324	831,953	0.5466	643,211	19.49	32,997	23.5
1999	4,654,045	2,592,191	2,674,585	0.5254	2,258,703	20.32	111,154	22.5
2000	4,988,117	2,664,634	2,749,330	0.5040	2,538,074	21.16	119,934	21.5
2001	1,393,426	712,156	734,792	0.4822	742,239	22.02	33,711	20.5
2002	2,321,926	1,132,316	1,168,306	0.4601	1,292,935	22.89	56,495	19.5
2003	3,794,425	1,760,465	1,816,421	0.4377	2,205,670	23.77	92,806	18.5
2004	2,422,472	1,065,899	1,099,778	0.4151	1,468,041	24.66	59,535	17.5
2005	2,936,059	1,220,869	1,259,675	0.3923	1,852,548	25.56	72,474	16.5
2006	43,213,036	16,914,810	17,452,451	0.3693	28,353,367	26.47	1,070,970	15.5
2007	2,368,670	868,960	896,580	0.3461	1,614,210	27.40	58,920	14.5
2008	5,267,235	1,802,040	1,859,319	0.3228	3,723,951	28.33	131,462	13.5
2009	8,230,266	2,611,043	2,694,036	0.2993	6,030,046	29.27	206,048	12.5
2010	18,963,279	5,542,078	5,718,234	0.2757	14,382,842	30.21	476,089	11.5
2011	22,734,384	6,073,531	6,266,580	0.2520	17,831,867	31.16	572,236	10.5
2012	742,895	179,751	185,464	0.2283	602,005	32.12	18,743	9.5
2013	3,838,999	831,874	858,315	0.2044	3,211,023	33.08	97,068	8.5
2014	8,802,464	1,684,396	1,737,935	0.1805	7,592,676	34.05	223,014	7.5
2015	15,532,045	2,577,761	2,659,696	0.1566	13,804,271	35.02	394,239	6.5
2016	71,203,158	10,005,881	10,323,920	0.1326	65,151,428	35.99	1,810,413	5.5
2017	189,165,294	21,762,988	22,454,730	0.1085	178,060,482	36.96	4,817,504	4.5
2018	13,369,324	1,197,020	1,235,068	0.0845	12,936,416	37.94	341,003	3.5
2019	4,246,797	271,762	280,400	0.0604	4,221,205	38.91	108,483	2.5
2020	12,480,936	479,542	494,785	0.0362	12,735,007	39.88	319,313	1.5
2021	52,097,291	668,049	689,283	0.0121	54,533,845	40.83	1,335,577	0.5

**Total** 682,328,757 221,277,826 228,311,192 494,957,290 16,512,633

**Composite Annual Accrual Rate** 2.42%

**Life Portion of the Composite Rate** 2.28%

Account 457.00 - Underground Storage - Measuring and Regulating Equipment  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life

Survivor Curve: R-2.5

ASL: 40

Net Salvage: -14%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1963	130,385	139,713	170,563	0.9400	-	3.74		58.5
1967	523,964	551,036	672,706	0.9225	-	4.58		54.5
1971	29,834	30,682	37,457	0.9021	-	5.48		50.5
1973	1,199,914	1,217,838	1,486,740	0.8903	-	5.98		48.5
1975	332,094	332,028	405,340	0.8770	-	6.52		46.5
1978	2,395,076	2,331,158	2,845,884	0.8538	-	7.45		43.5
1979	10,902	10,503	12,822	0.8450	-	7.79		42.5
1984	99,162	89,655	109,451	0.7931	3,594	9.78	367	37.5
1987	944,986	813,502	993,126	0.7551	84,159	11.19	7,523	34.5
1988	1,869,447	1,580,003	1,928,872	0.7414	202,298	11.69	17,311	33.5
1989	980,805	812,952	992,454	0.7271	125,664	12.20	10,300	32.5
1990	3,532,968	2,868,576	3,501,965	0.7122	525,619	12.73	41,299	31.5
1991	7,023,272	5,579,507	6,811,477	0.6969	1,195,053	13.27	90,076	30.5
1992	3,495,882	2,713,966	3,313,217	0.6810	672,088	13.82	48,635	29.5
1993	2,347,659	1,778,725	2,171,472	0.6646	504,859	14.38	35,103	28.5
1994	446,474	329,686	402,482	0.6477	106,499	14.96	7,121	27.5
1995	605,067	434,817	530,826	0.6304	158,950	15.54	10,229	26.5
1996	401,254	280,190	342,057	0.6125	115,373	16.13	7,152	25.5
1997	2,735,780	1,853,228	2,262,426	0.5942	856,363	16.73	51,184	24.5
1999	3,202,846	2,030,730	2,479,121	0.5562	1,172,123	17.95	65,282	22.5
2000	10,904,216	6,668,649	8,141,105	0.5365	4,289,701	18.58	230,909	21.5
2001	4,193,144	2,467,962	3,012,895	0.5163	1,767,289	19.21	92,016	20.5
2002	1,073,801	606,758	740,732	0.4957	483,400	19.84	24,363	19.5
2003	595,307	322,077	393,193	0.4746	285,457	20.48	13,937	18.5
2005	871,579	428,323	522,898	0.4311	470,702	21.78	21,616	16.5
2006	1,664,981	775,673	946,944	0.4087	951,135	22.43	42,407	15.5
2007	142,652	62,740	76,593	0.3858	86,030	23.08	3,727	14.5
2008	196,488	81,198	99,127	0.3625	124,869	23.74	5,260	13.5
2009	1,520,179	587,068	716,694	0.3388	1,016,310	24.40	41,653	12.5
2010	1,655,695	593,767	724,872	0.3146	1,162,620	25.06	46,400	11.5
2011	992,691	328,144	400,599	0.2900	731,069	25.71	28,434	10.5
2012	6,657,165	2,010,462	2,454,377	0.2649	5,134,791	26.36	194,788	9.5
2013	596,504	162,807	198,756	0.2394	481,259	27.00	17,823	8.5
2014	845,387	205,735	251,162	0.2135	712,579	27.63	25,787	7.5
2015	270,245	57,634	70,360	0.1871	237,720	28.25	8,416	6.5
2016	3,130,628	571,740	697,981	0.1602	2,870,935	28.83	99,574	5.5
2017	2,697,412	408,437	498,621	0.1328	2,576,429	29.38	87,694	4.5
2018	598,241	71,542	87,338	0.1049	594,656	29.86	19,912	3.5
2019	1,993,547	173,535	211,852	0.0764	2,060,791	30.24	68,147	2.5
2020	331,510	17,782	21,709	0.0471	356,213	30.38	11,726	1.5
2021	3,954,990	75,002	91,563	0.0166	4,417,126	29.56	149,444	0.5

<b>Total</b>	77,194,133	42,455,530	51,829,827		36,533,723		1,625,616	
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<b>Composite Annual Accrual Rate</b>							2.11%	
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<b>Life Portion of the Composite Rate</b>							1.85%	
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Account 465.00 - Transmission Plant - Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life

Survivor Curve: R-4

ASL: 70

Net Salvage: -12%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1900	505	565	742	1.0000	-	0.00		121.5
1910	13,248	14,838	19,492	1.0000	-	0.00		111.5
1921	33,734	37,335	49,046	0.9882	-	1.20		100.5
1926	7,919	11,550	15,173	1.3023	-	-22.17		95.5
1927	69,979	93,657	123,035	1.1950	-	-15.42		94.5
1928	40,174	50,852	66,804	1.1302	-	-10.77		93.5
1930	61,571	72,934	95,811	1.0576	-	-4.99		91.5
1931	156,075	181,019	237,800	1.0356	-	-3.11		90.5
1935	125	137	181	0.9843	-	1.38		86.5
1936	751,730	821,774	1,079,543	0.9761	-	2.10		85.5
1937	408,312	442,995	581,951	0.9687	-	2.73		84.5
1938	150,741	162,416	213,362	0.9620	-	3.30		83.5
1939	139,371	149,199	195,999	0.9558	-	3.81		82.5
1940	166,121	176,748	232,190	0.9500	-	4.29		81.5
1941	259,664	274,648	360,798	0.9444	-	4.74		80.5
1942	231,276	243,214	319,504	0.9389	-	5.17		79.5
1943	63,399	66,292	87,086	0.9336	-	5.58		78.5
1945	67,401	69,671	91,525	0.9229	-	6.39		76.5
1946	307,753	316,254	415,454	0.9175	-	6.79		75.5
1947	639,933	653,643	858,674	0.9120	-	7.19		74.5
1948	1,858	1,886	2,478	0.9063	-	7.60		73.5
1950	49,995	50,078	65,786	0.8943	-	8.45		71.5
1951	1,184,150	1,177,739	1,547,166	0.8880	-	8.89		70.5
1952	11,672	11,523	15,137	0.8814	-	9.35		69.5
1953	1,068,946	1,047,041	1,375,471	0.8746	-	9.83		68.5
1954	167,993	163,201	214,394	0.8674	-	10.32		67.5
1955	670,889	646,142	848,820	0.8599	-	10.83		66.5
1956	121,387	115,852	152,192	0.8521	-	11.36		65.5
1957	17,289,438	16,344,767	21,471,701	0.8441	-	11.92		64.5
1958	19,410,276	18,167,943	23,866,760	0.8357	-	12.48		63.5
1959	3,170,065	2,936,521	3,857,633	0.8271	-	13.07		62.5
1960	973,649	892,235	1,172,107	0.8182	-	13.67		61.5
1961	842,536	763,496	1,002,985	0.8091	-	14.27		60.5
1962	2,095,941	1,877,480	2,466,397	0.7998	-	14.89		59.5
1963	907,328	803,121	1,055,039	0.7903	-	15.52		58.5
1964	10,668,880	9,328,244	12,254,275	0.7807	-	16.16		57.5
1965	5,558,167	4,798,630	6,303,837	0.7708	-	16.80		56.5
1966	6,082,508	5,183,289	6,809,154	0.7609	3,254	17.44	187	55.5
1967	9,103,642	7,654,187	10,055,109	0.7507	140,970	18.10	7,789	54.5
1968	3,358,226	2,784,647	3,658,120	0.7404	103,093	18.76	5,495	53.5
1969	1,939,473	1,585,358	2,082,644	0.7298	89,566	19.43	4,609	52.5
1970	6,615,569	5,328,343	6,999,707	0.7191	409,730	20.11	20,370	51.5
1971	9,268,739	7,352,188	9,658,380	0.7082	722,608	20.80	34,734	50.5
1972	12,962,889	10,121,608	13,296,496	0.6972	1,221,940	21.50	56,827	49.5
1973	2,587,293	1,987,545	2,610,987	0.6859	286,781	22.21	12,912	48.5
1974	4,701,695	3,551,506	4,665,522	0.6744	600,377	22.93	26,184	47.5
1975	26,894,698	19,964,803	26,227,250	0.6628	3,894,812	23.66	164,635	46.5
1976	4,453,963	3,247,352	4,265,963	0.6510	722,475	24.40	29,616	45.5
1977	1,105,640	791,253	1,039,448	0.6390	198,868	25.14	7,910	44.5
1978	3,650,138	2,562,439	3,366,211	0.6268	721,944	25.90	27,874	43.5
1979	11,045,642	7,601,362	9,985,714	0.6144	2,385,406	26.67	89,448	42.5
1980	2,363,388	1,593,286	2,093,059	0.6019	553,935	27.45	20,183	41.5
1981	19,253,434	12,706,199	16,691,808	0.5892	4,872,038	28.23	172,565	40.5
1982	31,736,354	20,487,602	26,914,036	0.5764	8,630,680	29.03	297,302	39.5
1983	585,610	369,516	485,424	0.5634	170,459	29.84	5,713	38.5
1984	18,409,411	11,345,069	14,903,726	0.5502	5,714,815	30.65	186,439	37.5
1985	40,319,036	24,246,808	31,852,410	0.5369	13,304,911	31.48	422,677	36.5
1986	10,355,631	6,071,797	7,976,363	0.5235	3,621,943	32.31	112,093	35.5
1987	6,381,187	3,644,515	4,787,706	0.5099	2,359,224	33.15	71,158	34.5
1988	33,840,488	18,808,525	24,708,277	0.4962	13,193,070	34.01	387,959	33.5
1989	64,565,346	34,886,613	45,829,649	0.4824	26,483,539	34.87	759,576	32.5
1990	35,227,934	18,485,288	24,283,648	0.4685	15,171,638	35.73	424,570	31.5
1991	33,945,460	17,278,813	22,698,733	0.4545	15,320,182	36.61	418,473	30.5
1992	69,166,629	34,112,046	44,812,120	0.4403	32,654,505	37.49	870,951	29.5

Account 465.00 - Transmission Plant - Mains

ELG Remaining Life

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

Survivor Curve: R-4

BASED ON ORIGINAL COST AS OF December 31, 2021

ASL: 70

Net Salvage: -12%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1993	35,102,014	16,752,413	22,007,215	0.4261	17,307,041	38.38	450,901	28.5
1994	34,556,578	15,937,913	20,937,228	0.4118	17,766,140	39.28	452,288	27.5
1995	30,037,510	13,369,138	17,562,693	0.3974	16,079,318	40.18	400,138	26.5
1996	51,558,774	22,111,680	29,047,546	0.3829	28,698,281	41.09	698,347	25.5
1997	19,704,937	8,129,561	10,679,596	0.3684	11,389,934	42.01	271,119	24.5
1998	34,226,278	13,560,134	17,813,600	0.3537	20,519,831	42.93	477,954	23.5
1999	53,916,470	20,474,639	26,897,007	0.3391	33,489,439	43.86	763,555	22.5
2000	17,677,659	6,421,234	8,435,411	0.3243	11,363,568	44.79	253,695	21.5
2001	46,466,250	16,108,640	21,161,508	0.3095	30,880,693	45.73	675,292	20.5
2002	51,922,239	17,137,143	22,512,625	0.2947	35,640,282	46.67	763,650	19.5
2003	7,521,099	2,356,998	3,096,328	0.2798	5,327,304	47.62	111,879	18.5
2004	4,659,851	1,382,441	1,816,077	0.2649	3,402,956	48.57	70,068	17.5
2005	11,997,471	3,358,278	4,411,683	0.2499	9,025,484	49.52	182,260	16.5
2006	125,125,576	32,923,450	43,250,691	0.2349	96,889,953	50.48	1,919,499	15.5
2007	80,961,604	19,940,636	26,195,502	0.2199	64,481,494	51.44	1,253,613	14.5
2008	11,216,024	2,573,418	3,380,634	0.2049	9,181,313	52.40	175,218	13.5
2009	45,004,706	9,566,092	12,566,729	0.1898	37,838,541	53.36	709,058	12.5
2010	8,923,405	1,745,857	2,293,488	0.1747	7,700,726	54.33	141,734	11.5
2011	15,874,783	2,837,119	3,727,050	0.1596	14,052,707	55.30	254,110	10.5
2012	41,321,828	6,684,545	8,781,315	0.1444	37,499,133	56.27	666,376	9.5
2013	69,144,443	10,012,054	13,152,578	0.1293	64,289,198	57.25	1,123,029	8.5
2014	41,414,561	5,293,361	6,953,753	0.1141	39,430,555	58.22	677,262	7.5
2015	156,789,682	17,374,510	22,824,448	0.0989	152,779,995	59.20	2,580,935	6.5
2016	671,012,316	62,941,430	82,684,542	0.0838	668,849,251	60.17	11,115,781	5.5
2017	200,758,114	15,413,169	20,247,885	0.0685	204,601,203	61.15	3,346,081	4.5
2018	15,795,859	943,600	1,239,584	0.0533	16,451,779	62.12	264,835	3.5
2019	99,159,853	4,232,950	5,560,718	0.0381	105,498,318	63.09	1,672,135	2.5
2020	73,822,445	1,891,864	2,485,293	0.0229	80,195,845	64.06	1,251,978	1.5
2021	189,897,248	1,624,000	2,133,407	0.0076	210,551,511	64.98	3,240,160	0.5

<b>Total</b>	2,783,251,797	699,815,866	919,330,147		2,204,734,556		40,601,196	
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<b>Composite Annual Accrual Rate</b>							1.46%	
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<b>Life Portion of the Composite Rate</b>							1.30%	
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Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life  
 Survivor Curve: R-3  
 ASL: 61  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1894	31	44	36	1.0000	8	0.00	8	127.5
1900	24	34	28	1.0000	6	0.00	6	121.5
1901	882	1,253	1,021	1.0000	232	0.00	232	120.5
1904	475	675	550	1.0000	125	0.00	125	117.5
1905	2,239	3,180	2,592	1.0000	588	0.00	588	116.5
1909	2,557	3,631	2,960	1.0000	671	0.00	671	112.5
1910	11,961	16,984	13,845	1.0000	3,139	0.00	3,139	111.5
1911	49	69	57	1.0000	13	0.00	13	110.5
1912	296	420	343	1.0000	78	0.00	78	109.5
1914	18,552	26,343	21,474	1.0000	4,869	0.00	4,869	107.5
1915	10	15	12	1.0000	3	0.00	3	106.5
1917	21	29	24	1.0000	5	0.00	5	104.5
1918	5,722	8,126	6,624	1.0000	1,502	0.00	1,502	103.5
1919	2,272	3,227	2,630	1.0000	596	0.00	596	102.5
1920	2,640	3,749	3,056	1.0000	693	0.00	693	101.5
1921	4,779	6,786	5,531	1.0000	1,254	0.00	1,254	100.5
1924	3,721	5,234	4,267	0.9908	1,016	0.91	1,016	97.5
1925	229,890	322,318	262,746	0.9874	63,698	1.24	51,562	96.5
1926	5,926	8,281	6,751	0.9842	1,664	1.53	1,084	95.5
1927	265,633	370,079	301,680	0.9811	75,518	1.82	41,542	94.5
1928	208,697	289,865	236,291	0.9781	60,058	2.09	28,712	93.5
1929	11,694	16,192	13,199	0.9751	3,406	2.36	1,443	92.5
1930	32,005	44,180	36,014	0.9721	9,432	2.62	3,596	91.5
1931	299,588	412,278	336,080	0.9691	89,335	2.88	30,981	90.5
1932	807	1,107	903	0.9661	243	3.14	78	89.5
1933	4,300	5,881	4,794	0.9630	1,313	3.40	386	88.5
1934	4,520	6,161	5,022	0.9599	1,396	3.65	382	87.5
1935	37,494	50,943	41,527	0.9568	11,714	3.90	3,002	86.5
1936	49,203	66,633	54,318	0.9537	15,551	4.15	3,746	85.5
1937	98,402	132,817	108,269	0.9505	31,462	4.40	7,152	84.5
1938	49,374	66,416	54,141	0.9473	15,969	4.64	3,438	83.5
1939	118,259	158,534	129,233	0.9441	38,695	4.89	7,915	82.5
1940	46,288	61,835	50,407	0.9408	15,322	5.13	2,986	81.5
1941	92,337	122,911	100,194	0.9374	30,924	5.38	5,753	80.5
1942	3,659	4,853	3,956	0.9340	1,240	5.62	221	79.5
1943	10,116	13,366	10,896	0.9305	3,469	5.87	591	78.5
1944	10,236	13,472	10,982	0.9269	3,553	6.12	581	77.5
1945	3,440	4,509	3,676	0.9232	1,209	6.37	190	76.5
1946	76,564	99,950	81,477	0.9193	27,244	6.63	4,112	75.5
1947	4,548	5,911	4,819	0.9154	1,639	6.89	238	74.5
1948	19,057	24,660	20,102	0.9112	6,959	7.16	972	73.5
1949	5,249	6,760	5,511	0.9070	1,943	7.44	261	72.5
1950	33,682	43,166	35,188	0.9025	12,641	7.72	1,637	71.5
1951	187,806	239,449	195,194	0.8979	71,491	8.02	8,915	70.5
1952	96,015	121,757	99,253	0.8930	37,087	8.32	4,455	69.5
1953	340,239	429,019	349,726	0.8880	133,413	8.64	15,439	68.5
1954	294,801	369,518	301,222	0.8827	117,395	8.97	13,089	67.5
1955	438,971	546,797	445,736	0.8772	177,602	9.31	19,079	66.5
1956	1,541,822	1,907,977	1,555,339	0.8715	634,048	9.66	65,632	65.5
1957	10,729,456	13,186,299	10,749,170	0.8655	4,486,658	10.03	447,540	64.5
1958	30,571,577	37,301,049	30,406,964	0.8592	13,004,675	10.40	1,250,154	63.5
1959	36,689,475	44,427,150	36,215,999	0.8527	15,883,055	10.79	1,471,632	62.5
1960	14,236,455	17,102,223	13,941,342	0.8460	6,274,423	11.20	560,398	61.5
1961	16,558,260	19,726,207	16,080,354	0.8390	7,432,375	11.61	639,993	60.5
1962	22,326,935	26,367,273	21,494,000	0.8317	10,210,249	12.04	847,792	59.5
1963	17,939,645	20,993,310	17,113,267	0.8241	8,361,028	12.49	669,593	58.5
1964	10,809,824	12,529,547	10,213,801	0.8163	5,136,149	12.94	396,820	57.5
1965	11,552,780	13,257,651	10,807,335	0.8081	5,597,612	13.41	417,334	56.5
1966	13,155,955	14,940,827	12,179,421	0.7998	6,502,035	13.90	467,936	55.5
1967	21,089,711	23,691,853	19,313,058	0.7911	10,634,331	14.39	739,006	54.5
1968	16,570,366	18,405,000	15,003,336	0.7822	8,526,584	14.90	572,361	53.5
1969	19,069,385	20,931,966	17,063,261	0.7730	10,015,265	15.42	649,652	52.5
1970	18,144,679	19,673,501	16,037,389	0.7636	9,728,055	15.95	610,021	51.5
1971	19,088,686	20,433,923	16,657,268	0.7539	10,448,667	16.49	633,672	50.5
1972	18,547,822	19,592,553	15,971,402	0.7439	10,366,506	17.04	608,294	49.5
1973	20,175,254	21,019,046	17,134,246	0.7337	11,514,614	17.61	654,043	48.5
1974	19,756,391	20,289,206	16,539,298	0.7232	11,514,777	18.18	633,422	47.5
1975	13,208,701	13,364,179	10,894,174	0.7125	7,862,181	18.76	419,052	46.5

Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life  
 Survivor Curve: R-3  
 ASL: 61  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1976	16,540,072	16,477,781	13,432,311	0.7016	10,054,591	19.35	519,503	45.5
1977	16,981,104	16,647,668	13,570,800	0.6904	10,542,368	19.96	528,290	44.5
1978	14,997,559	14,460,162	11,787,594	0.6790	9,508,939	20.57	462,371	43.5
1979	16,758,008	15,880,720	12,945,600	0.6674	10,850,771	21.18	512,218	42.5
1980	14,731,888	13,712,662	11,178,250	0.6555	9,741,031	21.81	446,629	41.5
1981	14,323,398	13,086,843	10,668,096	0.6434	9,671,130	22.44	430,900	40.5
1982	13,332,729	11,948,998	9,740,550	0.6311	9,191,924	23.09	398,171	39.5
1983	21,426,118	18,821,968	15,343,239	0.6186	15,081,849	23.73	635,454	38.5
1984	19,519,604	16,794,735	13,690,685	0.6059	14,027,153	24.39	575,129	37.5
1985	14,617,326	12,308,550	10,033,649	0.5930	10,722,953	25.05	428,028	36.5
1986	14,706,594	12,109,532	9,871,415	0.5799	11,011,948	25.72	428,128	35.5
1987	31,059,638	24,986,711	20,368,597	0.5665	23,736,089	26.40	899,202	34.5
1988	19,343,553	15,189,637	12,382,246	0.5530	15,085,600	27.08	557,096	33.5
1989	39,248,495	30,054,643	24,499,860	0.5393	31,233,004	27.77	1,124,805	32.5
1990	40,677,357	30,344,045	24,735,774	0.5253	33,026,073	28.46	1,160,345	31.5
1991	74,523,446	54,097,107	44,098,728	0.5112	61,724,566	29.16	2,116,517	30.5
1992	27,487,892	19,394,643	15,810,071	0.4969	23,222,736	29.87	777,450	29.5
1993	26,003,960	17,811,712	14,519,701	0.4824	22,405,922	30.58	732,612	28.5
1994	43,932,383	29,174,778	23,782,614	0.4677	38,601,370	31.30	1,233,159	27.5
1995	39,499,790	25,396,001	20,702,240	0.4528	35,387,461	32.03	1,104,891	26.5
1996	36,452,531	22,656,503	18,469,065	0.4377	33,293,529	32.76	1,016,316	25.5
1997	26,797,861	16,075,240	13,104,169	0.4224	24,948,793	33.50	744,832	24.5
1998	35,597,604	20,573,692	16,771,204	0.4070	33,777,393	34.24	986,535	23.5
1999	43,830,609	24,360,288	19,857,951	0.3914	42,381,514	34.99	1,211,367	22.5
2000	34,427,769	18,362,656	14,968,818	0.3756	33,918,613	35.74	949,036	21.5
2001	42,096,542	21,499,179	17,525,640	0.3597	42,251,449	36.50	1,157,608	20.5
2002	44,496,199	21,706,068	17,694,291	0.3435	45,490,311	37.26	1,220,793	19.5
2003	20,542,915	9,546,173	7,781,822	0.3272	21,389,117	38.03	562,401	18.5
2004	25,714,396	11,348,881	9,251,349	0.3108	27,263,093	38.81	702,560	17.5
2005	40,386,777	16,872,454	13,754,040	0.2942	43,595,184	39.58	1,101,354	16.5
2006	54,401,892	21,433,486	17,472,089	0.2775	59,778,597	40.37	1,480,945	15.5
2007	86,472,776	31,993,739	26,080,566	0.2606	96,710,776	41.15	2,350,160	14.5
2008	50,243,100	17,373,219	14,162,252	0.2435	57,182,951	41.94	1,363,467	13.5
2009	46,101,814	14,816,208	12,077,835	0.2263	53,386,741	42.73	1,249,381	12.5
2010	28,606,114	8,489,785	6,920,679	0.2090	33,700,003	43.52	774,294	11.5
2011	56,729,297	15,430,024	12,578,203	0.1915	67,977,398	44.32	1,533,876	10.5
2012	29,117,111	7,192,498	5,863,161	0.1740	35,483,138	45.11	786,573	9.5
2013	78,911,057	17,507,442	14,271,668	0.1562	97,782,033	45.90	2,130,191	8.5
2014	147,219,904	28,932,646	23,585,233	0.1384	185,467,030	46.69	3,972,214	7.5
2015	68,235,902	11,669,190	9,512,457	0.1204	87,382,523	47.47	1,840,691	6.5
2016	458,760,681	66,667,109	54,345,507	0.1023	597,094,661	48.24	12,376,697	5.5
2017	109,428,743	13,070,881	10,655,084	0.0841	144,733,731	49.00	2,953,946	4.5
2018	196,754,404	18,373,841	14,977,936	0.0658	264,413,318	49.72	5,317,968	3.5
2019	141,819,539	9,518,787	7,759,498	0.0473	193,624,247	50.39	3,842,427	2.5
2020	178,851,790	7,264,321	5,921,709	0.0286	248,047,833	50.94	4,869,236	1.5
2021	363,811,882	5,017,317	4,090,002	0.0097	512,522,870	50.98	10,052,822	0.5

**Total** 3,320,418,328 1,289,730,679 1,051,359,031 3,663,634,995 94,651,276

**Composite Annual Accrual Rate** 2.85%

**Life Portion of the Composite Rate** 2.01%

Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life  
 Survivor Curve: R-3  
 ASL: 70  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1894	31	44	40	1.0000	5	0.00	5	127.5
1900	24	34	31	1.0000	4	0.00	4	121.5
1901	882	1,253	1,124	1.0000	128	0.00	128	120.5
1904	475	675	606	1.0000	69	0.00	69	117.5
1905	2,239	3,180	2,854	1.0000	326	0.00	326	116.5
1909	2,557	3,631	3,259	1.0000	372	0.00	372	112.5
1910	11,961	16,984	15,245	1.0000	1,739	0.00	1,739	111.5
1911	49	69	62	1.0000	7	0.00	7	110.5
1912	296	420	377	1.0000	43	0.00	43	109.5
1914	18,552	26,343	23,645	1.0000	2,698	0.00	2,698	107.5
1915	10	15	13	1.0000	2	0.00	2	106.5
1917	21	29	26	1.0000	3	0.00	3	104.5
1918	5,722	8,126	7,294	1.0000	832	0.00	832	103.5
1919	2,272	3,227	2,896	1.0000	330	0.00	330	102.5
1920	2,640	3,749	3,365	1.0000	384	0.00	384	101.5
1921	4,779	6,786	6,091	1.0000	695	0.00	695	100.5
1924	3,721	5,222	4,687	0.9885	596	1.14	524	97.5
1925	229,890	321,123	288,235	0.9837	38,208	1.60	23,894	96.5
1926	5,926	8,238	7,395	0.9791	1,020	2.04	500	95.5
1927	265,633	367,616	329,967	0.9746	47,231	2.46	19,174	94.5
1928	208,697	287,514	258,069	0.9702	38,281	2.87	13,323	93.5
1929	11,694	16,038	14,395	0.9658	2,210	3.27	675	92.5
1930	32,005	43,699	39,224	0.9615	6,223	3.66	1,701	91.5
1931	299,588	407,244	365,537	0.9573	59,878	4.04	14,829	90.5
1932	807	1,092	980	0.9530	166	4.41	38	89.5
1933	4,300	5,794	5,201	0.9488	906	4.77	190	88.5
1934	4,520	6,062	5,442	0.9446	977	5.14	190	87.5
1935	37,494	50,062	44,935	0.9403	8,306	5.49	1,512	86.5
1936	49,203	65,395	58,698	0.9360	11,171	5.85	1,910	85.5
1937	98,402	130,174	116,843	0.9316	22,888	6.20	3,690	84.5
1938	49,374	65,005	58,348	0.9272	11,763	6.56	1,794	83.5
1939	118,259	154,942	139,074	0.9227	28,854	6.91	4,173	82.5
1940	46,288	60,344	54,164	0.9181	11,565	7.27	1,590	81.5
1941	92,337	119,760	107,495	0.9134	23,623	7.63	3,094	80.5
1942	3,659	4,721	4,237	0.9086	959	8.00	120	79.5
1943	10,116	12,980	11,651	0.9036	2,714	8.37	324	78.5
1944	10,236	13,060	11,723	0.8986	2,812	8.75	321	77.5
1945	3,440	4,364	3,917	0.8934	968	9.13	106	76.5
1946	76,564	96,544	86,657	0.8880	22,064	9.52	2,317	75.5
1947	4,548	5,699	5,115	0.8825	1,342	9.92	135	74.5
1948	19,057	23,728	21,298	0.8768	5,764	10.33	558	73.5
1949	5,249	6,492	5,827	0.8710	1,627	10.74	151	72.5
1950	33,682	41,369	37,133	0.8649	10,696	11.16	958	71.5
1951	187,806	229,014	205,560	0.8587	61,125	11.60	5,271	70.5
1952	96,015	116,211	104,310	0.8524	32,031	12.04	2,661	69.5
1953	340,239	408,632	366,783	0.8458	116,357	12.49	9,316	68.5
1954	294,801	351,228	315,258	0.8390	103,360	12.95	7,981	67.5
1955	438,971	518,656	465,539	0.8321	157,800	13.42	11,757	66.5
1956	1,541,822	1,806,044	1,621,081	0.8249	568,306	13.90	40,877	65.5
1957	10,729,456	12,456,202	11,180,522	0.8176	4,055,306	14.39	281,749	64.5
1958	30,571,577	35,164,067	31,562,804	0.8100	11,848,836	14.89	795,564	63.5
1959	36,689,475	41,797,669	37,517,037	0.8023	14,582,017	15.40	946,660	62.5
1960	14,236,455	16,058,098	14,413,537	0.7943	5,802,229	15.92	364,388	61.5
1961	16,558,260	18,485,763	16,592,577	0.7862	6,920,151	16.45	420,622	60.5
1962	22,326,935	24,661,951	22,136,243	0.7779	9,568,006	16.99	563,142	59.5
1963	17,939,645	19,598,792	17,591,617	0.7694	7,882,678	17.54	449,471	58.5
1964	10,809,824	11,675,863	10,480,101	0.7606	4,869,849	18.09	269,146	57.5
1965	11,552,780	12,332,347	11,069,353	0.7517	5,335,595	18.66	285,962	56.5
1966	13,155,955	13,873,960	12,453,084	0.7427	6,228,372	19.23	323,864	55.5
1967	21,089,711	21,963,080	19,713,771	0.7334	10,233,618	19.81	516,522	54.5
1968	16,570,366	17,034,156	15,289,634	0.7239	8,240,286	20.40	403,905	53.5
1969	19,069,385	19,342,281	17,361,377	0.7143	9,717,150	21.00	462,761	52.5
1970	18,144,679	18,151,580	16,292,619	0.7045	9,472,825	21.60	438,512	51.5
1971	19,088,686	18,825,285	16,897,328	0.6945	10,208,607	22.21	459,571	50.5
1972	18,547,822	18,024,336	16,178,407	0.6843	10,159,501	22.83	444,978	49.5
1973	20,175,254	19,309,920	17,332,330	0.6740	11,316,531	23.46	482,452	48.5
1974	19,756,391	18,614,516	16,708,144	0.6635	11,345,931	24.09	471,028	47.5
1975	13,208,701	12,245,238	10,991,164	0.6529	7,765,191	24.73	314,059	46.5

Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ELG Remaining Life  
 Survivor Curve: R-3  
 ASL: 70  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1976	16,540,072	15,079,258	13,534,943	0.6420	9,951,959	25.37	392,286	45.5
1977	16,981,104	15,216,262	13,657,917	0.6310	10,455,251	26.02	401,831	44.5
1978	14,997,559	13,201,309	11,849,321	0.6199	9,447,212	26.67	354,162	43.5
1979	16,758,008	14,481,655	12,998,542	0.6086	10,797,829	27.34	394,999	42.5
1980	14,731,888	12,490,730	11,211,515	0.5971	9,707,766	28.00	346,662	41.5
1981	14,323,398	11,907,809	10,688,292	0.5855	9,650,933	28.68	336,547	40.5
1982	13,332,729	10,861,039	9,748,725	0.5737	9,183,749	29.35	312,855	39.5
1983	21,426,118	17,090,668	15,340,358	0.5617	15,084,730	30.04	502,183	38.5
1984	19,519,604	15,234,623	13,674,397	0.5496	14,043,440	30.73	457,033	37.5
1985	14,617,326	11,154,238	10,011,897	0.5374	10,744,705	31.42	341,951	36.5
1986	14,706,594	10,963,373	9,840,579	0.5250	11,042,784	32.12	343,782	35.5
1987	31,059,638	22,600,531	20,285,939	0.5124	23,818,746	32.83	725,598	34.5
1988	19,343,553	13,726,455	12,320,685	0.4997	15,147,161	33.54	451,663	33.5
1989	39,248,495	27,135,164	24,356,165	0.4869	31,376,698	34.25	916,063	32.5
1990	40,677,357	27,372,383	24,569,090	0.4739	33,192,756	34.97	949,123	31.5
1991	74,523,446	48,757,315	43,763,924	0.4607	62,059,370	35.70	1,738,481	30.5
1992	27,487,892	17,465,561	15,676,858	0.4475	23,355,949	36.43	641,155	29.5
1993	26,003,960	16,026,915	14,385,548	0.4340	22,540,075	37.16	606,514	28.5
1994	43,932,383	26,230,347	23,544,014	0.4205	38,839,970	37.90	1,024,704	27.5
1995	39,499,790	22,815,126	20,478,557	0.4068	35,611,145	38.65	921,405	26.5
1996	36,452,531	20,338,579	18,255,641	0.3929	33,506,952	39.40	850,460	25.5
1997	26,797,861	14,419,983	12,943,187	0.3789	25,109,776	40.15	625,350	24.5
1998	35,597,604	18,442,028	16,553,322	0.3648	33,995,276	40.91	830,932	23.5
1999	43,830,609	21,821,165	19,586,390	0.3506	42,653,075	41.68	1,023,453	22.5
2000	34,427,769	16,437,668	14,754,234	0.3362	34,133,198	42.44	804,206	21.5
2001	42,096,542	19,232,962	17,263,253	0.3217	42,513,836	43.22	983,772	20.5
2002	44,496,199	19,405,984	17,418,555	0.3071	45,766,047	43.99	1,040,357	19.5
2003	20,542,915	8,529,525	7,655,989	0.2924	21,514,950	44.77	480,567	18.5
2004	25,714,396	10,134,461	9,096,559	0.2775	27,417,883	45.55	601,897	17.5
2005	40,386,777	15,058,756	13,516,541	0.2626	43,832,683	46.34	945,934	16.5
2006	54,401,892	19,119,573	17,161,477	0.2475	60,089,209	47.13	1,275,071	15.5
2007	86,472,776	28,525,700	25,604,292	0.2323	97,187,050	47.92	2,028,258	14.5
2008	50,243,100	15,482,783	13,897,142	0.2170	57,448,060	48.71	1,179,427	13.5
2009	46,101,814	13,198,202	11,846,532	0.2016	53,618,043	49.50	1,083,162	12.5
2010	28,606,114	7,559,533	6,785,337	0.1861	33,835,345	50.29	672,744	11.5
2011	56,729,297	13,734,001	12,327,458	0.1705	68,228,143	51.09	1,335,532	10.5
2012	29,117,111	6,399,619	5,744,214	0.1548	35,602,085	51.88	686,278	9.5
2013	78,911,057	15,572,296	13,977,488	0.1390	98,076,213	52.66	1,862,318	8.5
2014	147,219,904	25,726,789	23,092,026	0.1231	185,960,237	53.44	3,479,538	7.5
2015	68,235,902	10,373,318	9,310,954	0.1071	87,584,026	54.22	1,615,490	6.5
2016	458,760,681	59,248,966	53,181,092	0.0910	598,259,076	54.97	10,882,920	5.5
2017	109,428,743	11,613,941	10,424,521	0.0747	144,964,295	55.71	2,602,227	4.5
2018	196,754,404	16,322,832	14,651,159	0.0584	264,740,095	56.41	4,693,302	3.5
2019	141,819,539	8,455,067	7,589,157	0.0420	193,794,588	57.05	3,397,206	2.5
2020	178,851,790	6,452,096	5,791,316	0.0254	248,178,226	57.54	4,312,880	1.5
2021	363,811,882	4,457,032	4,000,573	0.0086	512,612,299	57.45	8,922,009	0.5

**Total** 3,320,418,328 1,171,317,359 1,051,359,031 3,663,634,995 79,251,932

**Composite Annual Accrual Rate** 2.39%

**Life Portion of the Composite Rate** 1.68%



Account 475.30 - Distribution - Mains - Plastic

ELG Remaining Life

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

Survivor Curve: R-3

BASED ON ORIGINAL COST AS OF December 31, 2021

ASL: 65

Net Salvage: -38%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1958	808	931	726	0.8349	389	12.55	31	63.5
1967	47	49	38	0.7623	26	16.99	2	54.5
1968	156,584	162,732	126,985	0.7531	89,102	17.54	5,080	53.5
1970	9,248	9,367	7,309	0.7340	5,453	18.67	292	51.5
1971	138,390	138,286	107,909	0.7241	83,069	19.24	4,317	50.5
1972	343,888	338,840	264,407	0.7140	210,159	19.83	10,599	49.5
1973	2,440,657	2,370,120	1,849,477	0.7037	1,518,629	20.42	74,363	48.5
1974	4,605,657	4,405,752	3,437,942	0.6932	2,917,864	21.02	138,786	47.5
1975	4,675,574	4,403,514	3,436,196	0.6825	3,016,096	21.63	139,411	46.5
1976	6,423,774	5,953,257	4,645,508	0.6716	4,219,300	22.25	189,609	45.5
1977	8,224,377	7,495,893	5,849,273	0.6605	5,500,367	22.88	240,421	44.5
1978	11,301,974	10,124,603	7,900,536	0.6491	7,696,188	23.51	327,347	43.5
1979	18,397,968	16,189,556	12,633,203	0.6377	12,755,993	24.15	528,189	42.5
1980	34,491,241	29,794,977	23,249,927	0.6260	24,347,985	24.80	981,898	41.5
1981	25,464,109	21,579,856	16,839,418	0.6141	18,301,051	25.45	719,102	40.5
1982	25,607,427	21,275,334	16,601,791	0.6020	18,736,459	26.11	717,615	39.5
1983	25,357,560	20,639,522	16,105,647	0.5898	18,887,786	26.78	705,423	38.5
1984	31,785,627	25,326,877	19,763,333	0.5774	24,100,833	27.45	878,084	37.5
1985	25,074,149	19,543,262	15,250,202	0.5648	19,352,123	28.13	688,074	36.5
1986	25,595,652	19,498,504	15,215,276	0.5520	20,106,724	28.81	697,930	35.5
1987	31,498,976	23,432,650	18,285,210	0.5391	25,183,377	29.50	853,703	34.5
1988	29,513,727	21,421,222	16,715,632	0.5259	24,013,312	30.19	795,281	33.5
1989	43,234,172	30,586,212	23,867,352	0.5126	35,795,806	30.90	1,158,579	32.5
1990	33,573,751	23,127,870	18,047,380	0.4992	28,284,396	31.60	894,975	31.5
1991	44,329,393	29,702,772	23,177,977	0.4855	37,996,586	32.32	1,175,764	30.5
1992	42,316,316	27,547,703	21,496,311	0.4717	36,900,204	33.04	1,117,001	29.5
1993	45,660,367	28,844,297	22,508,083	0.4578	40,503,224	33.76	1,199,769	28.5
1994	71,406,330	43,715,480	34,112,519	0.4436	64,428,217	34.49	1,868,091	27.5
1995	84,083,523	49,817,597	38,874,187	0.4293	77,161,075	35.22	2,190,591	26.5
1996	80,697,146	46,201,350	36,052,319	0.4149	75,309,742	35.96	2,094,015	25.5
1997	81,189,401	44,845,868	34,994,595	0.4003	77,046,778	36.71	2,098,798	24.5
1998	87,155,126	46,364,890	36,179,935	0.3855	84,094,139	37.46	2,244,857	23.5
1999	88,130,304	45,069,100	35,168,790	0.3706	86,451,029	38.22	2,262,128	22.5
2000	83,554,051	40,991,291	31,986,752	0.3555	83,317,838	38.98	2,137,591	21.5
2001	86,814,042	40,767,748	31,812,314	0.3403	87,991,064	39.74	2,214,005	20.5
2002	70,173,181	31,465,866	24,553,773	0.3249	72,285,217	40.51	1,784,248	19.5
2003	69,467,695	29,663,656	23,147,453	0.3094	72,717,966	41.29	1,761,267	18.5
2004	49,483,657	20,062,394	15,655,296	0.2938	52,632,150	42.07	1,251,190	17.5
2005	71,346,819	27,373,671	21,360,508	0.2780	77,098,103	42.85	1,799,348	16.5
2006	130,542,563	47,220,543	36,847,627	0.2621	143,301,110	43.63	3,284,216	15.5
2007	117,078,848	39,760,360	31,026,219	0.2461	130,542,592	44.42	2,938,713	14.5
2008	100,171,112	31,785,166	24,802,932	0.2299	113,433,202	45.21	2,508,888	13.5
2009	111,486,379	32,871,270	25,650,452	0.2137	128,200,751	46.01	2,786,658	12.5
2010	101,185,682	27,544,545	21,493,847	0.1973	118,142,394	46.80	2,524,469	11.5
2011	79,567,412	19,846,406	15,486,754	0.1807	94,316,274	47.59	1,981,737	10.5
2012	92,279,145	20,899,542	16,308,549	0.1641	111,036,671	48.39	2,294,836	9.5
2013	97,943,602	19,919,684	15,543,935	0.1474	119,618,236	49.18	2,432,474	8.5
2014	94,463,784	17,015,071	13,277,377	0.1305	117,082,645	49.96	2,343,489	7.5
2015	88,837,469	13,921,994	10,863,755	0.1136	111,731,952	50.74	2,202,120	6.5
2016	118,935,840	15,836,229	12,357,492	0.0965	151,773,968	51.50	2,946,858	5.5
2017	134,545,797	14,723,083	11,488,869	0.0793	174,184,330	52.25	3,333,695	4.5
2018	123,856,433	10,594,888	8,267,513	0.0620	162,654,364	52.96	3,071,054	3.5
2019	121,499,903	7,469,249	5,828,482	0.0445	161,841,383	53.62	3,018,299	2.5
2020	143,054,173	5,321,310	4,152,380	0.0270	193,262,379	54.15	3,569,127	1.5
2021	380,935,200	4,811,053	3,754,211	0.0092	521,936,364	54.13	9,641,629	0.5

<b>Total</b>	3,480,106,028	1,189,793,261	928,431,885		3,874,114,434		88,826,035	
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<b>Composite Annual Accrual Rate</b>							2.55%	
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<b>Life Portion of the Composite Rate</b>							1.85%	
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Account 475.30 - Distribution - Mains - Plastic

ELG Remaining Life

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

Survivor Curve: R-4

BASED ON ORIGINAL COST AS OF December 31, 2021

ASL: 70

Net Salvage: -38%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1958	808	932	793	0.8357	322	12.48	26	63.5
1967	47	49	41	0.7507	23	18.10	1	54.5
1968	156,584	159,982	136,095	0.7404	79,991	18.76	4,263	53.5
1970	9,248	9,178	7,807	0.7191	4,955	20.11	246	51.5
1971	138,390	135,258	115,063	0.7082	75,916	20.80	3,649	50.5
1972	343,888	330,846	281,448	0.6972	193,117	21.50	8,981	49.5
1973	2,440,657	2,310,145	1,965,223	0.6859	1,402,883	22.21	63,161	48.5
1974	4,605,657	4,286,578	3,646,561	0.6744	2,709,246	22.93	118,156	47.5
1975	4,675,574	4,276,558	3,638,037	0.6628	2,814,255	23.66	118,959	46.5
1976	6,423,774	5,770,774	4,909,156	0.6510	3,955,652	24.40	162,150	45.5
1977	8,224,377	7,252,130	6,169,335	0.6390	5,180,306	25.14	206,035	44.5
1978	11,301,974	9,775,965	8,316,343	0.6268	7,280,381	25.90	281,090	43.5
1979	18,397,968	15,600,242	13,271,013	0.6144	12,118,182	26.67	454,406	42.5
1980	34,491,241	28,650,263	24,372,572	0.6019	23,225,340	27.45	846,228	41.5
1981	25,464,109	20,706,037	17,614,476	0.5892	17,525,993	28.23	620,762	40.5
1982	25,607,427	20,368,596	17,327,418	0.5764	18,010,832	29.03	620,420	39.5
1983	25,357,560	19,714,871	16,771,298	0.5634	18,222,135	29.84	610,731	38.5
1984	31,785,627	24,135,655	20,532,027	0.5502	23,332,139	30.65	761,181	37.5
1985	25,074,149	18,579,400	15,805,361	0.5369	18,796,964	31.48	597,152	36.5
1986	25,595,652	18,491,321	15,730,433	0.5235	19,591,568	32.31	606,327	35.5
1987	31,498,976	22,166,431	18,856,823	0.5099	24,611,764	33.15	742,328	34.5
1988	29,513,727	20,211,719	17,193,963	0.4962	23,534,981	34.01	692,076	33.5
1989	43,234,172	28,783,761	24,486,137	0.4824	35,177,021	34.87	1,008,915	32.5
1990	33,573,751	21,707,009	18,465,995	0.4685	27,865,782	35.73	779,809	31.5
1991	44,329,393	27,802,577	23,651,451	0.4545	37,523,112	36.61	1,024,948	30.5
1992	42,316,316	25,714,617	21,875,239	0.4403	36,521,276	37.49	974,085	29.5
1993	45,660,367	26,850,092	22,841,180	0.4261	40,170,127	38.38	1,046,553	28.5
1994	71,406,330	40,578,735	34,520,036	0.4118	64,020,699	39.28	1,629,832	27.5
1995	84,083,523	46,111,732	39,226,917	0.3974	76,808,344	40.18	1,911,396	26.5
1996	80,697,146	42,642,081	36,275,310	0.3829	75,086,751	41.09	1,827,168	25.5
1997	81,189,401	41,271,709	35,109,545	0.3684	76,931,829	42.01	1,831,240	24.5
1998	87,155,126	42,545,958	36,193,539	0.3537	84,080,534	42.93	1,958,429	23.5
1999	88,130,304	41,236,436	35,079,538	0.3391	86,540,281	43.86	1,973,107	22.5
2000	83,554,051	37,395,758	31,812,301	0.3243	83,492,289	44.79	1,863,990	21.5
2001	86,814,042	37,082,781	31,546,054	0.3095	88,257,324	45.73	1,929,992	20.5
2002	70,173,181	28,537,586	24,276,718	0.2947	72,562,271	46.67	1,554,762	19.5
2003	69,467,695	26,823,893	22,818,892	0.2798	73,046,527	47.62	1,534,049	18.5
2004	49,483,657	18,088,281	15,387,570	0.2649	52,899,877	48.57	1,089,224	17.5
2005	71,346,819	24,607,221	20,933,185	0.2499	77,525,425	49.52	1,565,540	16.5
2006	130,542,563	42,322,610	36,003,539	0.2349	144,145,198	50.48	2,855,679	15.5
2007	117,078,848	35,530,344	30,225,407	0.2199	131,343,404	51.44	2,553,504	14.5
2008	100,171,112	28,318,812	24,090,609	0.2049	114,145,526	52.40	2,178,382	13.5
2009	111,486,379	29,198,429	24,838,893	0.1898	129,012,310	53.36	2,417,568	12.5
2010	101,185,682	24,392,609	20,750,616	0.1747	118,885,625	54.33	2,188,128	11.5
2011	79,567,412	17,521,287	14,905,232	0.1596	94,897,797	55.30	1,715,999	10.5
2012	92,279,145	18,393,184	15,646,949	0.1444	111,698,271	56.27	1,984,926	9.5
2013	97,943,602	17,474,430	14,865,372	0.1293	120,296,799	57.25	2,101,391	8.5
2014	94,463,784	14,876,641	12,655,451	0.1141	117,704,572	58.22	2,021,703	7.5
2015	88,837,469	12,129,763	10,318,702	0.0989	112,277,005	59.20	1,896,712	6.5
2016	118,935,840	13,746,113	11,693,719	0.0838	152,437,740	60.17	2,533,403	5.5
2017	134,545,797	12,727,703	10,827,365	0.0685	174,845,834	61.15	2,859,457	4.5
2018	123,856,433	9,116,424	7,755,276	0.0533	163,166,601	62.12	2,626,604	3.5
2019	121,499,903	6,390,639	5,436,470	0.0381	162,233,395	63.09	2,571,379	2.5
2020	143,054,173	4,517,135	3,842,694	0.0229	193,572,064	64.06	3,021,953	1.5
2021	380,935,200	4,014,019	3,414,697	0.0076	522,275,878	64.98	8,037,261	0.5

<b>Total</b>	3,480,106,028	1,091,383,300	928,431,885	3,874,114,434	76,585,417
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<b>Composite Annual Accrual Rate</b>	2.20%
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<b>Life Portion of the Composite Rate</b>	1.59%
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## **ATTACHMENT 4**

**N.M1.EGI-9**

Account 465  
 Cost of Removal Estimate  
 Average Age of Retirements  
 Credit Adjusted Risk Free Rate  
 Future Inflation Rate =

0.15  
 26.97 27  
 3.75  
 2

Attachment 4 - N.M1.EGI-9

Age	Vintage	Original Cost	R/L	Net Salvage Requirement	Adjusted Original Cost	Adjusted Net Salvage Rate	Future Salvage Requirement	Discounted Salvage Requirement	CPI Ind Age Adj	Inflation Factor
121	1900	504.57		\$ 75.69	765.40	0.10	\$75.69	\$75.69	22.83	15.05
111	1910	13,248.18		\$ 1,987.23	17,001.46	0.12	\$1,987.23	\$1,987.23	22.83	17.79
100	1921	33,733.67		\$ 5,060.05	39,806.31	0.13	\$5,060.05	\$5,060.05	13.7	11.61
95	1926	7,918.72		\$ 1,187.81	12,043.90	0.10	\$1,187.81	\$1,187.81	14.89	9.79
94	1927	69,978.99		\$ 10,496.85	108,352.24	0.10	\$10,496.85	\$10,496.85	15.05	9.72
93	1928	40,173.58		\$ 6,026.04	62,202.92	0.10	\$6,026.04	\$6,026.04	15.05	9.72
91	1930	61,570.86	0.50	\$ 9,235.63	100,069.27	0.09	\$9,327.53	\$9,157.41	15.05	9.26
90	1931	156,074.83	0.51	\$ 23,411.22	289,457.32	0.08	\$23,648.86	\$23,208.99	16.71	9.01
86	1935	124.68	1.10	\$ 18.70	271.49	0.07	\$19.11	\$18.36	18.77	8.62
85	1936	751,729.53	1.30	\$ 112,759.43	1,635,077.98	0.07	\$115,699.93	\$110,293.15	18.51	8.51
84	1937	408,311.87	1.51	\$ 61,246.78	869,924.33	0.07	\$63,105.84	\$59,693.56	17.79	8.35
83	1938	150,740.66	1.72	\$ 22,611.10	329,040.04	0.07	\$23,394.51	\$21,959.09	17.79	8.15
82	1939	139,371.43	1.94	\$ 20,905.71	316,656.16	0.07	\$21,724.48	\$20,227.04	17.79	7.83
81	1940	166,120.78	2.18	\$ 24,918.12	375,911.36	0.07	\$26,017.38	\$24,010.96	17.13	7.57
80	1941	259,663.51	2.41	\$ 38,949.53	574,180.49	0.07	\$40,853.44	\$37,384.99	16.12	7.29
79	1942	231,275.70	2.65	\$ 34,691.36	518,124.12	0.07	\$36,560.47	\$33,162.19	15.57	6.95
78	1943	63,399.04	2.91	\$ 9,509.86	142,953.09	0.07	\$10,073.97	\$9,050.55	15.22	6.75
76	1945	67,400.64	3.41	\$ 10,110.10	160,318.77	0.06	\$10,816.38	\$9,540.31	14.89	6.26
75	1946	307,753.16	3.67	\$ 46,162.97	771,766.53	0.06	\$49,642.82	\$43,369.07	14.57	5.81
74	1947	639,932.51	3.94	\$ 95,989.88	1,627,361.83	0.06	\$103,779.15	\$89,767.05	13.3	5.23
73	1948	1,858.42	4.20	\$ 278.76	4,571.24	0.06	\$302.94	\$259.54	11.61	4.72
71	1950	49,994.63	4.75	\$ 7,499.19	134,299.30	0.06	\$8,238.83	\$6,917.07	10.96	4.08
70	1951	1,184,149.93	5.03	\$ 177,622.49	3,144,013.05	0.06	\$196,226.12	\$163,055.95	9.93	3.74
69	1952	116,722.21	5.32	\$ 1,750.83	32,838.72	0.05	\$1,945.35	\$1,599.34	9.65	3.43
68	1953	1,068,946.00	5.62	\$ 160,341.90	3,364,945.77	0.05	\$179,217.33	\$145,722.58	9.79	3.11
67	1954	167,992.60	5.93	\$ 25,198.89	589,490.28	0.04	\$28,338.73	\$22,780.90	9.72	2.77
66	1955	670,889.45	6.25	\$ 100,633.42	2,608,418.18	0.04	\$113,892.02	\$90,483.13	9.72	2.5
65	1956	121,386.63	6.59	\$ 18,207.99	492,747.42	0.04	\$20,746.14	\$16,277.05	9.58	2.36
64	1957	17,289,437.66	6.94	\$ 2,593,415.65	70,840,793.24	0.04	\$2,975,481.94	\$2,304,622.87	9.26	2.26
63	1958	19,410,275.93	7.31	\$ 2,911,541.39	80,592,896.83	0.04	\$3,365,039.94	\$2,571,089.37	9.01	2.17
62	1959	3,170,065.01	7.70	\$ 475,509.75	13,575,158.77	0.04	\$553,835.45	\$417,130.88	8.95	2.09
61	1960	973,648.73	8.12	\$ 146,047.31	4,303,527.39	0.03	\$171,524.81	\$127,204.81	8.84	2
60	1961	842,536.00	8.56	\$ 126,380.40	3,830,905.88	0.03	\$149,725.99	\$109,254.42	8.73	1.92
59	1962	2,095,941.04	9.02	\$ 314,391.16	9,872,684.02	0.03	\$375,875.37	\$269,669.08	8.62	1.83
58	1963	2,446,850.59	9.51	\$ 367,027.59	11,898,684.87	0.03	\$443,084.28	\$312,204.72	8.51	1.75
57	1964	10,668,880.18	10.03	\$ 1,600,332.03	53,990,999.70	0.03	\$1,951,955.08	\$1,349,301.87	8.35	1.65
56	1965	5,558,167.09	10.58	\$ 833,725.06	27,790,835.45	0.03	\$1,028,046.30	\$696,399.61	8.15	1.63
55	1966	6,082,507.70	11.15	\$ 912,376.16	29,766,272.06	0.03	\$1,137,799.77	\$754,741.91	7.83	1.6
54	1967	9,103,641.70	11.75	\$ 1,365,546.26	43,071,604.79	0.03	\$1,723,290.26	\$1,118,145.18	7.57	1.6
53	1968	3,358,225.53	12.37	\$ 503,733.83	15,693,246.23	0.03	\$643,554.37	\$408,143.03	7.29	1.56
52	1969	1,939,472.95	13.01	\$ 290,920.94	8,752,816.24	0.03	\$376,411.79	\$233,162.11	6.95	1.54
51	1970	6,615,568.92	13.67	\$ 992,335.34	29,378,348.82	0.03	\$1,300,836.77	\$786,439.66	6.75	1.52
50	1971	9,268,739.44	14.34	\$ 1,390,310.92	40,535,287.15	0.03	\$1,846,878.80	\$1,089,353.83	6.56	1.5
49	1972	12,962,889.20	15.02	\$ 1,944,433.38	55,202,507.75	0.04	\$2,617,987.98	\$1,506,004.62	6.26	1.47
48	1973	2,587,292.63	15.72	\$ 388,093.89	10,439,007.07	0.04	\$529,823.86	\$297,028.75	5.81	1.44
47	1974	4,701,695.38	16.42	\$ 705,254.31	17,564,190.60	0.04	\$976,248.92	\$533,378.96	5.23	1.4
46	1975	26,894,698.08	17.14	\$ 4,034,204.71	92,659,105.79	0.04	\$5,664,542.98	\$3,013,899.39	4.72	1.37
45	1976	8,941,190.04	17.87	\$ 1,341,178.51	29,647,103.82	0.05	\$1,910,608.27	\$989,610.31	4.41	1.33
44	1977	1,105,639.75	18.61	\$ 165,845.96	3,443,519.22	0.05	\$239,747.51	\$120,841.32	4.08	1.31
43	1978	3,650,138.28	19.37	\$ 547,520.74	10,665,247.79	0.05	\$803,500.04	\$393,818.67	3.74	1.28
42	1979	11,045,642.38	20.13	\$ 1,656,846.36	30,068,693.15	0.06	\$2,468,332.69	\$1,176,421.99	3.43	1.26
41	1980	2,363,387.55	20.91	\$ 354,508.13	5,975,719.74	0.06	\$536,359.27	\$248,395.95	3.11	1.23
40	1981	19,253,434.14	21.71	\$ 2,888,015.12	44,443,343.81	0.06	\$4,439,245.79	\$1,996,215.50	2.77	1.2
39	1982	31,736,353.72	22.51	\$ 4,760,453.06	66,117,403.58	0.07	\$7,434,266.98	\$3,245,980.46	2.5	1.2
38	1983	585,609.64	23.33	\$ 87,841.45	1,171,219.28	0.08	\$139,425.27	\$59,066.19	2.36	1.18
37	1984	18,409,411.00	24.16	\$ 2,761,411.65	36,495,849.88	0.08	\$4,455,652.40	\$1,830,790.61	2.26	1.14
36	1985	40,319,036.48	25.00	\$ 6,047,855.47	77,426,822.27	0.08	\$9,922,147.94	\$3,952,783.82	2.17	1.13
35	1986	10,355,630.60	25.85	\$ 1,553,344.59	19,324,346.39	0.08	\$2,591,685.20	\$1,000,667.34	2.09	1.12
34	1987	6,381,187.02	26.71	\$ 957,178.05	11,708,600.04	0.08	\$1,624,438.67	\$607,660.53	2	1.09
33	1988	33,840,488.10	27.59	\$ 5,076,073.22	60,160,867.73	0.08	\$8,766,103.95	\$3,174,642.23	1.92	1.08
32	1989	64,565,346.35	28.47	\$ 9,684,801.95	110,424,844.69	0.09	\$17,019,140.92	\$5,967,003.24	1.83	1.07
31	1990	35,227,934.04	29.36	\$ 5,284,190.11	58,713,223.40	0.09	\$9,451,037.29	\$3,206,776.57	1.75	1.05
30	1991	33,945,460.29	30.27	\$ 5,091,819.04	54,378,649.98	0.09	\$9,272,570.85	\$3,042,567.42	1.65	1.03
29	1992	69,166,629.12	31.18	\$ 10,374,994.37	111,625,351.95	0.09	\$19,237,171.87	\$6,104,247.01	1.63	1.01
28	1993	35,102,013.98	32.10	\$ 5,265,302.10	56,163,222.37	0.09	\$9,942,344.50	\$3,049,794.84	1.6	1
27	1994	34,556,578.01	33.03	\$ 5,183,486.70	56,418,902.87	0.09	\$9,969,782.00	\$2,955,279.36	1.6	0.98
26	1995	30,037,510.10	33.96	\$ 4,505,626.52	47,814,812.00	0.09	\$8,827,079.17	\$2,528,488.39	1.56	0.98
25	1996	51,558,774.26	34.90	\$ 7,733,816.14	81,020,930.98	0.10	\$15,436,180.12	\$4,271,249.68	1.54	0.98
24	1997	19,704,937.40	35.85	\$ 2,955,740.61	30,562,760.05	0.10	\$6,011,494.81	\$1,606,234.31	1.52	0.98
23	1998	34,226,277.63	36.80	\$ 5,133,941.64	52,387,159.64	0.10	\$10,639,892.71	\$2,745,206.20	1.5	0.98
22	1999	53,916,470.45	37.76	\$ 8,087,470.57	80,874,705.68	0.10	\$17,082,648.27	\$4,254,458.97	1.47	0.98
21	2000	17,677,659.48	38.72	\$ 2,651,648.92	25,975,336.38	0.10	\$5,708,403.63	\$1,372,319.50	1.44	0.98
20	2001	46,466,250.25	39.69	\$ 6,969,937.54	66,380,357.50	0.11	\$15,295,712.20	\$3,548,148.60	1.4	0.98
19	2002	51,922,238.74	40.66	\$ 7,788,335.81	72,585,170.48	0.11	\$17,423,189.20	\$3,899,880.39	1.37	0.98
18	2003	7,521,099.34	41.64	\$ 1,128,164.90	10,207,206.25	0.11	\$2,573,260.40	\$555,570.31	1.33	0.98
17	2004	4,659,850.83	42.62	\$ 698,977.62	6,228,984.27	0.11	\$1,625,558.46	\$338,524.06	1.31	0.98
16	2005	11,997,470.67	43.60	\$ 1,799,620.60	15,670,165.77	0.11	\$4,267,253.51	\$857,170.17	1.28	0.98
15	2006	125,125,575.60	44.58	\$ 18,768,836.34	160,875,740.06	0.12	\$45,376,710.00	\$8,791,910.66	1.26	0.98
14	2007	80,961,603.56	45.57	\$ 12,144,240.53	101,615,073.86	0.12	\$29,941,957.37	\$5,593,739.34	1.23	0.98
13	2008	11,216,023.81	46.56	\$ 1,682,403.57	13,733,906.71	0.12	\$4,230,134.53	\$761,987.75	1.2	0.98
12	2009	45,004,705.67	47.55	\$ 6,750,705.85	55,107,802.86	0.12	\$17,309,612.76	\$3,006,442.77	1.2	0.98
11	2010	8,923,405.41	48.54	\$ 1,338,510.81	10,744,508.55	0.12	\$3,500,049.78	\$586,153.80	1.18	0.98
10	2011	15,874,783.26	49.53	\$ 2,381,217.49	18,466,584.61	0.13	\$6,349,880.77	\$1,025,356.08	1.14	0.98
9	2012	41,321,828.47	50.52	\$ 6,198,274.27	47,646,598.13	0.13	\$16,855,881.41	\$2,624,414.22	1.13	0.98
8	2013	69,160,220.03	51.52	\$ 10,374,033.00	79,040,251.46	0.13	\$28,775,870.78	\$4,318,384.27	1.12	0.98
7	2014	41,414,560.89	52.51	\$ 6,212,184.13	46,063,134.05	0.13	\$17,572,734.17	\$2,542,751.54	1.09	0.98
6	2015	156,789,681.68	53.51	\$ 23,518,452.25	172,788,628.79	0.14	\$67,858,448.91	\$9,464,123.		

Account 466

Cost of Removal Estimate

0.05

Average Age of Retirements

23.56 24

Credit Adjusted Risk Free Rate

3.75

Future Inflation Rate =

2

Attachment 4 - N.M1.EGI-9

Age	Vintage	Original Cost	R/L	Net Salvage Requirement	Adjusted Original Cost	Adjusted Net Salvage Rate	Future Salvage Requirement	Discounted Salvage Requirement	CPI I Age Adjust Inflation Factor
51	1970	5,225,157.68		\$ 261,257.88	22,043,633.96	0.01	\$261,257.88	\$261,257.88	6.8 1.6 4.21875
49	1972	6,694,440.19		\$ 334,722.01	27,212,464.67	0.01	\$334,722.01	\$334,722.01	6.3 1.54 4.064935065
33	1988	3,767,639.42	3.06	\$ 188,381.97	6,401,652.82	0.03	\$200,150.12	\$178,826.66	1.9 1.13 1.699115044
31	1990	29,064,577.31	3.76	\$ 1,453,228.87	46,663,312.19	0.03	\$1,565,563.41	\$1,363,186.84	1.8 1.09 1.605504587
28	1993	4,270,487.16	5.16	\$ 213,524.36	6,507,409.01	0.03	\$236,496.28	\$195,580.56	1.6 1.05 1.523809524
27	1994	6,598,676.71	5.73	\$ 329,933.84	10,250,371.59	0.03	\$369,577.77	\$299,291.23	1.6 1.03 1.553398058
26	1995	11,074,974.21	6.35	\$ 553,748.71	17,105,900.76	0.03	\$627,948.20	\$497,049.17	1.6 1.01 1.544554455
25	1996	41,359,020.59	7.00	\$ 2,067,951.03	63,692,891.71	0.03	\$2,375,425.71	\$1,835,797.25	1.5 1 1.54
20	2001	2,237,627.66	10.66	\$ 111,881.38	3,196,610.94	0.04	\$138,176.97	\$93,325.96	1.4 0.98 1.428571429
17	2004	1,108,053.64	13.14	\$ 55,402.68	1,481,173.74	0.04	\$71,868.25	\$44,305.06	1.3 0.98 1.336734694
15	2006	6,339,908.87	14.91	\$ 316,995.44	8,151,311.40	0.04	\$425,874.45	\$245,979.51	1.3 0.98 1.285714286
14	2007	81,039,112.91	15.82	\$ 4,051,955.65	101,712,356.00	0.04	\$5,542,674.82	\$3,095,904.62	1.2 0.98 1.255102041
13	2008	80,181,083.22	16.75	\$ 4,009,054.16	98,180,918.23	0.04	\$5,585,921.14	\$3,015,046.64	1.2 0.98 1.224489796
12	2009	1,978,036.78	17.69	\$ 98,901.84	2,422,085.85	0.04	\$140,391.69	\$73,200.12	1.2 0.98 1.224489796
11	2010	5,756,021.34	18.64	\$ 287,801.07	6,930,719.57	0.04	\$416,293.47	\$209,595.19	1.2 0.98 1.204081633
10	2011	17,185,515.58	19.60	\$ 859,275.78	19,991,314.04	0.04	\$1,266,764.65	\$615,643.18	1.1 0.98 1.163265306
9	2012	33,368,237.21	20.58	\$ 1,668,411.86	38,475,620.46	0.04	\$2,507,811.00	\$1,175,600.05	1.1 0.98 1.153061224
8	2013	1,949,552.75	21.55	\$ 97,477.64	2,228,060.29	0.04	\$149,361.51	\$67,560.84	1.1 0.98 1.142857143
7	2014	6,525,504.74	22.54	\$ 326,275.24	7,257,959.35	0.04	\$509,837.75	\$222,361.75	1.1 0.98 1.112244898
6	2015	203,461,376.38	23.53	\$ 10,173,068.82	224,222,741.32	0.05	\$16,211,157.45	\$6,817,323.52	1.1 0.98 1.102040816
5	2016	153,100,505.79	24.52	\$ 7,655,025.29	167,160,756.32	0.05	\$12,440,070.49	\$5,044,225.55	1.1 0.98 1.091836735
4	2017	235,646,157.74	25.51	\$ 11,782,307.89	252,478,026.15	0.05	\$19,526,335.58	\$7,634,211.38	1.1 0.98 1.071428571
3	2018	2,388,189.10	26.51	\$ 119,409.46	2,510,035.48	0.05	\$201,850.24	\$76,064.95	1 0.98 1.051020408
2	2019	620131.22	27.50	\$ 31,006.56	639,114.83	0.05	\$53,451.31	\$19,421.62	1 0.98 1.030612245
1	2020	1,757,876.43	28.50	\$ 87,893.82	1,793,751.46	0.05	\$154,547.95	\$54,125.54	1 0.98 1.020408163
0	2021	62,362,174.13	29.50	\$ 3,118,108.71	62,362,174.13	0.05	\$5,592,375.43	\$1,887,761.87	1 0.98 1
		1,005,060,038.76		50,253,001.94	1,201,072,366.28		\$76,905,905.53	\$35,357,368.96	
				0.05	1.20		0.08	4%	

Account 467

Cost of Removal Estimate

Average Age of Retirements

Credit Adjusted Risk Free Rate

Future Inflation Rate =

0.1

18.47 18

3.75

2

Attachment 4 - N.M1.EGI-9

Age	Vintage	Original Cost	R/L	Net Salvage Requirement	Adjusted Original Cost	Adjusted Net Salvage Rate	Future Salvage Requirement	Discounted Salvage Requirement	CPI	Age Adjust	Inflation Factor
62	1959	188,441.62	1.34	\$ 18,844.16	413,370.71	0.05	\$19,350.90	\$18,419.46	9	4.08	2.193627451
55	1966	9,026.68	3.06	\$ 902.67	31,273.85	0.03	\$959.06	\$856.88	7.8	2.26	3.46460177
53	1968	11,759.11	3.61	\$ 1,175.91	41,016.23	0.03	\$1,263.05	\$1,105.87	7.3	2.09	3.488038278
51	1970	18,466.51	4.18	\$ 1,845.65	64,886.17	0.03	\$2,004.93	\$1,718.97	6.8	1.92	3.515625
50	1971	7,194.17	4.49	\$ 719.42	25,788.94	0.03	\$786.31	\$666.51	6.6	1.83	3.584699454
49	1972	11,696.49	4.82	\$ 1,169.65	41,840.02	0.03	\$1,286.79	\$1,077.57	6.3	1.75	3.577142857
48	1973	8,407.17	5.16	\$ 840.72	29,603.43	0.03	\$931.17	\$770.07	5.8	1.65	3.521212121
47	1974	1,862.82	5.54	\$ 186.28	5,977.02	0.03	\$207.88	\$169.53	5.2	1.63	3.208588957
46	1975	59,355.58	5.93	\$ 5,935.56	175,098.96	0.03	\$6,675.14	\$5,366.01	4.7	1.6	2.95
45	1976	31,572.65	6.36	\$ 3,157.27	87,022.12	0.04	\$3,581.03	\$2,833.50	4.4	1.6	2.75625
44	1977	376,455.39	6.83	\$ 37,645.54	984,575.64	0.04	\$43,097.56	\$33,516.14	4.1	1.56	2.615384615
43	1978	178,048.72	7.33	\$ 17,804.87	432,404.03	0.04	\$20,586.29	\$15,717.57	3.7	1.54	2.428571429
42	1979	927,242.77	7.87	\$ 92,724.28	2,092,396.51	0.04	\$108,361.95	\$81,105.52	3.4	1.52	2.256578947
41	1980	479,947.53	8.44	\$ 47,994.75	995,091.21	0.05	\$56,725.61	\$41,575.70	3.1	1.5	2.073333333
40	1981	10,043,353.96	9.04	\$ 1,004,335.40	18,925,231.61	0.05	\$1,201,224.89	\$861,175.86	2.8	1.47	1.884353741
39	1982	1,147,488.04	9.68	\$ 114,748.80	1,992,166.74	0.06	\$138,994.57	\$97,326.92	2.5	1.44	1.736111111
38	1983	653,122.36	10.34	\$ 65,312.24	1,100,977.69	0.06	\$80,153.10	\$54,777.64	2.4	1.4	1.685714286
37	1984	536,336.81	11.01	\$ 53,633.68	884,759.99	0.06	\$66,699.95	\$44,473.00	2.3	1.37	1.649635036
36	1985	562,449.81	11.70	\$ 56,244.98	917,681.27	0.06	\$70,909.72	\$46,094.06	2.2	1.33	1.631578947
35	1986	956,125.11	12.41	\$ 95,612.51	1,525,420.98	0.06	\$122,248.31	\$77,415.95	2.1	1.31	1.595419847
34	1987	1,039,879.48	13.13	\$ 103,987.95	1,624,811.69	0.06	\$134,866.24	\$83,172.44	2	1.28	1.5625
33	1988	652,968.90	13.87	\$ 65,296.89	995,000.23	0.07	\$85,936.35	\$51,572.94	1.9	1.26	1.523809524
32	1989	1,272,960.76	14.62	\$ 127,296.08	1,893,917.23	0.07	\$170,039.39	\$99,266.66	1.8	1.23	1.487804878
31	1990	4338754.55	15.39	\$ 433,875.46	6,327,350.39	0.07	\$588,466.47	\$333,937.19	1.8	1.2	1.458333333
30	1991	4,736,358.91	16.18	\$ 473,635.89	6,512,493.50	0.07	\$652,522.34	\$359,673.00	1.7	1.2	1.375
29	1992	4,782,231.25	16.99	\$ 478,223.13	6,605,963.51	0.07	\$669,495.24	\$358,186.80	1.6	1.18	1.381355932
28	1993	6,502,310.58	17.81	\$ 650,231.06	9,126,049.94	0.07	\$925,202.44	\$480,273.49	1.6	1.14	1.403508772
27	1994	20,746,981.35	18.64	\$ 2,074,698.14	29,376,256.78	0.07	\$3,000,973.21	\$1,510,928.22	1.6	1.13	1.415929204
26	1995	27,831,462.08	19.50	\$ 2,783,146.21	38,765,250.75	0.07	\$4,094,862.95	\$1,997,428.84	1.6	1.12	1.392857143
25	1996	10,762,992.54	20.36	\$ 1,076,299.25	15,206,429.83	0.07	\$1,610,766.31	\$761,227.92	1.5	1.09	1.412844037
24	1997	3,778,416.95	21.24	\$ 377,841.70	5,317,772.00	0.07	\$575,410.16	\$263,263.21	1.5	1.08	1.407407407
23	1998	5,722,275.89	22.14	\$ 572,227.59	8,021,882.09	0.07	\$887,108.20	\$392,644.88	1.5	1.07	1.401869159
22	1999	6,305,039.14	23.04	\$ 630,503.91	8,827,054.80	0.07	\$995,029.01	\$426,059.05	1.5	1.05	1.4
21	2000	8,589,370.71	23.96	\$ 858,937.07	12,008,440.60	0.07	\$1,380,452.48	\$571,408.19	1.4	1.03	1.398058252
20	2001	2,475,604.98	24.89	\$ 247,560.50	3,431,531.66	0.07	\$405,265.49	\$162,104.73	1.4	1.01	1.386138614
19	2002	3,216,144.89	25.82	\$ 321,614.49	4,406,118.50	0.07	\$536,280.54	\$207,290.39	1.4	1	1.37
18	2003	1,376,550.48	26.77	\$ 137,655.05	1,868,175.65	0.07	\$233,893.82	\$87,300.59	1.3	0.98	1.357142857
17	2004	1,076,371.46	27.72	\$ 107,637.15	1,438,823.07	0.07	\$186,362.67	\$67,168.96	1.3	0.98	1.336734694
16	2005	7,462,615.75	28.68	\$ 746,261.58	9,747,089.96	0.08	\$1,316,873.34	\$458,147.31	1.3	0.98	1.306122449
15	2006	6,507,397.81	29.65	\$ 650,739.78	8,366,654.33	0.08	\$1,170,583.64	\$392,966.13	1.3	0.98	1.285714286
14	2007	7,093,542.35	30.62	\$ 709,354.24	8,903,119.48	0.08	\$1,300,769.74	\$421,351.59	1.2	0.98	1.255102041
13	2008	9,306,136.36	31.60	\$ 930,613.64	11,395,269.01	0.08	\$1,739,942.27	\$543,639.13	1.2	0.98	1.224489796
12	2009	9,112,981.91	32.58	\$ 911,298.19	11,158,753.36	0.08	\$1,737,217.13	\$523,554.18	1.2	0.98	1.224489796
11	2010	4,748,047.03	33.56	\$ 474,804.70	5,717,036.22	0.08	\$922,862.03	\$268,272.38	1.2	0.98	1.204081633
10	2011	9,082,323.76	34.55	\$ 908,232.38	10,565,152.13	0.09	\$1,800,250.39	\$504,596.08	1.1	0.98	1.163265306
9	2012	8,331,840.06	35.54	\$ 833,184.01	9,607,121.70	0.09	\$1,684,189.79	\$455,170.14	1.1	0.98	1.153061224
8	2013	9,006,300.41	36.53	\$ 900,630.04	10,292,914.75	0.09	\$1,856,567.33	\$483,799.28	1.1	0.98	1.142857143
7	2014	27,194,997.69	37.52	\$ 2,719,499.77	30,247,497.43	0.09	\$5,716,990.50	\$1,436,460.73	1.1	0.98	1.112244898
6	2015	30,984,871.21	38.51	\$ 3,098,487.12	34,146,592.76	0.09	\$6,642,664.37	\$1,609,312.45	1.1	0.98	1.102040816
5	2016	33,052,185.97	39.51	\$ 3,305,218.60	36,087,590.80	0.09	\$7,227,581.11	\$1,687,729.84	1.1	0.98	1.091836735
4	2017	73,564,213.37	40.51	\$ 7,356,421.34	78,818,800.04	0.09	\$16,408,147.58	\$3,693,017.83	1.1	0.98	1.071428571
3	2018	17,376,164.38	41.50	\$ 1,737,616.44	18,262,703.38	0.10	\$3,952,401.40	\$857,738.04	1	0.98	1.051020408
2	2019	27,572,193.75	42.50	\$ 2,757,219.38	28,416,240.50	0.10	\$6,397,033.45	\$1,338,086.36	1	0.98	1.030612245
1	2020	29,487,812.21	43.50	\$ 2,948,781.22	30,089,604.30	0.10	\$6,978,306.23	\$1,406,913.64	1	0.98	1.020408163
0	2021	43,958,569.88	44.50	\$ 4,395,856.99	43,958,569.88	0.10	\$10,610,875.00	\$2,061,961.29	1	0.98	1
485,257,212.10				48,525,721.21	578,300,615.35		\$96,542,236.82	\$27,741,786.64			
				0.10	1.19		0.20	6%			

Account 473.02

Cost of Removal Estimate

0.4

Average Age of Retirements

19.37 19

Credit Adjusted Risk Free Rate

3.75

Future Inflation Rate =

2

Attachment 4 - N.M1.EGI-9

Age	Vintage	Original Cost	R/L	Net Salvage Requirement	Adjusted Original Cost	Adjusted Net Salvage Rate	Future Salvage Requirement	Discounted Salvage Requirement	CPI Inr Age	Adjust Inflation
121	1900	149,768.59		\$ 59,907.44	244,579.18	0.24	\$59,907.44	\$59,907.44	22.8	13.98 1.63
93	1928	1,524.06	2.11	\$ 609.62	1,724.59	0.35	\$635.64	\$588.13	15.1	13.3 1.13
63	1958	1,524.06	8.04	\$ 609.62	3,365.63	0.18	\$714.84	\$531.70	9.01	4.08 2.21
62	1959	2,727.43	8.34	\$ 1,090.97	6,526.87	0.17	\$1,286.88	\$946.67	8.95	3.74 2.39
60	1961	2,116.75	8.95	\$ 846.70	5,941.87	0.14	\$1,010.88	\$727.12	8.73	3.11 2.81
57	1964	47,351.00	9.95	\$ 18,940.40	167,534.26	0.11	\$23,065.39	\$15,991.13	8.35	2.36 3.54
56	1965	148,347.17	10.31	\$ 59,338.87	534,968.78	0.11	\$72,779.16	\$49,793.16	8.15	2.26 3.61
55	1966	156,323.18	10.68	\$ 62,529.27	564,060.14	0.11	\$77,256.18	\$52,141.11	7.83	2.17 3.61
54	1967	197,396.80	11.07	\$ 78,958.72	714,973.10	0.11	\$98,311.43	\$65,405.71	7.57	2.09 3.62
53	1968	815,958.94	11.46	\$ 326,383.58	2,974,170.34	0.11	\$409,530.51	\$268,573.14	7.29	2 3.65
52	1969	4,064.16	11.87	\$ 1,625.66	14,711.41	0.11	\$2,056.43	\$1,328.42	6.95	1.92 3.62
51	1970	1,563,798.64	12.30	\$ 625,519.46	5,768,109.74	0.11	\$798,036.83	\$507,421.94	6.75	1.83 3.69
50	1971	2,450,510.49	12.74	\$ 980,204.20	9,185,913.61	0.11	\$1,261,486.90	\$789,213.10	6.56	1.75 3.75
49	1972	96,143.32	13.19	\$ 38,457.33	364,761.93	0.11	\$49,936.19	\$30,727.86	6.26	1.65 3.79
48	1973	4,916,051.66	13.67	\$ 1,966,420.66	17,522,858.98	0.11	\$2,577,749.89	\$1,558,415.92	5.81	1.63 3.56
47	1974	4,021,050.36	14.16	\$ 1,608,420.14	13,143,808.36	0.12	\$2,129,011.15	\$1,264,114.36	5.23	1.6 3.27
46	1975	6,120,880.56	14.66	\$ 2,448,352.22	18,056,597.65	0.14	\$3,273,048.30	\$1,907,949.12	4.72	1.6 2.95
45	1976	6,814,251.96	15.19	\$ 2,725,700.78	19,263,366.12	0.14	\$3,682,262.86	\$2,105,016.32	4.41	1.56 2.83
44	1977	8,258,215.90	15.73	\$ 3,303,286.36	21,878,909.66	0.15	\$4,510,523.25	\$2,527,749.47	4.08	1.54 2.65
43	1978	10,475,227.61	16.30	\$ 4,190,091.04	25,774,573.20	0.16	\$5,786,370.78	\$3,175,412.44	3.74	1.52 2.46
42	1979	17,737,329.70	16.88	\$ 7,094,931.88	40,559,360.58	0.17	\$9,911,037.73	\$5,324,022.85	3.43	1.5 2.29
41	1980	22,226,662.80	17.48	\$ 8,890,665.12	47,023,755.99	0.19	\$12,567,973.45	\$6,603,788.76	3.11	1.47 2.12
40	1981	30,598,391.49	18.11	\$ 12,239,356.60	58,859,405.85	0.21	\$17,518,934.90	\$8,994,211.80	2.77	1.44 1.92
39	1982	28850610.66	18.75	\$ 11,540,244.26	51,518,947.61	0.22	\$16,728,932.23	\$8,388,633.99	2.5	1.4 1.79
38	1983	32,788,041.96	19.41	\$ 13,115,216.78	56,481,590.53	0.23	\$19,262,152.08	\$9,427,047.21	2.36	1.37 1.72
37	1984	45,051,817.04	20.10	\$ 18,020,726.82	76,554,215.42	0.24	\$26,830,931.81	\$12,801,911.99	2.26	1.33 1.7
36	1985	44,178,902.73	20.81	\$ 17,671,561.09	73,181,846.51	0.24	\$26,683,604.24	\$12,403,150.62	2.17	1.31 1.66
35	1986	45,656,546.02	21.54	\$ 18,262,618.41	74,548,579.05	0.24	\$27,977,618.54	\$12,659,803.20	2.09	1.28 1.63
34	1987	48,183,301.68	22.28	\$ 19,273,320.67	76,481,431.24	0.25	\$29,961,832.66	\$13,193,298.43	2	1.26 1.59
33	1988	52,722,048.58	23.05	\$ 21,088,819.43	82,297,831.93	0.26	\$33,287,886.91	\$14,248,212.98	1.92	1.23 1.56
32	1989	53,099,568.05	23.84	\$ 21,239,827.22	80,976,841.28	0.26	\$34,054,858.05	\$14,158,675.94	1.83	1.2 1.53
31	1990	61,581,712.67	24.65	\$ 24,632,685.07	89,806,664.31	0.27	\$40,133,403.21	\$16,195,680.12	1.75	1.2 1.46
30	1991	68,045,080.48	25.48	\$ 27,218,032.19	95,147,782.03	0.29	\$45,080,538.99	\$17,644,614.52	1.65	1.18 1.4
29	1992	86,254,726.77	26.33	\$ 34,501,890.71	123,329,126.87	0.28	\$58,114,622.04	\$22,045,431.45	1.63	1.14 1.43
28	1993	100,416,338.86	27.19	\$ 40,166,535.54	142,182,426.70	0.28	\$68,818,158.10	\$25,292,191.37	1.6	1.13 1.42
27	1994	114,613,463.09	28.07	\$ 45,845,385.24	163,733,518.70	0.28	\$79,928,644.48	\$28,439,131.52	1.6	1.12 1.43
26	1995	144,689,462.64	28.97	\$ 57,875,785.06	207,078,496.99	0.28	\$102,717,365.25	\$35,356,434.15	1.56	1.09 1.43
25	1996	122,662,528.22	29.88	\$ 49,065,011.29	174,907,679.13	0.28	\$88,663,533.53	\$29,513,481.72	1.54	1.08 1.43
24	1997	111,013,734.49	30.80	\$ 44,405,493.80	157,701,753.67	0.28	\$81,718,802.54	\$26,295,918.70	1.52	1.07 1.42
23	1998	106,872,602.30	31.74	\$ 42,749,040.92	152,675,146.14	0.28	\$80,148,579.10	\$24,913,420.74	1.5	1.05 1.43
22	1999	112,351,680.12	32.68	\$ 44,940,672.05	160,346,572.60	0.28	\$85,840,685.24	\$25,775,190.98	1.47	1.03 1.43
21	2000	128,015,893.22	33.64	\$ 51,206,357.29	182,517,709.15	0.28	\$99,685,883.02	\$28,893,077.01	1.44	1.01 1.43
20	2001	115,289,893.04	34.61	\$ 46,115,957.22	161,405,850.26	0.29	\$91,517,294.41	\$25,594,982.97	1.4	1 1.4
19	2002	96,249,612.37	35.58	\$ 38,499,844.95	134,553,029.54	0.29	\$77,884,868.64	\$21,018,237.84	1.37	0.98 1.4
18	2003	115,205,243.80	36.56	\$ 46,082,097.52	156,349,973.73	0.29	\$95,050,524.63	\$24,741,691.38	1.33	0.98 1.36
17	2004	69,353,793.26	37.54	\$ 27,741,517.30	92,707,621.60	0.30	\$58,341,912.12	\$14,648,298.54	1.31	0.98 1.34
16	2005	97,395,107.31	38.53	\$ 38,958,042.92	127,209,936.08	0.31	\$83,552,942.62	\$20,227,399.37	1.28	0.98 1.31
15	2006	109,704,171.83	39.52	\$ 43,881,668.73	141,048,220.92	0.31	\$95,975,840.17	\$22,403,300.17	1.26	0.98 1.29
14	2007	105,430,196.90	40.51	\$ 42,172,078.76	132,325,655.29	0.32	\$94,062,813.99	\$21,170,924.23	1.23	0.98 1.26
13	2008	113,170,328.99	41.51	\$ 45,268,131.60	138,575,913.05	0.33	\$102,987,780.70	\$22,341,866.12	1.2	0.98 1.22
12	2009	78,061,869.45	42.50	\$ 31,224,747.78	95,585,962.59	0.33	\$72,444,636.71	\$15,153,458.37	1.2	0.98 1.22
11	2010	126,426,207.82	43.50	\$ 50,570,483.13	152,227,474.72	0.33	\$119,675,313.64	\$24,128,037.00	1.18	0.98 1.2
10	2011	115,922,136.62	44.50	\$ 46,368,854.65	134,848,199.74	0.34	\$111,926,780.56	\$21,750,203.39	1.14	0.98 1.16
9	2012	138,256,592.59	45.50	\$ 55,302,637.04	159,418,315.95	0.35	\$136,161,289.52	\$25,503,210.81	1.13	0.98 1.15
8	2013	138,646,957.73	46.50	\$ 55,458,783.09	158,453,665.98	0.35	\$139,276,653.38	\$25,143,829.46	1.12	0.98 1.14
7	2014	132,102,041.38	47.50	\$ 52,840,816.55	146,929,821.53	0.36	\$135,356,052.09	\$23,552,806.99	1.09	0.98 1.11
6	2015	150,761,600.30	48.50	\$ 60,304,640.12	166,145,437.07	0.36	\$157,564,748.48	\$26,426,274.96	1.08	0.98 1.1
5	2016	148,370,557.88	49.50	\$ 59,348,223.15	161,996,425.44	0.37	\$158,167,125.97	\$25,568,485.65	1.07	0.98 1.09
4	2017	142,742,100.37	50.50	\$ 57,096,840.15	152,937,964.68	0.37	\$155,210,374.99	\$24,183,626.47	1.05	0.98 1.07
3	2018	151,710,925.20	51.50	\$ 60,684,370.08	159,451,278.53	0.38	\$168,261,863.32	\$25,269,594.14	1.03	0.98 1.05
2	2019	180,792,374.68	52.50	\$ 72,316,949.87	186,326,835.13	0.39	\$204,526,279.39	\$29,605,580.79	1.01	0.98 1.03
1	2020	164,306,151.39	53.50	\$ 65,722,460.56	167,659,338.15	0.39	\$189,593,307.80	\$26,452,051.87	1	0.98 1.02
0	2021	345,114,099.71	54.50	\$ 138,045,639.88	345,114,099.71	0.40	\$406,192,644.91	\$54,623,599.07	0.98	0.98 1
		4,458,865,638.83		1,783,546,255.53	5,775,373,157.38		\$3,964,182,007.06	\$932,456,743.88		
				0.40	1.30		0.89	21%		





Account 475.21  
 Cost of Removal Estimate 0.4  
 Average Age of Retirements 24.39 24  
 Credit Adjusted Risk Free Rate 3.75  
 Future Inflation Rate = 2

Attachment 4 - N.M1.EGI-9

Age	Vintage	Original Cost	R/L	Net Salvage Requirement	Adjusted Original Cost	Adjusted Net Salvage Rate	Future Salvage Requirement	Discounted Salvage Requirement	CPI Ind Age	Adjust Inflation Factor
127	1894	31.00		\$ 12.40	45.99	0.27	\$12.40	\$12.40	22.83	15.39 1.483430799
121	1900	24.14		\$ 9.66	36.21	0.27	\$9.66	\$9.66	22.83	15.22 1.5
120	1901	882.13		\$ 352.85	1,338.14	0.26	\$352.85	\$352.85	22.83	15.05 1.516943522
117	1904	475.41		\$ 190.16	721.17	0.26	\$190.16	\$190.16	22.83	15.05 1.516943522
116	1905	2,239.37		\$ 895.75	3,433.50	0.26	\$895.75	\$895.75	22.83	14.89 1.533243788
112	1909	2,557.09		\$ 1,022.84	3,024.79	0.34	\$1,022.84	\$1,022.84	22.83	19.3 1.182901554
111	1910	11,960.68		\$ 4,784.27	14,349.04	0.33	\$4,784.27	\$4,784.27	22.83	19.03 1.199684708
110	1911	48.92		\$ 19.57	59.50	0.33	\$19.57	\$19.57	22.83	18.77 1.216302611
109	1912	295.91		\$ 118.36	364.97	0.32	\$118.36	\$118.36	22.83	18.51 1.233387358
107	1914	18,551.62		\$ 7,420.65	23,807.39	0.31	\$7,420.65	\$7,420.65	22.83	17.79 1.283305228
106	1915	10.33		\$ 4.13	13.04	0.32	\$4.13	\$4.13	22.46	17.79 1.262507026
104	1917	20.67		\$ 8.27	22.23	0.37	\$8.27	\$8.27	17.34	16.12 1.075682382
103	1918	5,722.35		\$ 2,288.94	5,656.20	0.40	\$2,288.94	\$2,288.94	15.39	15.57 0.988439306
102	1919	2,272.46		\$ 908.98	2,087.32	0.44	\$908.98	\$908.98	13.98	15.22 0.918528252
101	1920	2,640.01		\$ 1,056.00	2,108.50	0.50	\$1,056.00	\$1,056.00	12.02	15.05 0.798671096
100	1921	4,778.59		\$ 1,911.44	4,396.69	0.43	\$1,911.44	\$1,911.44	13.7	14.89 0.920080591
97	1924	3,720.56		\$ 1,488.22	4,877.43	0.31	\$1,488.22	\$1,488.22	15.22	11.61 1.310938846
96	1925	229,889.97		\$ 91,955.99	308,089.41	0.30	\$91,955.99	\$91,955.99	15.05	11.23 1.340160285
95	1926	5,925.59		\$ 2,370.24	8,050.37	0.29	\$2,370.24	\$2,370.24	14.89	10.96 1.358576642
94	1927	265,632.65		\$ 106,253.06	402,595.31	0.26	\$106,253.06	\$106,253.06	15.05	9.93 1.515609265
93	1928	208,696.81		\$ 83,478.72	325,480.52	0.26	\$83,478.72	\$83,478.72	15.05	9.65 1.559585492
92	1929	11,693.67	0.50	\$ 4,677.47	17,785.37	0.26	\$4,677.47	\$4,677.47	14.89	9.79 1.520939734
91	1930	32,004.54	0.55	\$ 12,801.82	49,554.35	0.26	\$12,801.82	\$12,801.82	15.05	9.72 1.584353909
90	1931	299,587.7	0.71	\$ 119,835.08	515,031.94	0.23	\$119,835.08	\$119,835.08	16.71	9.72 1.719135802
89	1932	807.04	0.91	\$ 322.82	1,539.10	0.21	\$322.82	\$322.82	18.27	9.58 1.907098121
88	1933	4,300.46	1.13	\$ 1,720.18	8,963.16	0.19	\$1,720.18	\$1,720.18	19.3	9.26 2.084233261
87	1934	4,519.92	1.35	\$ 1,807.97	9,546.51	0.19	\$1,807.97	\$1,807.97	19.03	9.01 2.12097669
86	1935	37,493.72	1.57	\$ 14,997.49	78,632.08	0.19	\$14,997.49	\$14,997.49	18.77	8.95 2.097206704
85	1936	49,203.14	1.81	\$ 19,681.26	103,026.03	0.19	\$19,681.26	\$19,681.26	18.51	8.84 2.093891403
84	1937	98,402.01	2.05	\$ 39,360.80	200,523.68	0.20	\$39,360.80	\$39,360.80	17.79	8.73 2.037800687
83	1938	49,373.63	2.30	\$ 19,749.45	101,897.55	0.19	\$19,749.45	\$19,749.45	17.79	8.62 2.063805104
82	1939	118,259.02	2.55	\$ 47,303.61	247,218.33	0.19	\$47,303.61	\$47,303.61	17.79	8.51 2.090481786
81	1940	46,288.16	2.80	\$ 18,515.26	94,960.02	0.19	\$18,515.26	\$18,515.26	17.13	8.35 2.051497006
80	1941	92,337.02	3.05	\$ 36,934.81	182,634.69	0.20	\$36,934.81	\$36,934.81	16.12	8.15 1.977914111
79	1942	3,659.02	3.31	\$ 1,463.61	7,275.98	0.20	\$1,463.61	\$1,463.61	15.57	7.83 1.988505747
78	1943	10,116.06	3.56	\$ 4,046.42	20,339.03	0.20	\$4,046.42	\$4,046.42	15.22	7.57 2.010568032
77	1944	10,235.69	3.82	\$ 4,094.28	21,131.29	0.19	\$4,094.28	\$4,094.28	15.05	7.29 2.064471879
76	1945	3,439.76	4.08	\$ 1,375.90	7,369.50	0.19	\$1,375.90	\$1,375.90	14.89	6.95 2.142446043
75	1946	76,563.83	4.33	\$ 30,625.53	165,264.44	0.19	\$30,625.53	\$30,625.53	14.57	6.75 2.158518519
74	1947	4,547.68	4.59	\$ 1,819.07	9,220.14	0.20	\$1,819.07	\$1,819.07	13.3	6.56 2.027439024
73	1948	19,057.29	4.85	\$ 7,622.92	35,344.27	0.22	\$7,622.92	\$7,622.92	11.61	6.26 1.854632588
72	1949	5,248.90	5.11	\$ 2,099.56	10,145.46	0.21	\$2,099.56	\$2,099.56	11.23	5.81 1.928743555
71	1950	33,682.36	5.37	\$ 13,472.94	70,584.83	0.19	\$13,472.94	\$13,472.94	10.96	5.23 2.095602294
70	1951	187,806.18	5.64	\$ 75,122.47	395,109.19	0.19	\$75,122.47	\$75,122.47	9.93	4.72 2.103813559
69	1952	96,014.69	5.91	\$ 38,405.88	210,100.17	0.18	\$38,405.88	\$38,405.88	9.65	4.41 2.188208617
68	1953	340,239.03	6.18	\$ 136,095.61	816,406.89	0.17	\$136,095.61	\$136,095.61	9.79	4.08 2.399509804
67	1954	294,801.17	6.47	\$ 117,920.47	766,167.75	0.15	\$117,920.47	\$117,920.47	9.72	3.74 2.598930481
66	1955	438,970.93	6.76	\$ 175,588.37	1,243,964.27	0.14	\$175,588.37	\$175,588.37	9.72	3.43 2.833819242
65	1956	1,541,821.69	7.07	\$ 616,728.68	4,749,405.72	0.13	\$616,728.68	\$616,728.68	9.58	3.11 3.060385852
64	1957	10,729,456.30	7.38	\$ 4,291,782.52	35,868,146.33	0.12	\$4,291,782.52	\$4,291,782.52	9.26	2.77 3.342960289
63	1958	30,571,577.15	7.71	\$ 12,228,630.86	110,179,964.05	0.11	\$12,228,630.86	\$12,228,630.86	9.01	2.5 3.604
62	1959	36,689,474.62	8.05	\$ 14,675,789.85	139,140,168.58	0.11	\$14,675,789.85	\$14,675,789.85	8.95	2.36 3.792372881
61	1960	14,236,454.72	8.41	\$ 5,694,581.89	55,685,955.63	0.10	\$5,694,581.89	\$5,694,581.89	8.84	2.26 3.911504425
60	1961	16,558,259.61	8.78	\$ 6,623,303.84	66,614,565.16	0.10	\$6,623,303.84	\$6,623,303.84	8.73	2.17 4.023041475
59	1962	22,326,935.42	9.16	\$ 8,930,774.17	92,085,255.18	0.10	\$8,930,774.17	\$8,930,774.17	8.62	2.09 4.124401914
58	1963	17,939,644.78	9.56	\$ 7,175,857.91	76,333,188.54	0.09	\$7,175,857.91	\$7,175,857.91	8.51	2 4.255
57	1964	10,809,823.82	9.98	\$ 4,323,929.53	47,011,473.38	0.09	\$4,323,929.53	\$4,323,929.53	8.35	1.92 4.348958333
56	1965	11,552,779.81	10.42	\$ 4,621,111.92	51,450,904.62	0.09	\$4,621,111.92	\$4,621,111.92	8.15	1.83 4.453551913
55	1966	13,155,954.88	10.87	\$ 5,262,381.95	58,863,500.98	0.09	\$5,262,381.95	\$5,262,381.95	7.83	1.75 4.474285714
54	1967	21,089,710.60	11.34	\$ 8,435,884.24	96,757,035.90	0.09	\$8,435,884.24	\$8,435,884.24	7.57	1.65 4.587878788
53	1968	16,570,366.48	11.82	\$ 6,628,146.59	74,109,185.05	0.09	\$6,628,146.59	\$6,628,146.59	7.29	1.63 4.473292638
52	1969	19,069,384.95	12.33	\$ 7,627,753.98	82,832,640.88	0.09	\$7,627,753.98	\$7,627,753.98	6.95	1.6 4.34375
51	1970	18,144,678.96	12.85	\$ 7,257,871.58	76,547,864.36	0.09	\$7,257,871.58	\$7,257,871.58	6.75	1.6 4.21875
50	1971	19,088,686.42	13.39	\$ 7,635,474.57	80,270,373.66	0.10	\$7,635,474.57	\$7,635,474.57	6.56	1.56 4.205128205
49	1972	18,547,822.32	13.94	\$ 7,419,128.93	75,395,693.33	0.10	\$7,419,128.93	\$7,419,128.93	6.26	1.54 4.064935065
48	1973	20,175,254.05	14.52	\$ 8,070,101.62	77,117,253.97	0.10	\$8,070,101.62	\$8,070,101.62	5.81	1.52 3.822368421
47	1974	19,756,390.79	15.10	\$ 7,902,556.32	68,883,949.22	0.11	\$7,902,556.32	\$7,902,556.32	5.23	1.5 3.486666667
46	1975	13,208,700.90	15.71	\$ 5,283,480.36	42,411,611.05	0.12	\$5,283,480.36	\$5,283,480.36	4.72	1.47 3.210884354
45	1976	16,540,071.96	16.33	\$ 6,616,028.78	50,655,970.38	0.13	\$6,616,028.78	\$6,616,028.78	4.41	1.44 3.0625
44	1977	16,981,103.98	16.96	\$ 6,792,441.59	49,487,788.74	0.14	\$6,792,441.59	\$6,792,441.59	4.08	1.4 2.914285714
43	1978	14,997,558.70	17.61	\$ 5,999,023.48	40,942,240.54	0.15	\$5,999,023.48	\$5,999,023.48	3.74	1.37 2.729927007
42	1979	16,758,008.25	18.27	\$ 6,703,203.30	43,218,021.28	0.16	\$6,703,203.30	\$6,703,203.30	3.43	1.33 2.578947368
41	1980	14,731,887.84	18.94	\$ 5,892,755.14	34,974,176.48	0.17	\$5,892,755.14	\$5,892,755.14	3.11	1.31 2.374045802
40	1981	14,323,398.40	19.63	\$ 5,729,359.36	30,996,729.35	0.18	\$5,729,359.36	\$5,729,359.36	2.77	1.28 2.1640625
39	1982	13,332,728.51	20.33	\$ 5,333,091.40	26,453,826.41	0.20	\$5,333,091.40	\$5,333,091.40	2.5	1.26 1.984126984
38	1983	21,426,118.42	21.04	\$ 8,570,447.37	41,110,275.99	0.21	\$8,570,447.37	\$8,570,447.37	2.36	1.23 1.918699187
37	1984	19,519,604.05	21.77	\$ 7,807,841.62	36,761,920.96	0.21	\$7,807,841.62	\$7,807,841.62	2.26	1.2 1.883333333
36	1985	14,617,325.80	22.50	\$ 5,846,930.32	26,432,997.49	0.22	\$5,846,930.32	\$5,846,930.32	2.17	1.2 1.808333333
35	1986	14,706,593.66	23.25	\$ 5,882,637.46	26,048,119.28	0.23	\$5,882,637.46	\$5,882,637.46	2.09	1.18 1.771186441
34	1987	31,059,637.62	24.01	\$ 12,423,855.05	54,490,592.32	0.23	\$12,423,855.05	\$12,423,855.05	2	1.14 1.754385965
33	1988	19,343,553.30	24.78	\$ 7,737,421.32	32,866,922.42	0.24	\$7,737,421.32	\$7,737,421.32	1.92	1.13 1.699115044
32	1989	39,248,495.27	25.55	\$ 15,699,398.11	64,129,237.81	0.24	\$15,699,398.11	\$15,699,398.11	1.83	1.12 1.633928571
31	1990	40,677,356.96	26.34	\$ 16,270,942.78	65,307,683.19	0.25	\$16,270,942.78	\$16,270,942.78	1.75	1.09 1.605504587
30	1991	74,523,446.21	27.14	\$ 29,809,378.48	113,855,265.04	0.26	\$29,809,			

8	2013	78,911,056.58	46.72	\$	31,564,422.63	90,184,064.66	0.35	\$79,615,545.38	\$14,257,178.63	1.12	0.98	1.142857143
7	2014	147,219,903.94	47.69	\$	58,887,961.58	163,744,587.04	0.36	\$151,414,934.38	\$26,163,507.59	1.09	0.98	1.112244898
6	2015	68,235,901.61	48.65	\$	27,294,360.64	75,198,748.71	0.36	\$71,527,209.45	\$11,930,261.28	1.08	0.98	1.102040816
5	2016	458,760,681.23	49.62	\$	183,504,272.49	500,891,764.20	0.37	\$490,215,120.89	\$78,896,350.39	1.07	0.98	1.091836735
4	2017	109,428,743.25	50.59	\$	43,771,497.30	117,245,082.05	0.37	\$119,199,406.30	\$18,511,254.04	1.05	0.98	1.071428571
3	2018	196,754,404.11	51.57	\$	78,701,761.64	206,792,894.12	0.38	\$218,522,072.80	\$32,733,219.05	1.03	0.98	1.051020408
2	2019	141,819,538.75	52.54	\$	56,727,815.50	146,160,953.20	0.39	\$160,564,334.74	\$23,207,802.90	1.01	0.98	1.030612245
1	2020	178,851,789.99	53.52	\$	71,540,716.00	182,501,826.52	0.39	\$206,459,311.66	\$28,783,995.29	1	0.98	1.020408163
0	2021	363,811,882.15	54.51	\$	145,524,752.86	363,811,882.15	0.40	\$428,284,377.69	\$57,573,231.79	0.98	0.98	1
		3,320,418,328.46			1,328,167,331.38	5,150,148,726.11		\$3,050,516,645.45	\$692,450,031.91			
					0.40	1.55		0.92	21%			

Account 475.30

Cost of Removal Estimate

Average Age of Retirements

Credit Adjusted Risk Free Rate

Future Inflation Rate =

0.25

9.62 10

3.75

2

Attachment 4 - N.M1.EGI-9

Age	Vintage	Original Cost	R/L	Net Salvage Requirement	Adjusted Original Cost	Adjusted Net Salvage Rate	Future Salvage Requirement	Discounted Salvage Requirement	CPI In Age Adjust	Inflation Factor
63	1958	807.98	7.31	\$ 202.00	998.61	0.20	\$233.46	\$178.38	9.01	7.29 1.235939643
54	1967	46.86	11.75	\$ 11.72	86.94	0.13	\$14.78	\$9.59	7.57	4.08 1.855392157
53	1968	156,584.48	12.37	\$ 39,146.12	305,214.13	0.13	\$50,011.84	\$31,717.58	7.29	3.74 1.949197861
51	1970	9,247.98	13.67	\$ 2,312.00	20,071.98	0.12	\$3,030.76	\$1,832.29	6.75	3.11 2.170418006
50	1971	138,390.05	14.34	\$ 34,597.51	327,739.61	0.11	\$45,959.08	\$27,108.28	6.56	2.77 2.368231047
49	1972	343,888.32	15.02	\$ 85,972.08	861,096.35	0.10	\$115,752.94	\$66,587.19	6.26	2.5 2.504
48	1973	2,440,656.75	15.72	\$ 610,164.19	6,008,565.98	0.10	\$832,993.12	\$466,990.88	5.81	2.36 2.461864407
47	1974	4,605,656.70	16.42	\$ 1,151,414.18	10,658,223.25	0.11	\$1,593,846.13	\$870,806.58	5.23	2.26 2.314159292
46	1975	4,675,574.02	17.14	\$ 1,168,893.51	10,169,912.15	0.11	\$1,641,277.02	\$873,264.41	4.72	2.17 2.175115207
45	1976	6,423,773.65	17.87	\$ 1,605,943.41	13,554,469.76	0.12	\$2,287,785.52	\$1,184,971.39	4.41	2.09 2.110047847
44	1977	8,224,377.01	18.61	\$ 2,056,094.25	16,777,729.10	0.12	\$2,972,297.09	\$1,498,144.05	4.08	2 2.04
43	1978	11,301,973.90	19.37	\$ 2,825,493.48	22,015,303.33	0.13	\$4,146,480.58	\$2,032,310.38	3.74	1.92 1.947916667
42	1979	18,397,967.81	20.13	\$ 4,599,491.95	34,483,622.73	0.13	\$6,852,220.36	\$3,265,808.83	3.43	1.83 1.87431694
41	1980	34,491,240.57	20.91	\$ 8,622,810.14	61,295,861.81	0.14	\$13,046,031.28	\$6,041,810.95	3.11	1.75 1.777142857
40	1981	25,464,108.56	21.71	\$ 6,366,027.14	42,748,836.79	0.15	\$9,785,391.70	\$4,400,240.83	2.77	1.65 1.678787879
39	1982	25,607,426.94	22.51	\$ 6,401,856.74	39,275,194.69	0.16	\$9,997,601.39	\$4,365,194.16	2.5	1.63 1.533742331
38	1983	25,357,560.44	23.33	\$ 6,339,390.11	37,402,401.65	0.17	\$10,062,119.83	\$4,262,721.77	2.36	1.6 1.475
37	1984	31,785,627.19	24.16	\$ 7,946,406.80	44,897,198.41	0.18	\$12,821,857.44	\$5,268,394.86	2.26	1.6 1.4125
36	1985	25,074,148.58	25.00	\$ 6,268,537.15	34,483,622.73	0.18	\$10,284,199.62	\$4,097,017.92	2.17	1.56 1.391025641
35	1986	25,595,652.42	25.85	\$ 6,398,913.11	34,736,956.86	0.18	\$10,676,297.15	\$4,122,191.17	2.09	1.54 1.357142857
34	1987	31,498,975.80	26.71	\$ 7,874,743.95	41,446,020.79	0.19	\$13,364,325.02	\$4,999,248.61	2	1.52 1.315789474
33	1988	29,513,727.35	27.59	\$ 7,378,431.84	37,777,571.01	0.20	\$12,742,152.79	\$4,614,567.27	1.92	1.5 1.28
32	1989	43,234,172.45	28.47	\$ 10,808,543.11	53,822,133.05	0.20	\$18,993,895.72	\$6,659,363.00	1.83	1.47 1.244897959
31	1990	33573751.34	29.36	\$ 8,393,437.84	40,801,433.92	0.21	\$15,012,081.76	\$5,093,662.28	1.75	1.44 1.215277778
30	1991	44,329,393.44	30.27	\$ 11,082,348.36	52,245,356.55	0.21	\$20,181,758.12	\$6,622,150.50	1.65	1.4 1.178571429
29	1992	42,316,315.53	31.18	\$ 10,579,078.88	50,347,149.13	0.21	\$19,615,582.57	\$6,224,322.48	1.63	1.37 1.189781022
28	1993	45,660,367.03	32.10	\$ 11,415,091.76	54,929,764.85	0.21	\$21,554,845.80	\$6,611,907.02	1.6	1.33 1.203007519
27	1994	71,406,330.17	33.03	\$ 17,851,582.54	87,213,838.38	0.20	\$34,335,264.37	\$10,177,785.06	1.6	1.31 1.221374046
26	1995	84,083,522.93	33.96	\$ 21,020,880.73	102,476,793.57	0.21	\$41,182,503.23	\$11,796,595.35	1.56	1.28 1.21875
25	1996	80,697,145.79	34.90	\$ 20,174,286.45	98,629,844.85	0.20	\$40,266,527.39	\$11,141,901.11	1.54	1.26 1.222222222
24	1997	81,189,401.12	35.85	\$ 20,297,350.28	100,331,617.64	0.20	\$41,281,503.31	\$11,030,162.90	1.52	1.23 1.235772358
23	1998	87,155,125.69	36.80	\$ 21,788,781.42	108,943,907.11	0.20	\$45,156,394.97	\$11,650,833.21	1.5	1.2 1.25
22	1999	88,130,303.58	37.76	\$ 22,032,575.90	107,959,621.89	0.20	\$46,538,004.85	\$11,590,359.35	1.47	1.2 1.225
21	2000	83,554,050.58	38.72	\$ 20,888,512.65	101,964,265.11	0.20	\$44,968,268.77	\$10,810,523.56	1.44	1.18 1.220338983
20	2001	86,814,041.80	39.69	\$ 21,703,510.45	106,613,735.54	0.20	\$47,628,927.48	\$11,048,489.30	1.4	1.14 1.228070175
19	2002	70,173,181.01	40.66	\$ 17,543,295.25	85,077,219.45	0.21	\$39,245,887.67	\$8,784,515.06	1.37	1.13 1.212398381
18	2003	69,467,695.34	41.64	\$ 17,366,923.84	82,492,888.22	0.21	\$39,612,664.14	\$8,552,426.36	1.33	1.12 1.1875
17	2004	49,483,656.96	42.62	\$ 12,370,914.24	59,471,184.05	0.21	\$28,770,083.13	\$5,991,396.55	1.31	1.09 1.201834862
16	2005	71,346,819.36	43.60	\$ 17,836,704.84	84,559,193.32	0.21	\$42,294,326.59	\$8,495,730.35	1.28	1.08 1.185185185
15	2006	130,542,562.61	44.58	\$ 32,635,640.65	153,723,017.65	0.21	\$78,901,961.46	\$15,287,556.03	1.26	1.07 1.177570093
14	2007	117,078,848.28	45.57	\$ 29,269,712.07	137,149,507.99	0.21	\$72,165,276.08	\$13,481,875.59	1.23	1.05 1.171428571
13	2008	100,171,111.97	46.56	\$ 25,042,777.99	116,704,208.12	0.21	\$62,966,057.36	\$11,342,278.69	1.2	1.03 1.165048544
12	2009	111,486,378.79	47.55	\$ 27,871,594.70	132,459,063.91	0.21	\$71,466,083.96	\$12,412,680.42	1.2	1.01 1.188118812
11	2010	101,185,681.78	48.54	\$ 25,296,420.45	119,399,104.50	0.21	\$66,147,191.31	\$11,077,678.91	1.18	1 1.18
10	2011	79,567,412.20	49.53	\$ 19,891,853.05	92,558,010.11	0.21	\$53,044,669.72	\$8,565,463.92	1.14	0.98 1.163265306
9	2012	92,279,144.86	50.52	\$ 23,069,786.22	106,403,503.77	0.22	\$62,737,072.22	\$9,767,989.03	1.13	0.98 1.153061224
8	2013	97,943,602.25	51.52	\$ 24,485,900.56	111,935,545.43	0.22	\$67,919,883.24	\$10,192,711.72	1.12	0.98 1.142857143
7	2014	94,463,784.26	52.51	\$ 23,615,946.07	105,066,862.09	0.22	\$66,803,677.00	\$9,666,404.26	1.09	0.98 1.112244898
6	2015	88,837,469.15	53.51	\$ 22,209,367.29	97,902,517.02	0.23	\$64,081,309.40	\$8,937,331.32	1.08	0.98 1.102040816
5	2016	118,935,839.98	54.51	\$ 29,733,960.00	129,858,519.16	0.23	\$87,508,072.01	\$11,763,498.22	1.07	0.98 1.091836735
4	2017	134,545,796.71	55.51	\$ 33,636,449.18	144,156,210.76	0.23	\$100,973,097.22	\$13,082,958.02	1.05	0.98 1.071428571
3	2018	123,856,432.62	56.50	\$ 30,964,108.16	130,175,638.37	0.24	\$94,791,256.55	\$11,842,416.36	1.03	0.98 1.051020408
2	2019	121,471,600.43	57.50	\$ 30,367,900.11	125,190,118.81	0.24	\$94,825,390.20	\$11,418,487.45	1.01	0.98 1.030612245
1	2020	143,054,172.92	58.50	\$ 35,763,543.23	145,973,645.84	0.25	\$113,907,045.55	\$13,220,455.62	1	0.98 1.020408163
0	2021	380,935,199.57	59.50	\$ 95,233,799.89	380,935,199.57	0.25	\$309,386,481.27	\$34,610,594.79	0.98	0.98 1
3,480,077,725.86				870,019,431.47	4,097,112,479.28		\$2,177,584,923.31	\$411,443,621.12		
				0.25	1.18		0.63	12%		

## **ATTACHMENT 5**

**N.M1.IGUA-1**

Account 452.00 - Underground Storage - Structures and Improvements  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ASL Remaining Life  
 Survivor Curve: R-2.5

ASL: 45

Net Salvage: -10%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1950	1,443,866	1,463,005	1,584,733	3,519	3.55	992
1952	1,104,879	1,107,315	1,199,448	15,919	4.00	3,979
1954	3,098,356	3,072,246	3,327,868	80,324	4.44	18,109
1962	8,198	7,763	8,409	609	6.26	97
1964	161,210	150,670	163,206	14,125	6.77	2,088
1966	257	237	257	26	7.30	4
1967	38,330	35,059	37,976	4,187	7.58	552
1969	2,925	2,633	2,852	366	8.18	45
1971	97,662	86,313	93,495	13,934	8.84	1,575
1972	573,999	502,309	544,103	87,295	9.20	9,488
1973	396,639	343,485	372,064	64,239	9.57	6,710
1975	84,378	71,417	77,359	15,457	10.37	1,490
1976	159,361	133,208	144,292	31,005	10.80	2,870
1978	1,112,794	905,216	980,533	243,540	11.72	20,776
1979	48,559	38,922	42,160	11,255	12.21	922
1980	45,811	36,152	39,159	11,233	12.72	883
1981	459,112	356,404	386,058	118,965	13.24	8,983
1982	126,906	96,828	104,884	34,713	13.79	2,518
1983	637,075	477,324	517,040	183,743	14.35	12,805
1984	12,357	9,083	9,839	3,753	14.93	251
1985	6,398,911	4,610,420	4,994,024	2,044,778	15.52	131,709
1986	585,015	412,745	447,087	196,430	16.14	12,172
1987	23,832	16,448	17,817	8,398	16.77	501
1988	438,390	295,675	320,276	161,953	17.41	9,303
1989	7,175,283	4,724,098	5,117,160	2,775,651	18.07	153,639
1990	384,532	246,860	267,399	155,586	18.74	8,303
1991	10,690,648	6,684,193	7,240,343	4,519,371	19.42	232,692
1992	1,442,301	877,187	950,172	636,360	20.12	31,629
1993	4,619,529	2,729,352	2,956,444	2,125,038	20.83	102,020
1994	1,045,498	599,256	649,116	500,931	21.55	23,243
1995	1,766,850	981,027	1,062,652	880,883	22.29	39,527
1996	694,195	372,801	403,819	359,795	23.03	15,622
1997	3,980,697	2,064,153	2,235,898	2,142,869	23.79	90,086
1998	1,097,523	548,533	594,173	613,102	24.55	24,970
1999	356,922	171,603	185,881	206,733	25.33	8,161
2000	437,533	201,934	218,736	262,550	26.12	10,052
2001	262,245	115,920	125,565	162,905	26.92	6,052
2002	32,408	13,686	14,824	20,825	27.72	751
2003	52,561	21,146	22,906	34,912	28.54	1,223
2004	5,135	1,962	2,125	3,523	29.37	120
2005	120,336	43,526	47,147	85,222	30.20	2,822
2006	6,134,326	2,092,261	2,266,345	4,481,413	31.05	144,343
2007	165,149	52,887	57,287	124,376	31.90	3,899
2008	2,022,149	605,031	655,372	1,568,992	32.76	47,894

Account 452.00 - Underground Storage - Structures and Improvements  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-2.5  
 ASL: 45  
 Net Salvage: -10%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2009	1,127,928	313,534	339,621	901,099	33.63	26,796
2010	3,231,053	828,958	897,930	2,656,228	34.50	76,982
2011	2,648,624	622,341	674,122	2,239,365	35.39	63,281
2012	3,093,660	659,583	714,463	2,688,563	36.28	74,110
2013	448,472	85,783	92,921	400,398	37.17	10,771
2014	2,896,332	490,049	530,823	2,655,142	38.08	69,728
2015	860,535	126,469	136,992	809,597	38.99	20,765
2016	15,595,268	1,943,064	2,104,735	15,050,060	39.90	377,166
2017	7,302,385	745,476	807,503	7,225,121	40.82	176,983
2018	2,833,243	225,110	243,839	2,872,728	41.75	68,808
2019	953,462	54,060	58,558	990,250	42.68	23,201
2020	497,356	16,826	18,226	528,866	43.62	12,126
2021	3,400,859	36,922	39,994	3,700,950	44.56	83,063

<b>Total</b>	104,433,820	43,526,468	47,148,032	67,729,170		2,279,652
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<b>Composite Annual Accrual Rate</b>	2.18%
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<b>Life Portion of the Composite Rate</b>	1.98%
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Account 456.00 - Underground Storage - Compressor Equipment  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-4  
 ASL: 44  
 Net Salvage: -6%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1964	3,122,735	3,120,002	3,391,114	-	2.53	-
1969	39,587	38,310	41,638	324	3.83	85
1971	1,966,168	1,875,960	2,038,971	45,167	4.40	10,277
1973	3,059,500	2,873,919	3,123,646	119,424	5.01	23,845
1975	3,560,744	3,285,612	3,571,114	203,275	5.70	35,675
1976	869,820	794,588	863,633	58,376	6.08	9,600
1980	534,003	463,844	504,149	61,894	7.94	7,791
1981	3,857,456	3,298,836	3,585,487	503,417	8.50	59,213
1982	21,553,978	18,124,905	19,699,860	3,147,356	9.09	346,076
1983	35,604	29,405	31,960	5,780	9.72	595
1984	36,826	29,838	32,431	6,605	10.37	637
1985	3,035,927	2,410,856	2,620,346	597,737	11.04	54,158
1986	174,742	135,878	147,685	37,542	11.72	3,203
1987	191,541	145,706	158,367	44,666	12.42	3,595
1988	13,449,779	9,998,993	10,867,851	3,388,915	13.14	257,897
1989	1,154,800	838,107	910,934	313,154	13.87	22,571
1990	20,655,615	14,617,482	15,887,662	6,007,290	14.62	410,761
1991	3,067,806	2,114,264	2,297,982	953,892	15.39	61,971
1992	33,864,526	22,698,206	24,670,557	11,225,841	16.18	693,909
1993	2,473,866	1,610,343	1,750,273	872,026	16.98	51,357
1994	1,776,508	1,121,360	1,218,800	664,298	17.80	37,323
1995	10,667,840	6,519,108	7,085,583	4,222,327	18.63	226,597
1996	45,381,028	26,802,284	29,131,257	18,972,633	19.48	973,740
1997	11,640,151	6,631,995	7,208,279	5,130,282	20.35	252,103
1998	1,391,664	763,406	829,742	645,423	21.23	30,402
1999	4,654,045	2,452,865	2,666,005	2,267,283	22.12	102,486
2000	4,988,117	2,520,109	2,739,093	2,548,312	23.03	110,659
2001	1,393,426	673,203	731,700	745,331	23.95	31,126
2002	2,321,926	1,069,892	1,162,860	1,298,381	24.87	52,200
2003	3,794,425	1,662,701	1,807,180	2,214,911	25.81	85,814
2004	2,422,472	1,006,301	1,093,743	1,474,077	26.76	55,092
2005	2,936,059	1,152,171	1,252,288	1,859,934	27.71	67,119
2006	43,213,036	15,957,320	17,343,924	28,461,894	28.67	992,680
2007	2,368,670	819,495	890,705	1,620,086	29.64	54,661
2008	5,267,235	1,698,917	1,846,544	3,736,726	30.61	122,070
2009	8,230,266	2,460,877	2,674,713	6,049,368	31.59	191,505
2010	18,963,279	5,221,823	5,675,571	14,425,505	32.57	442,911
2011	22,734,384	5,720,964	6,218,084	17,880,363	33.55	532,877
2012	742,895	169,270	183,979	603,490	34.54	17,471
2013	3,838,999	783,162	851,214	3,218,124	35.53	90,570
2014	8,802,464	1,585,342	1,723,100	7,607,512	36.52	208,288
2015	15,532,045	2,425,518	2,636,282	13,827,685	37.52	368,563
2016	71,203,158	9,412,294	10,230,171	65,245,177	38.51	1,694,112
2017	189,165,294	20,465,743	22,244,105	178,271,106	39.51	4,512,152

Account 456.00 - Underground Storage - Compressor Equipment  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-4  
 ASL: 44  
 Net Salvage: -6%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2018	13,369,324	1,125,281	1,223,062	12,948,422	40.51	319,665
2019	4,246,797	255,365	277,554	4,224,050	41.50	101,775
2020	12,480,936	450,313	489,443	12,740,349	42.50	299,756
2021	52,097,291	626,144	680,553	54,542,576	43.50	1,253,820
<b>Total</b>	682,328,757	210,058,271	228,311,192	495,038,304		15,280,752
<b>Composite Annual Accrual Rate</b>						2.24%
<b>Life Portion of the Composite Rate</b>						2.11%



Account 457.00 - Underground Storage - Measuring and Regulating Equipment  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ASL Remaining Life  
 Survivor Curve: R-2.5

ASL: 40

Net Salvage: -14%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1915	130,385	132,599	184,192	-	4.32	-
1919	523,964	519,293	721,346	-	5.23	-
1923	29,834	28,726	39,903	-	6.22	-
1925	1,199,914	1,136,573	1,578,805	-	6.76	-
1975	332,094	308,865	429,043	-	7.37	-
1978	2,395,076	2,157,137	2,996,463	-	8.40	-
1979	10,902	9,700	13,475	-	8.78	-
1984	99,162	81,901	113,768	-	11.02	-
1987	944,986	737,367	1,024,271	53,013	12.62	4,200
1988	1,869,447	1,428,130	1,983,804	147,366	13.20	11,168
1989	980,805	732,686	1,017,769	100,348	13.79	7,278
1990	3,532,968	2,577,650	3,580,594	446,990	14.40	31,041
1991	7,023,272	4,998,268	6,943,056	1,063,475	15.03	70,761
1944	3,495,882	2,423,581	3,366,577	618,728	15.67	39,473
1993	2,347,659	1,583,273	2,199,312	477,020	16.34	29,199
1994	446,474	292,487	406,291	102,689	17.01	6,036
1995	605,067	384,449	534,035	155,741	17.71	8,796
1996	401,254	246,874	342,931	114,499	18.41	6,219
1949	2,735,780	1,627,079	2,260,163	858,626	19.13	44,879
1999	3,202,846	1,769,866	2,458,508	1,192,737	20.61	57,869
2000	10,904,216	5,789,937	8,042,758	4,388,049	21.37	205,346
2001	4,193,144	2,134,427	2,964,917	1,815,267	22.14	81,993
2002	1,073,801	522,662	726,026	498,107	22.92	21,731
2003	595,307	276,299	383,805	294,846	23.71	12,433
2005	871,579	364,290	506,033	487,567	25.33	19,245
2006	1,664,981	656,725	912,252	985,826	26.16	37,684
2007	142,652	52,869	73,440	89,183	27.00	3,304
2008	196,488	68,086	94,578	129,418	27.84	4,648
2009	1,520,179	489,724	680,272	1,052,732	28.70	36,685
2010	1,655,695	492,609	684,279	1,203,213	29.56	40,703
2011	992,691	270,658	375,969	755,699	30.43	24,831
2012	6,657,165	1,647,918	2,289,110	5,300,058	31.31	169,253
2013	596,504	132,545	184,118	495,896	32.20	15,399
2014	845,387	166,247	230,932	732,809	33.10	22,139
2015	270,245	46,183	64,153	243,926	34.00	7,174
2016	3,130,628	453,765	630,322	2,938,595	34.91	84,166
2017	2,697,412	320,479	445,175	2,629,874	35.83	73,396
2018	598,241	55,339	76,871	605,123	36.75	16,464
2019	1,993,547	131,643	182,865	2,089,778	37.68	55,457
2020	331,510	13,066	18,150	359,772	38.62	9,316
2021	3,954,990	50,032	69,499	4,439,190	39.56	112,225

<b>Total</b>	77,194,133	37,312,008	51,829,827	36,866,162		1,370,512
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Account 457.00 - Underground Storage - Measuring and Regulating Equipment  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-2.5  
 ASL: 40  
 Net Salvage: -14%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)

**Composite Annual Accrual Rate** 1.78%

**Life Portion of the Composite Rate** 1.56%

Account 465.00 - Transmission Plant - Mains

ASL Remaining Life

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

Survivor Curve: R-4

BASED ON ORIGINAL COST AS OF December 31, 2021

ASL: 70

Net Salvage: -12%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1900	505	565	788	-	1.00	-
1910	13,248	14,838	20,680	-	1.00	-
1921	33,734	36,847	51,353	-	1.73	-
1926	7,919	8,513	11,865	-	2.81	-
1927	69,979	74,972	104,489	-	3.04	-
1928	40,174	42,887	59,771	-	3.28	-
1930	61,571	65,245	90,932	-	3.77	-
1931	156,075	164,760	229,625	-	4.02	-
1935	125	130	181	-	5.06	-
1936	751,730	777,849	1,084,085	-	5.33	-
1937	408,312	420,732	586,373	-	5.60	-
1938	150,741	154,665	215,555	-	5.87	-
1939	139,371	142,378	198,431	-	6.15	-
1940	166,121	168,949	235,463	-	6.44	-
1941	259,664	262,876	366,368	-	6.73	-
1942	231,276	233,032	324,776	-	7.03	-
1943	63,399	63,569	88,596	-	7.33	-
1945	67,401	66,883	93,215	-	7.98	-
1946	307,753	303,701	423,266	-	8.32	-
1947	639,933	627,843	875,021	-	8.68	-
1948	1,858	1,812	2,526	-	9.06	-
1950	49,995	48,108	67,048	-	9.86	-
1951	1,184,150	1,131,273	1,576,649	-	10.29	-
1952	11,672	11,066	15,423	-	10.74	-
1953	1,068,946	1,005,300	1,401,081	-	11.22	-
1954	167,993	156,647	218,317	-	11.72	-
1955	670,889	619,960	864,034	-	12.24	-
1956	121,387	111,110	154,853	-	12.79	-
1957	17,289,438	15,668,062	21,836,494	-	13.36	-
1958	19,410,276	17,406,337	24,259,119	-	13.95	-
1959	3,170,065	2,811,762	3,918,738	-	14.56	-
1960	973,649	853,788	1,189,920	-	15.19	-
1961	842,536	730,109	1,017,550	-	15.84	-
1962	2,095,941	1,794,141	2,500,485	-	16.50	-
1963	907,328	766,933	1,068,870	-	17.17	-
1964	10,668,880	8,901,686	12,406,232	-	17.85	-
1965	5,558,167	4,576,047	6,377,612	-	18.54	-
1966	6,082,508	4,939,538	6,884,208	-	19.24	-
1967	9,103,642	7,289,444	10,159,259	36,820	19.96	1,845
1968	3,358,226	2,650,250	3,693,639	67,574	20.68	3,268
1969	1,939,473	1,507,898	2,101,549	70,661	21.41	3,301
1970	6,615,569	5,064,908	7,058,935	350,502	22.15	15,824
1971	9,268,739	6,984,535	9,734,310	646,679	22.90	28,236
1972	12,962,889	9,609,897	13,393,263	1,125,173	23.67	47,543

Account 465.00 - Transmission Plant - Mains

ASL Remaining Life

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

Survivor Curve: R-4

BASED ON ORIGINAL COST AS OF December 31, 2021

ASL: 70

Net Salvage: -12%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1973	2,587,293	1,885,998	2,628,506	269,262	24.44	11,017
1974	4,701,695	3,368,206	4,694,251	571,648	25.23	22,661
1975	26,894,698	18,924,293	26,374,686	3,747,376	26.02	144,007
1976	4,453,963	3,076,516	4,287,724	700,714	26.83	26,118
1977	1,105,640	749,250	1,044,226	194,091	27.65	7,021
1978	3,650,138	2,425,234	3,380,036	708,119	28.47	24,869
1979	11,045,642	7,190,952	10,021,991	2,349,129	29.31	80,145
1980	2,363,388	1,506,573	2,099,702	547,292	30.16	18,147
1981	19,253,434	12,009,359	16,737,380	4,826,466	31.02	155,615
1982	31,736,354	19,355,723	26,975,968	8,568,748	31.88	268,766
1983	585,610	348,957	486,340	169,543	32.76	5,176
1984	18,409,411	10,709,574	14,925,876	5,692,664	33.64	169,218
1985	40,319,036	22,879,793	31,887,446	13,269,875	34.53	384,264
1986	10,355,631	5,727,341	7,982,165	3,616,141	35.43	102,055
1987	6,381,187	3,436,526	4,789,469	2,357,461	36.34	64,870
1988	33,840,488	17,729,006	24,708,822	13,192,525	37.26	354,102
1989	64,565,346	32,873,326	45,815,379	26,497,809	38.18	694,055
1990	35,227,934	17,412,918	24,268,291	15,186,995	39.11	388,348
1991	33,945,460	16,271,399	22,677,362	15,341,553	40.04	383,143
1992	69,166,629	32,113,631	44,756,596	32,710,028	40.98	798,163
1993	35,102,014	15,766,470	21,973,645	17,340,610	41.93	413,586
1994	34,556,578	14,995,767	20,899,520	17,803,847	42.88	415,219
1995	30,037,510	12,575,498	17,526,404	16,115,607	43.83	367,653
1996	51,558,774	20,793,726	28,980,105	28,765,722	44.79	642,183
1997	19,704,937	7,643,118	10,652,173	11,417,357	45.76	249,518
1998	34,226,278	12,745,714	17,763,633	20,569,798	46.73	440,228
1999	53,916,470	19,240,519	26,815,409	33,571,038	47.70	703,849
2000	17,677,659	6,032,854	8,407,957	11,391,021	48.67	234,043
2001	46,466,250	15,131,089	21,088,118	30,954,082	49.65	623,474
2002	51,922,239	16,093,839	22,429,898	35,723,010	50.63	705,605
2003	7,521,099	2,213,059	3,084,329	5,339,302	51.61	103,456
2004	4,659,851	1,297,763	1,808,686	3,410,347	52.59	64,843
2005	11,997,471	3,151,975	4,392,891	9,044,276	53.58	168,799
2006	125,125,576	30,895,177	43,058,444	97,082,201	54.57	1,779,108
2007	80,961,604	18,708,761	26,074,300	64,602,696	55.56	1,162,810
2008	11,216,024	2,414,005	3,364,386	9,197,560	56.55	162,650
2009	45,004,706	8,971,911	12,504,105	37,901,166	57.54	658,689
2010	8,923,405	1,637,126	2,281,653	7,712,561	58.53	131,763
2011	15,874,783	2,659,948	3,707,156	14,072,601	59.53	236,405
2012	41,321,828	6,265,979	8,732,862	37,547,586	60.52	620,390
2013	69,144,443	9,383,387	13,077,576	64,364,200	61.52	1,046,261
2014	41,414,561	4,960,026	6,912,762	39,471,546	62.51	631,397
2015	156,789,682	16,277,051	22,685,239	152,919,204	63.51	2,407,737
2016	671,012,316	58,952,522	82,161,815	669,371,978	64.51	10,376,413

Account 465.00 - Transmission Plant - Mains  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-4  
 ASL: 70  
 Net Salvage: -12%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2017	200,758,114	14,432,694	20,114,768	204,734,320	65.51	3,125,390
2018	15,795,859	883,306	1,231,059	16,460,303	66.50	247,505
2019	99,159,853	3,960,875	5,520,251	105,538,785	67.50	1,563,457
2020	73,822,445	1,769,113	2,465,603	80,215,535	68.50	1,170,992
2021	189,897,248	1,515,569	2,112,240	210,572,678	69.50	3,029,771
<b>Total</b>	2,783,251,797	659,635,261	919,330,147	2,206,025,788		37,684,969
<b>Composite Annual Accrual Rate</b>						1.35%
<b>Life Portion of the Composite Rate</b>						1.21%

Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

ASL Remaining Life  
 Survivor Curve: R-3

ASL: 61

Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1894	31	44	40	4	1.00	4
1900	24	34	31	3	1.00	3
1901	882	1,253	1,129	123	1.00	123
1904	475	675	609	66	1.00	66
1905	2,239	3,180	2,867	313	1.00	313
1909	2,557	3,631	3,274	357	1.00	357
1910	11,961	16,984	15,314	1,670	1.00	1,670
1911	49	69	63	7	1.00	7
1912	296	420	379	41	1.00	41
1914	18,552	26,343	23,753	2,590	1.00	2,590
1915	10	15	13	1	1.00	1
1917	21	29	26	3	1.00	3
1918	5,722	8,126	7,327	799	1.00	799
1919	2,272	3,227	2,910	317	1.00	317
1920	2,640	3,687	3,325	424	1.00	424
1921	4,779	6,660	6,006	780	1.13	693
1924	3,721	5,132	4,627	656	1.75	375
1925	229,890	315,863	284,809	41,635	1.98	21,059
1926	5,926	8,109	7,312	1,102	2.21	499
1927	265,633	362,058	326,462	50,736	2.45	20,721
1928	208,697	283,277	255,427	40,923	2.69	15,208
1929	11,694	15,806	14,252	2,353	2.94	801
1930	32,005	43,073	38,838	6,608	3.19	2,074
1931	299,588	401,442	361,974	63,440	3.44	18,456
1932	807	1,077	971	175	3.69	47
1933	4,300	5,712	5,150	957	3.95	242
1934	4,520	5,976	5,389	1,030	4.20	245
1935	37,494	49,349	44,497	8,744	4.46	1,961
1936	49,203	64,467	58,129	11,740	4.72	2,489
1937	98,402	128,339	115,722	24,009	4.97	4,828
1938	49,374	64,100	57,798	12,313	5.23	2,354
1939	118,259	152,822	137,798	30,130	5.49	5,491
1940	46,288	59,539	53,685	12,044	5.74	2,096
1941	92,337	118,214	106,591	24,527	6.00	4,085
1942	3,659	4,662	4,204	992	6.26	158
1943	10,116	12,828	11,566	2,798	6.53	429
1944	10,236	12,916	11,646	2,889	6.80	425
1945	3,440	4,319	3,894	990	7.07	140
1946	76,564	95,629	86,228	22,493	7.35	3,062
1947	4,548	5,650	5,095	1,363	7.63	179
1948	19,057	23,547	21,232	5,829	7.92	736
1949	5,249	6,449	5,815	1,639	8.22	199
1950	33,682	41,137	37,093	10,736	8.53	1,258
1951	187,806	227,966	205,554	61,131	8.86	6,903

Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-3  
 ASL: 61  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1952	96,015	115,801	104,416	31,925	9.19	3,474
1953	340,239	407,617	367,542	115,597	9.54	12,123
1954	294,801	350,720	316,239	102,378	9.89	10,348
1955	438,971	518,434	467,464	155,874	10.27	15,184
1956	1,541,822	1,807,064	1,629,402	559,985	10.65	52,570
1957	10,729,456	12,475,171	11,248,675	3,987,153	11.05	360,734
1958	30,571,577	35,249,873	31,784,283	11,627,356	11.47	1,013,849
1959	36,689,475	41,936,019	37,813,081	14,285,973	11.90	1,200,567
1960	14,236,455	16,124,362	14,539,096	5,676,670	12.35	459,813
1961	16,558,260	18,576,058	16,749,754	6,762,975	12.81	528,052
1962	22,326,935	24,799,554	22,361,387	9,342,861	13.28	703,272
1963	17,939,645	19,720,456	17,781,640	7,692,655	13.78	558,330
1964	10,809,824	11,754,862	10,599,184	4,750,766	14.29	332,530
1965	11,552,780	12,421,783	11,200,536	5,204,412	14.81	351,389
1966	13,155,955	13,980,296	12,605,824	6,075,632	15.35	395,792
1967	21,089,711	22,138,833	19,962,255	9,985,134	15.91	627,787
1968	16,570,366	17,174,952	15,486,397	8,043,523	16.47	488,229
1969	19,069,385	19,505,819	17,588,105	9,490,422	17.06	556,326
1970	18,144,679	18,307,172	16,507,303	9,258,141	17.66	524,316
1971	19,088,686	18,987,527	17,120,769	9,985,166	18.27	546,536
1972	18,547,822	18,179,288	16,391,992	9,945,916	18.90	526,356
1973	20,175,254	19,474,254	17,559,644	11,089,217	19.53	567,663
1974	19,756,391	18,770,177	16,924,788	11,129,287	20.19	551,319
1975	13,208,701	12,345,116	11,131,406	7,624,949	20.85	365,690
1976	16,540,072	15,198,333	13,704,110	9,782,792	21.53	454,443
1977	16,981,104	15,331,704	13,824,369	10,288,799	22.21	463,151
1978	14,997,559	13,296,766	11,989,495	9,307,038	22.91	406,175
1979	16,758,008	14,580,605	13,147,114	10,649,258	23.62	450,784
1980	14,731,888	12,570,627	11,334,746	9,584,535	24.34	393,705
1981	14,323,398	11,978,366	10,800,714	9,538,512	25.08	380,395
1982	13,332,729	10,919,934	9,846,341	9,086,133	25.82	351,954
1983	21,426,118	17,174,265	15,485,778	14,939,310	26.57	562,328
1984	19,519,604	15,300,652	13,796,369	13,921,468	27.33	509,438
1985	14,617,326	11,196,102	10,095,357	10,661,245	28.10	379,449
1986	14,706,594	10,997,910	9,916,651	10,966,712	28.88	379,796
1987	31,059,638	22,657,639	20,430,054	23,674,631	29.66	798,124
1988	19,343,553	13,752,315	12,400,257	15,067,589	30.46	494,682
1989	39,248,495	27,168,331	24,497,278	31,235,585	31.26	999,089
1990	40,677,357	27,387,223	24,694,650	33,067,197	32.08	1,030,855
1991	74,523,446	48,749,683	43,956,860	61,866,434	32.90	1,880,491
1992	27,487,892	17,450,293	15,734,668	23,298,138	33.73	690,747
1993	26,003,960	16,001,088	14,427,942	22,497,681	34.57	650,849
1994	43,932,383	26,168,198	23,595,473	38,788,512	35.41	1,095,339
1995	39,499,790	22,743,278	20,507,273	35,582,429	36.27	981,159

Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-3  
 ASL: 61  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1996	36,452,531	20,258,193	18,266,510	33,496,083	37.13	902,213
1997	26,797,861	14,351,043	12,940,121	25,112,841	37.99	660,954
1998	35,597,604	18,338,078	16,535,171	34,013,427	38.87	875,048
1999	43,830,609	21,678,848	19,547,494	42,691,972	39.75	1,073,934
2000	34,427,769	16,315,379	14,711,334	34,176,098	40.64	840,901
2001	42,096,542	19,071,554	17,196,535	42,580,554	41.54	1,025,092
2002	44,496,199	19,223,888	17,333,892	45,850,710	42.44	1,080,346
2003	20,542,915	8,440,673	7,610,829	21,560,111	43.35	497,355
2004	25,714,396	10,017,945	9,033,031	27,481,411	44.26	620,848
2005	40,386,777	14,868,584	13,406,780	43,942,444	45.18	972,503
2006	54,401,892	18,855,384	17,001,618	60,249,068	46.11	1,306,607
2007	86,472,776	28,095,785	25,333,549	97,457,793	47.04	2,071,691
2008	50,243,100	15,228,907	13,731,678	57,613,525	47.98	1,200,799
2009	46,101,814	12,963,187	11,688,712	53,775,863	48.92	1,099,242
2010	28,606,114	7,413,543	6,684,681	33,936,001	49.87	680,529
2011	56,729,297	13,446,547	12,124,551	68,431,051	50.82	1,346,598
2012	29,117,111	6,254,458	5,639,551	35,706,747	51.77	689,685
2013	78,911,057	15,189,223	13,695,896	98,357,805	52.73	1,865,265
2014	147,219,904	25,039,310	22,577,571	186,474,692	53.69	3,472,934
2015	68,235,902	10,071,335	9,081,172	87,813,808	54.66	1,606,557
2016	458,760,681	57,361,193	51,721,730	599,718,437	55.63	10,780,724
2017	109,428,743	11,205,939	10,104,228	145,284,588	56.60	2,566,822
2018	196,754,404	15,682,792	14,140,939	265,250,315	57.58	4,606,964
2019	141,819,539	8,076,675	7,282,617	194,101,128	58.55	3,314,934
2020	178,851,790	6,105,538	5,505,272	248,464,269	59.53	4,173,518
2021	363,811,882	4,101,285	3,698,067	512,914,806	60.52	8,475,727

<b>Total</b>	3,320,418,328	1,165,993,639	1,051,359,031	3,663,634,995		82,036,927
<b>Composite Annual Accrual Rate</b>						2.47%
<b>Life Portion of the Composite Rate</b>						1.74%



Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-3  
 ASL: 70  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1894	31	44	45	-	1.00	-
1900	24	34	35	-	1.00	-
1901	882	1,253	1,270	-	1.00	-
1904	475	665	674	1	1.00	1
1905	2,239	3,134	3,177	3	1.00	3
1909	2,557	3,538	3,586	45	1.80	25
1910	11,961	16,492	16,717	267	2.03	132
1911	49	67	68	1	2.26	1
1912	296	405	411	9	2.49	4
1914	18,552	25,223	25,567	777	2.98	261
1915	10	14	14	0	3.22	0
1917	21	28	28	1	3.72	0
1918	5,722	7,664	7,769	357	3.97	90
1919	2,272	3,032	3,073	154	4.23	36
1920	2,640	3,509	3,556	192	4.48	43
1921	4,779	6,326	6,412	374	4.74	79
1924	3,721	4,867	4,933	350	5.51	63
1925	229,890	299,540	303,615	22,829	5.77	3,957
1926	5,926	7,690	7,795	620	6.03	103
1927	265,633	343,339	348,010	29,188	6.28	4,645
1928	208,697	268,655	272,310	24,039	6.54	3,675
1929	11,694	14,992	15,196	1,409	6.80	207
1930	32,005	40,862	41,418	4,029	7.06	571
1931	299,588	380,902	386,085	39,330	7.32	5,370
1932	807	1,022	1,036	110	7.59	15
1933	4,300	5,421	5,495	612	7.86	78
1934	4,520	5,672	5,750	669	8.13	82
1935	37,494	46,842	47,479	5,762	8.41	685
1936	49,203	61,186	62,018	7,850	8.70	902
1937	98,402	121,783	123,440	16,291	8.99	1,812
1938	49,374	60,804	61,632	8,479	9.29	913
1939	118,259	144,898	146,869	21,059	9.60	2,194
1940	46,288	56,417	57,184	8,545	9.92	862
1941	92,337	111,929	113,451	17,667	10.24	1,724
1942	3,659	4,410	4,470	725	10.58	69
1943	10,116	12,122	12,287	2,078	10.93	190
1944	10,236	12,190	12,356	2,179	11.29	193
1945	3,440	4,071	4,126	758	11.66	65
1946	76,564	90,010	91,235	17,485	12.05	1,451
1947	4,548	5,310	5,382	1,076	12.44	86
1948	19,057	22,093	22,393	4,668	12.85	363
1949	5,249	6,040	6,122	1,331	13.27	100
1950	33,682	38,461	38,984	8,845	13.71	645
1951	187,806	212,738	215,633	51,052	14.16	3,605

Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-3  
 ASL: 70  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1952	96,015	107,859	109,327	27,014	14.62	1,847
1953	340,239	378,924	384,079	99,060	15.10	6,561
1954	294,801	325,388	329,816	88,802	15.59	5,696
1955	438,971	480,031	486,562	136,777	16.09	8,499
1956	1,541,822	1,669,858	1,692,577	496,809	16.61	29,909
1957	10,729,456	11,504,926	11,661,461	3,574,367	17.14	208,523
1958	30,571,577	32,443,712	32,885,139	10,526,501	17.69	595,206
1959	36,689,475	38,521,531	39,045,652	13,053,402	18.24	715,542
1960	14,236,455	14,782,678	14,983,810	5,231,955	18.81	278,105
1961	16,558,260	16,997,780	17,229,051	6,283,678	19.40	323,972
1962	22,326,935	22,649,936	22,958,109	8,746,139	19.99	437,502
1963	17,939,645	17,978,076	18,222,684	7,251,611	20.60	352,044
1964	10,809,824	10,697,139	10,842,683	4,507,267	21.22	212,426
1965	11,552,780	11,284,442	11,437,978	4,966,970	21.85	227,329
1966	13,155,955	12,678,920	12,851,428	5,830,028	22.49	259,208
1967	21,089,711	20,045,407	20,318,144	9,629,245	23.15	416,036
1968	16,570,366	15,526,556	15,737,809	7,792,111	23.81	327,269
1969	19,069,385	17,607,137	17,846,698	9,231,828	24.48	377,052
1970	18,144,679	16,501,229	16,725,743	9,039,701	25.17	359,158
1971	19,088,686	17,090,670	17,323,204	9,782,731	25.86	378,237
1972	18,547,822	16,341,349	16,563,688	9,774,220	26.57	367,887
1973	20,175,254	17,483,007	17,720,879	10,927,981	27.28	400,551
1974	19,756,391	16,830,261	17,059,253	10,994,822	28.01	392,596
1975	13,208,701	11,056,221	11,206,651	7,549,704	28.74	262,713
1976	16,540,072	13,596,188	13,781,177	9,705,725	29.48	329,252
1977	16,981,104	13,700,632	13,887,042	10,226,126	30.23	338,307
1978	14,997,559	11,869,792	12,031,292	9,265,242	30.98	299,024
1979	16,758,008	13,002,778	13,179,693	10,616,678	31.75	334,376
1980	14,731,888	11,199,440	11,351,819	9,567,462	32.52	294,162
1981	14,323,398	10,661,781	10,806,844	9,532,382	33.31	286,205
1982	13,332,729	9,710,861	9,842,986	9,089,488	34.10	266,589
1983	21,426,118	15,259,247	15,466,863	14,958,225	34.89	428,694
1984	19,519,604	13,582,910	13,767,719	13,950,119	35.70	390,792
1985	14,617,326	9,930,874	10,065,993	10,690,610	36.51	292,822
1986	14,706,594	9,747,149	9,879,768	11,003,595	37.33	294,781
1987	31,059,638	20,064,916	20,337,918	23,766,767	38.15	622,912
1988	19,343,553	12,169,191	12,334,764	15,133,081	38.99	388,151
1989	39,248,495	24,022,581	24,349,430	31,383,433	39.83	787,977
1990	40,677,357	24,198,185	24,527,424	33,234,423	40.67	817,075
1991	74,523,446	43,041,938	43,627,564	62,195,730	41.53	1,497,660
1992	27,487,892	15,396,254	15,605,734	23,427,072	42.39	552,670
1993	26,003,960	14,107,864	14,299,814	22,625,809	43.26	523,071
1994	43,932,383	23,056,431	23,370,136	39,013,849	44.13	884,091
1995	39,499,790	20,025,583	20,298,050	35,791,652	45.01	795,228

Account 475.21 - Distribution - Mains - Coated & Wrapped  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-3  
 ASL: 70  
 Net Salvage: -42%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1996	36,452,531	17,826,009	18,068,548	33,694,045	45.89	734,181
1997	26,797,861	12,620,188	12,791,898	25,261,065	46.78	539,944
1998	35,597,604	16,116,584	16,335,865	34,212,733	47.68	717,524
1999	43,830,609	19,041,464	19,300,541	42,938,925	48.58	883,803
2000	34,427,769	14,322,360	14,517,229	34,370,203	49.49	694,455
2001	42,096,542	16,732,672	16,960,336	42,816,753	50.41	849,442
2002	44,496,199	16,857,418	17,086,779	46,097,823	51.32	898,168
2003	20,542,915	7,397,866	7,498,521	21,672,418	52.25	414,801
2004	25,714,396	8,776,002	8,895,408	27,619,034	53.18	519,389
2005	40,386,777	13,019,239	13,196,378	44,152,845	54.11	816,001
2006	54,401,892	16,502,839	16,727,376	60,523,310	55.05	1,099,502
2007	86,472,776	24,579,960	24,914,393	97,876,949	55.99	1,748,189
2008	50,243,100	13,317,873	13,499,075	57,846,127	56.93	1,016,034
2009	46,101,814	11,332,182	11,486,367	53,978,209	57.88	932,544
2010	28,606,114	6,478,472	6,566,618	34,054,064	58.84	578,797
2011	56,729,297	11,746,592	11,906,415	68,649,186	59.79	1,148,121
2012	29,117,111	5,462,033	5,536,349	35,809,949	60.75	589,438
2013	78,911,057	13,260,896	13,441,323	98,612,377	61.72	1,597,844
2014	147,219,904	21,854,517	22,151,868	186,900,395	62.68	2,981,717
2015	68,235,902	8,788,124	8,907,695	87,987,286	63.65	1,382,335
2016	458,760,681	50,041,013	50,721,867	600,718,300	64.62	9,295,752
2017	109,428,743	9,773,795	9,906,777	145,482,039	65.60	2,217,813
2018	196,754,404	13,675,825	13,861,898	265,529,356	66.57	3,988,509
2019	141,819,539	7,041,838	7,137,649	194,246,096	67.55	2,875,492
2020	178,851,790	5,322,422	5,394,839	248,574,703	68.53	3,627,080
2021	363,811,882	3,574,822	3,623,461	512,989,412	69.52	7,379,484

<b>Total</b>	3,320,418,328	1,037,246,334	1,051,359,031	3,663,635,014		66,929,365
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<b>Composite Annual Accrual Rate</b>		2.02%
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<b>Life Portion of the Composite Rate</b>		1.42%
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Account 475.30 - Distribution - Mains - Plastic

ASL Remaining Life

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

Survivor Curve: R-3

BASED ON ORIGINAL COST AS OF December 31, 2021

ASL: 65

Net Salvage: -38%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1958	808	873	769	346	14.09	25
1967	47	46	40	24	19.03	1
1968	156,584	150,765	132,758	83,328	19.65	4,241
1970	9,248	8,655	7,621	5,141	20.92	246
1971	138,390	127,589	112,350	78,628	21.57	3,644
1972	343,888	312,189	274,902	199,664	22.24	8,978
1973	2,440,657	2,180,615	1,920,168	1,447,938	22.92	63,182
1974	4,605,657	4,047,706	3,564,259	2,791,547	23.60	118,263
1975	4,675,574	4,039,845	3,557,337	2,894,956	24.30	119,120
1976	6,423,774	5,453,719	4,802,342	4,062,466	25.01	162,425
1977	8,224,377	6,856,958	6,037,981	5,311,659	25.73	206,440
1978	11,301,974	9,248,124	8,143,553	7,453,171	26.46	281,698
1979	18,397,968	14,766,450	13,002,786	12,386,410	27.20	455,454
1980	34,491,241	27,136,148	23,895,080	23,702,832	27.94	848,265
1981	25,464,109	19,625,306	17,281,312	17,859,158	28.70	622,299
1982	25,607,427	19,319,955	17,012,432	18,325,818	29.46	621,983
1983	25,357,560	18,715,031	16,479,758	18,513,675	30.24	612,286
1984	31,785,627	22,931,546	20,192,664	23,671,501	31.02	763,130
1985	25,074,149	17,668,890	15,558,566	19,043,759	31.81	598,687
1986	25,595,652	17,602,482	15,500,090	19,821,911	32.61	607,891
1987	31,498,976	21,122,940	18,600,073	24,868,513	33.41	744,250
1988	29,513,727	19,281,353	16,978,440	23,750,504	34.23	693,880
1989	43,234,172	27,490,278	24,206,914	35,456,244	35.05	1,011,569
1990	33,573,751	20,756,258	18,277,187	28,054,590	35.88	781,889
1991	44,329,393	26,617,671	23,438,529	37,736,034	36.72	1,027,730
1992	42,316,316	24,650,035	21,705,902	36,690,613	37.56	976,787
1993	45,660,367	25,772,131	22,693,978	40,317,329	38.41	1,049,535
1994	71,406,330	39,001,620	34,343,372	64,197,364	39.27	1,634,622
1995	84,083,523	44,379,823	39,079,217	76,956,044	40.14	1,917,212
1996	80,697,146	41,097,057	36,188,536	75,173,525	41.01	1,832,946
1997	81,189,401	39,831,718	35,074,326	76,967,048	41.89	1,837,277
1998	87,155,126	41,119,041	36,207,894	84,066,180	42.78	1,965,176
1999	88,130,304	39,909,429	35,142,755	86,477,064	43.67	1,980,226
2000	83,554,051	36,243,153	31,914,369	83,390,221	44.57	1,871,043
2001	86,814,042	35,990,059	31,691,504	88,111,874	45.47	1,937,658
2002	70,173,181	27,735,082	24,422,479	72,416,511	46.38	1,561,248
2003	69,467,695	26,105,336	22,987,385	72,878,034	47.30	1,540,772
2004	49,483,657	17,627,527	15,522,143	52,765,303	48.22	1,094,237
2005	71,346,819	24,012,245	21,144,287	77,314,323	49.15	1,573,102
2006	130,542,563	41,352,933	36,413,851	143,734,885	50.08	2,870,144
2007	117,078,848	34,760,238	30,608,569	130,960,241	51.02	2,567,054
2008	100,171,112	27,739,060	24,425,982	113,810,153	51.96	2,190,476
2009	111,486,379	28,634,633	25,214,590	128,636,613	52.90	2,431,590
2010	101,185,682	23,948,915	21,088,521	118,547,720	53.85	2,201,366

Account 475.30 - Distribution - Mains - Plastic  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-3  
 ASL: 65  
 Net Salvage: -38%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2011	79,567,412	17,221,337	15,164,467	94,638,562	54.81	1,726,808
2012	92,279,145	18,096,985	15,935,530	111,409,690	55.76	1,997,919
2013	97,943,602	17,209,672	15,154,195	120,007,976	56.72	2,115,655
2014	94,463,784	14,664,322	12,912,855	117,447,167	57.69	2,035,900
2015	88,837,469	11,966,233	10,537,019	112,058,688	58.66	1,910,454
2016	118,935,840	13,570,084	11,949,310	152,182,149	59.63	2,552,282
2017	134,545,797	12,571,281	11,069,802	174,603,398	60.60	2,881,288
2018	123,856,433	9,006,766	7,931,022	162,990,855	61.57	2,647,038
2019	121,499,903	6,312,288	5,558,365	162,111,501	62.55	2,591,589
2020	143,054,173	4,454,643	3,922,592	193,492,167	63.53	3,045,524
2021	380,935,200	3,916,991	3,449,156	522,241,419	64.52	8,094,799
<b>Total</b>	<b>3,480,106,028</b>	<b>1,054,362,026</b>	<b>928,431,885</b>	<b>3,874,114,434</b>		<b>76,989,298</b>
<b>Composite Annual Accrual Rate</b>						<b>2.21%</b>
<b>Life Portion of the Composite Rate</b>						<b>1.60%</b>

Account 475.30 - Distribution - Mains - Plastic

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1

ASL Remaining Life

Survivor Curve: R-4

ASL: 70

Net Salvage: -38%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1958	808	893	808	307	13.95	22
1967	47	46	42	23	19.96	1
1968	156,584	152,260	137,721	78,366	20.68	3,790
1970	9,248	8,724	7,891	4,871	22.15	220
1971	138,390	128,494	116,224	74,755	22.90	3,264
1972	343,888	314,120	284,124	190,442	23.67	8,047
1973	2,440,657	2,192,116	1,982,785	1,385,322	24.44	56,681
1974	4,605,657	4,065,339	3,677,129	2,678,678	25.23	106,186
1975	4,675,574	4,053,676	3,666,579	2,785,714	26.02	107,051
1976	6,423,774	5,467,187	4,945,110	3,919,698	26.83	146,100
1977	8,224,377	6,867,161	6,211,396	5,138,244	27.65	185,858
1978	11,301,974	9,252,512	8,368,964	7,227,760	28.47	253,841
1979	18,397,968	14,757,959	13,348,680	12,040,516	29.31	410,783
1980	34,491,241	27,090,997	24,504,002	23,093,910	30.16	765,750
1981	25,464,109	19,570,466	17,701,627	17,438,843	31.02	562,262
1982	25,607,427	19,243,293	17,405,696	17,932,553	31.88	562,470
1983	25,357,560	18,617,980	16,840,096	18,153,337	32.76	554,181
1984	31,785,627	22,783,694	20,608,015	23,256,150	33.64	691,304
1985	25,074,149	17,531,909	15,857,738	18,744,588	34.53	542,799
1986	25,595,652	17,442,301	15,776,687	19,545,314	35.43	551,607
1987	31,498,976	20,901,416	18,905,481	24,563,105	36.34	675,902
1988	29,513,727	19,051,664	17,232,366	23,496,577	37.26	630,674
1989	43,234,172	27,122,666	24,532,646	35,130,512	38.18	920,171
1990	33,573,751	20,447,740	18,495,128	27,836,649	39.11	711,813
1991	44,329,393	26,181,592	23,681,438	37,493,125	40.04	936,362
1992	42,316,316	24,208,156	21,896,451	36,500,064	40.98	890,644
1993	45,660,367	25,269,864	22,856,773	40,154,533	41.93	957,716
1994	71,406,330	38,179,982	34,534,068	64,006,668	42.88	1,492,754
1995	84,083,523	43,374,373	39,232,432	76,802,830	43.83	1,752,139
1996	80,697,146	40,100,425	36,271,122	75,090,939	44.79	1,676,374
1997	81,189,401	38,802,161	35,096,833	76,944,541	45.76	1,681,568
1998	87,155,126	39,990,652	36,171,832	84,102,241	46.73	1,799,930
1999	88,130,304	38,750,888	35,050,457	86,569,362	47.70	1,815,009
2000	83,554,051	35,133,924	31,778,887	83,525,703	48.67	1,716,142
2001	86,814,042	34,832,416	31,506,170	88,297,207	49.65	1,778,474
2002	70,173,181	26,800,227	24,240,998	72,597,992	50.63	1,433,964
2003	69,467,695	25,185,797	22,780,734	73,084,686	51.61	1,416,107
2004	49,483,657	16,980,335	15,358,835	52,928,611	52.59	1,006,366
2005	71,346,819	23,095,576	20,890,115	77,568,496	53.58	1,447,714
2006	130,542,563	39,715,296	35,922,770	144,225,966	54.57	2,643,054
2007	117,078,848	33,335,382	30,152,092	131,416,719	55.56	2,365,423
2008	100,171,112	26,564,575	24,027,849	114,208,286	56.55	2,019,661
2009	111,486,379	27,384,821	24,769,767	129,081,435	57.54	2,243,322
2010	101,185,682	22,873,440	20,689,191	118,947,050	58.53	2,032,120

Account 475.30 - Distribution - Mains - Plastic  
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION  
 BASED ON ORIGINAL COST AS OF December 31, 2021

Attachment 5 - N.M1.IGUA-1  
 ASL Remaining Life  
 Survivor Curve: R-4  
 ASL: 70  
 Net Salvage: -38%

Year	Original Cost	Calculated Accrued Depreciation	Allocated Book Reserve	Future Book Accruals	ASL Remaining Life	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2011	79,567,412	16,427,131	14,858,458	94,944,571	59.53	1,594,967
2012	92,279,145	17,241,460	15,595,024	111,750,196	60.52	1,846,421
2013	97,943,602	16,377,193	14,813,289	120,348,882	61.52	1,956,310
2014	94,463,784	13,939,824	12,608,671	117,751,351	62.51	1,883,579
2015	88,837,469	11,363,588	10,278,447	112,317,260	63.51	1,768,453
2016	118,935,840	12,874,955	11,645,489	152,485,970	64.51	2,363,794
2017	134,545,797	11,918,058	10,779,969	174,893,231	65.51	2,669,848
2018	123,856,433	8,533,900	7,718,974	163,202,903	66.50	2,453,995
2019	121,499,903	5,979,878	5,408,842	162,261,023	67.50	2,403,743
2020	143,054,173	4,224,047	3,820,681	193,594,078	68.50	2,826,099
2021	380,935,200	3,746,011	3,388,294	522,302,281	69.50	7,515,012
<b>Total</b>	<b>3,480,106,028</b>	<b>1,026,450,539</b>	<b>928,431,885</b>	<b>3,874,114,434</b>		<b>70,837,840</b>

**Composite Annual Accrual Rate** 2.04%

**Life Portion of the Composite Rate** 1.48%