

**CENTRA GAS MANITOBA INC.**  
**2019/20 GENERAL RATE APPLICATION**

**REGULATORY DEFERRAL ACCOUNTS & ACCOUNTING ESTIMATE UPDATES**

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1 **1.0 OVERVIEW – REGULATORY DEFERRAL ACCOUNTS & ACCOUNTING ESTIMATE**  
2 **UPDATES**

3 Canadian (CGAAP) and International (IFRS) accounting standards permit entities that  
4 are rate regulated to recognize regulatory deferral accounts for financial reporting  
5 purposes. Such accounts represent timing differences between the recognition of  
6 items of income or expense for financial reporting purposes and the recognition of  
7 those same items for regulatory (i.e. rate setting) purposes. As a rate-regulated  
8 entity, Centra recognized regulatory deferral accounts under CGAAP and continues  
9 to recognize regulatory deferral accounts under IFRS in accordance with IFRS  
10 standard, *IFRS 14 Regulatory Deferral Accounts* (IFRS 14).

11  
12 Under CGAAP, regulatory deferred income and expense balances would be deferred  
13 and amortized to income in the respective line item (e.g. depreciation and  
14 amortization expense, operating and administrative expense) for which the deferral  
15 pertained to. Under IFRS, regulatory deferred income and expense items are first  
16 recognized in the respective income or expense line item in which they pertain to  
17 (e.g. ineligible overhead for capitalization is recognized in operating and  
18 administrative expense) and then an adjustment is made in the *Net Movement in*  
19 *Regulatory Balances Account* (Net Movement) to reverse the initial recognition so as  
20 to eliminate the impact on net income. In addition to the reversal, the annual  
21 amortization of regulatory deferral accounts is recognized in the Net Movement  
22 account in accordance with amortization periods endorsed by the PUB. By  
23 recognizing 100% of the net income impact of all regulatory deferrals through the  
24 Net Movement account, the IFRS standard effectively isolates the net income impact  
25 of regulatory deferrals to one account.

26  
27 Centra transitioned from CGAAP to IFRS for its 2015/16 fiscal year and as required  
28 by the accounting standards, retrospectively adjusted its 2014/15 financial  
29 statements for comparative purposes. As part of this application, Centra is  
30 requesting PUB endorsement of the IFRS related accounting changes adopted by  
31 Centra on its transition to IFRS (e.g. overhead ineligible for capitalization) for rate  
32 setting purposes. Until such endorsement is received, Centra is required to establish  
33 regulatory deferral accounts to capture the financial impacts of accounting changes.  
34 IFRS 14 requires that rate regulated entities obtain the endorsement of their

1 regulators as to the timing/amortization period over which regulatory deferrals  
2 should be recognized into net income. Such endorsement provides the audit  
3 evidence required by an entity's external auditor to validate the annual regulatory  
4 deferral and amortization amounts as recorded in the financial statements. In  
5 addition to the IFRS related changes, Centra also made accounting estimate updates  
6 with respect to depreciation rates through a 2014 Depreciation study and new  
7 depreciation accounts, which Centra is requesting the PUB approve for rate setting  
8 purposes as part of this GRA.

## 10 **2.0 REGULATORY DEFERRAL ACCOUNTS**

11 Centra recognized several regulatory deferral accounts prior to its transition to IFRS.  
12 These accounts are amortized to net income on a straight-line basis over periods  
13 endorsed by the PUB for rate setting purposes and include the following:

- 14 • **Demand Side Management (DSM)** - DSM program expenditures represent  
15 the costs incurred for energy conservation programs to encourage  
16 residential, commercial and industrial customers to use energy more  
17 efficiently. The expenditures in this account are amortized to income on a  
18 straight-line basis over a 10 year period.
- 19 • **Regulatory costs** – represent Centra's share of third party expenditures  
20 related to gas regulatory hearings. The expenditures in this account are  
21 amortized to income on a straight-line basis over periods of 1 – 5 years;  
22 depending on the time period between regulatory proceedings.
- 23 • **Site restoration expenditures** – represent expenditures incurred for the  
24 remediation of contaminated corporate facilities. The expenditures in this  
25 account are amortized to income on a straight-line basis over a 15 year  
26 period.
- 27 • **Deferred taxes** – represents the one-time tax liability that was triggered by  
28 the acquisition of the company by Manitoba Hydro. This one-time tax is  
29 amortized to income on a straight-line basis over a 30 year period.
- 30 • **Purchase Gas Variance Account (PGVA)** – represents the deferral accounts  
31 to recover/refund differences between the actual cost of gas, and the cost of  
32 gas incorporated into rates charged to customers as approved by the PUB.  
33 Purchased gas variance accounts are reflected as a regulatory debit or credit  
34 depending on whether the amounts represent a recovery from or a refund to

1 the customers, respectively. Amortization of the PGVA is applied via rate  
2 riders to existing rates. The time period of the amortization may vary  
3 depending on the periods as endorsed by the PUB.  
4

### 5 **3.0 PUB ENDORSEMENTS REQUIRED**

6 In order to comply with the requirements of IFRS 14, Centra is seeking the  
7 endorsement by the PUB for the new regulatory deferral accounts recognized by  
8 Centra subsequent to its 2013/14 GRA, as well as for the proposed amortization  
9 periods for these accounts. In addition, Centra is seeking approval from the PUB for  
10 updated accounting estimates and accounts with respect to depreciation changes  
11 made subsequent to the 2013/14 GRA.  
12

13 Specifically, Centra is seeking endorsement from the PUB for the following:  
14

#### 15 **3.1 Discontinue DSM Deferral Accounts**

16 Effective March 31, 2019, Centra is seeking PUB endorsement to discontinue the  
17 DSM Deferral debit and credit accounts and to write-off the \$8.2 million accrued  
18 balance.  
19

20 In Order 85/13, the PUB directed Centra to establish a deferral account to record the  
21 difference between planned and actual DSM spending in 2013/14. DSM Deferral  
22 Accounts were also established for Manitoba Hydro for 2012/13 and 2013/14 in  
23 accordance with Order 43/13, and for subsequent years in accordance with Order  
24 73/15. More recently in Order 59/18, arising from Manitoba Hydro's 2017/18 &  
25 2018/19 General Rate Application, the PUB directed Manitoba Hydro to discontinue  
26 recognizing a DSM Deferral Account.  
27

28 In accordance with Order 85/13 and to be consistent with the PUB directives  
29 provided to Manitoba Hydro, Centra has recorded annual cumulative differences  
30 between planned and actual natural gas DSM spending as a DSM regulatory  
31 deferred debit and corresponding credit since 2013/14. To date, \$8.2 million has  
32 accrued to the deferral accounts.  
33

1 Consistent with the PUB's direction for Manitoba Hydro in Order 59/18, Centra did  
2 not defer an amount to this account for fiscal 2017/18. CGM18 assumes that the  
3 DSM deferred regulatory asset and corresponding credit will be written-off as of  
4 March 31, 2019. There will be no net income impact of the write-off as the deferred  
5 debit and credit accounts will completely offset each other.

### 6 **3.2 Defer and Amortize Ineligible Overhead Charges**

7 Centra is seeking PUB endorsement of a regulatory deferral account to record the  
8 annual \$0.7 million of ineligible overhead costs effective April 1, 2014 and to  
9 amortize the cumulative deferred balance for rate setting purposes over a period of  
10 34 years (consistent with the PUB approved period for Manitoba Hydro per Order  
11 59/18) effective April 1, 2017.

12  
13 In Order 73/15 from Manitoba Hydro's 2014/15 & 2015/16 General Rate  
14 Application, the PUB directed Manitoba Hydro to continue to defer \$20 million in  
15 annual overhead costs ineligible for capitalization under IFRS. The \$20 million  
16 represented the increase in ineligible overheads from the amount reviewed at the  
17 2012/13 & 2013/14 GRA. Manitoba Hydro has recorded this amount annually as a  
18 regulatory deferral balance. More recently in Order 59/18, the PUB directed  
19 Manitoba Hydro to amortize the balance in this deferral account over a period of 34  
20 years.

21  
22 To be consistent with Manitoba Hydro, Centra has applied the PUB's findings with  
23 respect to ineligible overhead to the natural gas operations for rate-setting  
24 purposes. The retrospective application of IFRS to its 2014/15 fiscal year identified  
25 an additional \$0.7 million of overhead ineligible for capitalization compared to the  
26 \$7 million communicated previously by Centra to the PUB in its 2013/14 GRA (Order  
27 85/13, page 15). Centra has annually deferred \$0.7 million of ineligible overhead  
28 costs as a regulatory deferral balance since its 2014/15 fiscal year. Centra  
29 commenced amortizing this balance for rate setting purposes over a 34 year period  
30 starting in 2017/18. CGM18 assumes that annual ineligible overhead costs of \$0.7  
31 million will continue to be deferred over the forecast period as a regulatory deferral  
32 balance and amortized over a 34 year period.

1 The actual and forecasted annual impacts of the deferral of ineligible overhead rate  
2 setting purposes are as follows:

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**Figure 1: Impact of Deferring and Amortizing Ineligible Overhead**

<b>Impact of Deferring Ineligible Overhead on Operating &amp; Administrative Expense</b>						
(\$000'S)	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
	Actual	Actual	Actual	Actual	Forecast	Test Year
Annual Increase (Decrease)	(700)	(700)	(700)	(700)	(700)	(700)
Amortization	-	-	-	72	93	113
Cumulative Deferral Balance	(700)	(1 400)	(2 100)	(2 728)	(3 335)	(3 922)

\* CGM18 assumes that the PUB will endorse the continued deferral of ineligible overhead and assumes that the 34 year amortizaion period for rate setting purposes commences in fiscal 2017/18.

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**3.3 2014 Depreciation Study**

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Effective 2019/20, Centra is requesting PUB approval to commence using the updated CGAAP ASL (excluding negative salvage) depreciation rates and new depreciation accounts for rate setting purposes as determined during and subsequent to the 2014 Depreciation Study.

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In consideration of Centra’s transition to IFRS, a depreciation study was conducted in fiscal 2014/15 for asset balances as of March 31, 2014. Consistent with the 2010 Depreciation Study, Gannett Fleming Inc. was engaged to perform the study and recommend changes, where necessary, to the CGAAP ASL depreciation rates. Based on the results of the study, changes were proposed to the estimated service lives for certain assets resulting in a change to the depreciation rates; primarily as it pertained to distribution assets.

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The more significant recommended changes to the CGAAP ASL depreciation rates were as follows:

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- **Services:** Decrease in the CGAAP ASL depreciation rate from 1.63% to 1.36% due to an extension in the average service life from 55 to 62 years.
- **Meters:** Increase in the CGAAP ASL depreciation rate from 4.15% to 4.86% to reflect a decrease in the expected service life of one year.

- 1 • **Distribution Mains:** Decrease in the CGAAP ASL depreciation rate from 1.42%  
2 to 1.33% due to an extension in average service life from 65 to 68 years.

3  
4 Overall, the impact of the 2014 Depreciation Study resulted in an annual reduction  
5 in depreciation expense of approximately \$1.0 million which has been recorded in a  
6 regulatory deferral account.

7  
8 In addition to the changes in depreciation rates, Centra also added three new  
9 depreciation accounts as part of the 2014 study. The additional accounts were  
10 established for circumstances where the expenditures were material and the  
11 expected service lives associated with the expenditures were much shorter than the  
12 depreciation account the expenditures were previously recorded in. The three new  
13 accounts are as follows:

- 14 • **Gas Meter Testing/sampling:** Centra is required to maintain compliance with  
15 Measurement Canada regulations for the sampling and replacement of  
16 meters to comply with Measurement Canada's requirements. These costs  
17 have become material enough to warrant a new depreciation account. This  
18 new account has been assigned a 10 year life.
- 19 • **Cathodic Protection (Transmission):** This account captures costs for the  
20 maintenance of the cathodic protection systems which require a continuous  
21 effort as anodes and the performance of impressed current ground beds  
22 deteriorate over time. Through monitoring and data analysis, it is determined  
23 which cathodic protection systems are getting close to the end of their useful  
24 life and these are scheduled for reinforcement by replacing or installing more  
25 sacrificial anodes, impressed current ground beds or rectifiers. Failure to  
26 supplement the existing cathodic protection systems will result in inadequate  
27 corrosion protection and the possibility of leaks. Costs for these types of  
28 expenditures were previously captured in the Transmission – Mains account.  
29 This account has been assigned a 25 year life.
- 30 • **Cathodic Protection (Distribution):** This account has been established for  
31 the same reasons as the Cathodic Protection (Transmission) account, but has  
32 been assigned a 15 year life as the distribution pipeline system is primarily  
33 protected by sacrificial anodes (approx. 90%) as compared to the  
34 transmission system (approx. 60%). Sacrificial anodes have a much shorter

1 life (10-15 year life) than rectifiers and ground beds (25-35 year life) and as  
2 such the distribution cathodic protection system requires more frequent  
3 monitoring and replacement relative to the transmission system. Costs for  
4 these types of expenditures were previously captured in the Distribution –  
5 Mains account  
6

7 Until PUB approval of the 2014 Depreciation Study is received, including the three  
8 new depreciation accounts for rate setting purposes, Centra continues to depreciate  
9 based on the 2010 Depreciation Study.  
10

### 11 **3.4 Deferral Account - 2014 Depreciation Study**

12 Centra is requesting PUB endorsement of a regulatory deferral account effective  
13 April 1, 2014 through to March 31, 2019 to record the annual impacts on  
14 depreciation expense of the changes in the CGAAP ASL depreciation rates as  
15 determined in the 2014 Depreciation Study. Centra is further requesting PUB  
16 endorsement to amortize the cumulative deferred balance of the difference in  
17 depreciation expense caused by the differences in depreciation rates between the  
18 2014 and 2010 depreciation studies for rate setting purposes over a period of 34  
19 years effective 2019/20.  
20

21 The accounting standards require that an entity adopt the latest estimate of asset  
22 service lives for determining depreciation expense for financial reporting purposes.  
23 As such, Centra implemented the 2014 study CGAAP ASL depreciation rates for  
24 financial reporting purposes only effective April 1, 2014 for fiscal 2014/15. Until the  
25 2014 Depreciation Study is approved by the PUB for rate setting purposes, Centra  
26 has established a regulatory deferral account for the period from April 1, 2014 to  
27 March 31, 2019 to record the annual difference in depreciation expense caused by  
28 the differences in depreciation rates between the 2014 and 2010 depreciation  
29 studies.  
30

31 The actual and estimated annual impacts of the changes for rate setting purposes  
32 from the 2014 Depreciation study are as follows:



1 **Figure 2: Impact of 2014 Depreciation Study on Depreciation Expense**

Impact of the 2014 Depreciation Study on CGAAP ASL Depreciation Expense	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
(\$000'S)	Actual	Actual	Actual	Actual	Forecast	Test Year*
Annual Increase (Decrease)	(963)	(901)	(892)	(942)	(1 020)	-
Amortization	-	-	-	-	-	139
Cumulative Deferral Balance	(963)	(1 864)	(2 756)	(3 698)	(4 718)	(4 579)

\* CGM18 assumes that the 2014 CGAAP ASL Depreciation rates are endorsed by the PUB for rate setting purposes effective April 1, 2019. \$139 of amortization occurs in 2019/20.

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4 No amortization of the deferral account has been recognized to date by Centra. An  
5 amortization period of 34 years (effective 2019/20) for the deferral account has  
6 been assumed in CGM18.

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8 Please see **Attachments 1, 2 and 3** to this Appendix for additional information  
9 pertaining to the changes from the 2014 Depreciation Study. **Attachment 1** is the  
10 detailed 2014 Depreciation study including ELG based depreciation rates (excluding  
11 negative salvage) and **Attachment 2** provides the corresponding CGAAP ASL  
12 depreciation rates (including and excluding negative salvage) for the same study.  
13 **Attachment 3** compares the 2010 study CGAAP ASL depreciation rates (excluding  
14 negative salvage) to the 2014 study CGAAP ASL depreciation rates (excluding  
15 negative salvage) on an account by account basis.

16

17 Subsequent to the 2014 Depreciation Study, Centra updated the depreciation rate  
18 for gas meters and added an additional depreciation account for a new type of  
19 capital work involving gas in-line inspections, as discussed in Sections 3.5 and 3.7  
20 respectively.

21

22 **3.5 Updated Gas Meter Depreciation Rate**

23 Centra is requesting PUB approval to commence using the updated CGAAP ASL  
24 depreciation rate for gas meters for customer rate setting purposes effective  
25 2019/20.

26

27 Subsequent to the completion of the 2014 Depreciation Study, Centra experienced 2  
28 years of accounting losses on retirements of gas meters. Based on this experience, a

1 review of the service life of the meters was performed which indicated that the  
2 service life should be reduced from 25 to 20 years; resulting in a change to the  
3 CGAAP ASL depreciation rate from 4.86% to 6.31%. The change to the 20 year  
4 service life was adopted by Centra for financial reporting purposes only on a  
5 prospective basis on April 1, 2015 for its 2015/16 fiscal year.  
6

7 A letter from Gannett Fleming regarding this change is provided as **Attachment 4** to  
8 this Appendix. Please note the letter includes the change in depreciation rate for  
9 both the ELG and CGAAP ASL methods (excluding negative salvage) of depreciation.  
10

### 11 **3.6 Deferral Account - Updated Gas Meter Depreciation Rate**

12 Centra is requesting PUB endorsement of a regulatory deferral account effective  
13 April 1, 2015 through to March 31, 2018 to record the annual impacts on  
14 depreciation expense of the changes in the gas meter depreciation rates as  
15 determined in a 2015/16 review of this account and to amortize the cumulative  
16 deferred balance for rate setting purposes over a period of 20 years effective  
17 2019/20.  
18

19 The CGAAP ASL depreciation rate of 20 years is recognized for financial reporting  
20 purposes only as Centra continues to use the previously approved 25 year service  
21 life for rate setting purposes from 2014/15 through to 2018/19. Centra has  
22 established a regulatory deferral account for the period April 1, 2015 to March 31,  
23 2019 to record the annual difference in depreciation expense between the 25 and  
24 20 year depreciation rates. To date, no amortization of the deferral account has  
25 been recognized by Centra.  
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27 The actual and estimated impact on depreciation expense of the reduction to a 20  
28 year service life is as follows:

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**Figure 3: Impact of Change in Gas Meter Depreciation Rate**

<b>Impact of the Change in Depreciation Rate for Gas Meters on CGAAP ASL Depreciation Expense</b>						
(\$000'S)	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
	Actual	Actual	Actual	Actual	Forecast	Test Year*
Annual Increase (Decrease)	-	471	474	485	499	-
Amortization	-	-	-	-	-	(96)
Cumulative Deferral Balance	-	471	945	1 430	1 929	1 833

\* CGM18 assumes that the change in the gas meter depreciation rate is endorsed by the PUB for rate setting purposes effective April 1, 2019. \$96 of amortization occurs in 2019/20.

**3.7 New Depreciation Account - Gas In-line Inspections**

Centra is requesting PUB approval to commence using the new depreciation account for Gas In-line Inspections for rate setting purposes effective 2019/20.

In addition to the new depreciation accounts added as part of the 2014 Depreciation Study, Centra subsequently established a new depreciation account to capture costs associated with the implementation of the use of In-Line Inspection (ILI) tools to assess the integrity of the aging natural gas pipeline system. ILI was implemented by Centra in 2015 and is used to measure metal loss and deformation anomalies. This new account has been assigned a 5 year life.

**3.8 Deferral Account ELG – CGAAP ASL Depreciation Difference**

Centra is requesting PUB endorsement of a regulatory deferral account effective April 1, 2014 to record the annual impact on depreciation expense for rate setting purposes of the difference between depreciation based on CGAAP ASL depreciation rates and depreciation based on ELG depreciation rates.

Centra transitioned from CGAAP to IFRS on April 1, 2015 for its 2015/16 fiscal year. In order to comply with the asset componentization requirements of IFRS, Centra changed from the CGAAP ASL method of depreciation to the ELG method starting with its 2015/16 fiscal year. This change was for financial reporting purposes only and, as required by the accounting standards, was applied retrospectively to Centra’s 2014/15 financial statements. The ELG depreciation rates used for financial

1 reporting purposes are based on rates determined by Gannett Fleming Inc. in the  
2 2014 Depreciation study.

3  
4 In the 2013/14 GRA, Centra advised the PUB that it would be considering the use of  
5 the ELG method of depreciation for both financial reporting and rate setting  
6 purposes. The PUB concluded in Order 85/13 that more information would need to  
7 be considered before they would permit the use of the ELG method for rate setting  
8 purposes. As such, the PUB directed Centra to file any proposed changes to  
9 depreciation rates as part of or before the next GRA. Similar direction was received  
10 by Manitoba Hydro in Order 73/15 with respect to Manitoba Hydro's 2015/16 &  
11 2016/17 Electric GRA. In that Order (page 46), the PUB found that Manitoba Hydro  
12 should retain its existing CGAAP ASL methodology for rate-setting purposes until  
13 Directives 8 and 9 from Order 43/13 have been complied with and the PUB has been  
14 provided with an IFRS-compliant depreciation study based on the ASL method.

15  
16 Centra filed a letter with the PUB in March 2016 seeking confirmation, on an interim  
17 basis, on a variety of accounting matters prior to the closing of its 2015/16 fiscal  
18 year. Centra sought approval of the 2014 Depreciation Study CGAAP ASL  
19 depreciation rates (excluding negative salvage) for rate setting purposes. In  
20 addition, Centra sought approval to establish a regulatory deferral account for the  
21 difference between depreciation expense based on the ELG method used for  
22 financial reporting purposes and the CGAAP ASL methodology used for rate-setting  
23 purposes. In response, the PUB indicated that it would examine and make a ruling  
24 with respect to these accounting issues at Centra's next GRA.

25  
26 Centra established a regulatory deferral account effective April 1, 2014 to record the  
27 impact of the annual difference in depreciation expense between the ELG and  
28 CGAAP ASL (2014 Depreciation Study) method. Centra has used the CGAAP ASL  
29 (2010 Depreciation Study) method for determining net income for rate setting  
30 purposes from 2014/15 through to 2018/19. Consistent with the direction provided  
31 by the PUB in Order 59/18 issued in response to Manitoba Hydro's 2017/18 &  
32 2018/19 GRA, no amortization of the deferral account has been recognized to date  
33 by Centra and no amortization of the account in future years has been assumed in  
34 CGM18.

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The following table identifies the annual impact on depreciation expense of the change to the ELG method as well as the cumulative balance in the regulatory deferral account.

**Figure 4: Impact on Depreciation Expense from the Change to ELG**

<b>Impact of the Change to the ELG Method on Depreciation Expense</b>						
(\$000'S)	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
	Actual	Actual	Actual	Actual	Forecast	Test Year
Annual Increase (Decrease)	1 993	2 144	2 228	2 366	2 375	2 389
Amortization	-	-	-	-	-	-
Cumulative Deferral Balance	1 993	4 137	6 365	8 731	11 106	13 495

**3.9 Deferral Account - Asset Removal Costs and Retirement Gains and Losses**

Centra is requesting PUB endorsement of a regulatory deferral account effective April 1, 2014 to record the annual impacts on depreciation expense for rate setting purposes of the IFRS requirement to immediately recognize asset removal costs on terminal asset retirements and asset retirement gains and losses into income and to amortize the cumulative deferred balance for rate setting purposes over a period of 34 years effective 2019/20.

Under CGAAP, Centra deferred asset removal costs and asset retirement gains and losses on retired assets in accumulated depreciation. The cumulative balance of these amounts would be recognized into income for rate setting purposes as part of future year’s depreciation expense by way of adjustments to depreciation rates as determined in future year’s depreciation studies. As required under IFRS, for circumstances when an asset is retired and replaced with another asset, the costs of removing an asset from service are added to the costs of the replacement asset. For those circumstances when an asset is retired from service and not replaced (i.e. terminal retirement), asset removal costs are included in depreciation expense in the year incurred.

In addition to the change for asset removal costs, Centra also discontinued the CGAAP approach of deferring asset retirement gains and losses in accumulated

1 depreciation. Under IFRS, such gains and losses are to be recognized in income in  
2 the year incurred. Until PUB approval to recognize asset removal costs on terminal  
3 asset retirements in net income for rate setting purposes and to recognize asset  
4 retirement gains and losses in net income in the year incurred is received, Centra  
5 has established a regulatory deferral account effective April 1, 2014 to defer both  
6 the impact of recognizing asset removal costs on terminal asset retirements and the  
7 impact of recognizing asset retirement gains and losses.

8  
9 No amortization of the deferral account for asset removal costs (on terminal asset  
10 retirements) and asset retirement gains and losses has been recognized to date by  
11 Centra. CGM18 assumes a 34 year amortization period for the cumulative deferred  
12 balance in this account effective 2019/20.

13  
14 The following table identifies the annual impact on depreciation expense of the  
15 asset removal cost on terminal asset retirements and asset retirement gains and  
16 losses, as well as the cumulative balance in the regulatory deferral account.

17  
18 **Figure 5: Impact on Depreciation Expense from the Change for Asset Removal**  
19 **Costs and Asset Retirement Gains and Losses**

<b>Impact of the Change for Asset Removal Costs and Asset Retirement Gains and Losses</b>						
(\$000'S)	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
	Actual	Actual	Actual	Actual	Forecast	Test Year*
Annual Increase (Decrease)	2 781	3 017	2 679	2 484	1 768	1 803
Amortization	-	-	-	-	-	(374)
Cumulative Deferral Balance	2 781	5 799	8 478	10 962	12 730	14 159

\* CGM18 assumes that the amortization period of 34 years for the deferral account is endorsed by the PUB for rate setting purposes effective April 1, 2019. \$374 of amortization occurs in 2019/20.

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22 **4.0 CGM18 FORECAST REGULATORY DEFERRAL ACCOUNT CHANGES**

23  
24 The following figures present the forecasted changes in the various regulatory  
25 deferred debit (Figure 6) and credit (Figure 7) accounts for CGM18 which are  
26 recognized in the Net Movement account:

1 **Figure 6: CGM18 Changes in Regulatory Deferral Accounts – Net Movement Account**

	<b>REGULATORY DEFERRAL DEBIT BALANCES (CGM18)</b> <b>(In Thousands of Dollars)</b>									
	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
<i>For the year ended March 31</i>										
<b>Opening Balance</b>	110 227	106 034	109 379	112 663	115 622	117 999	120 761	123 013	125 683	128 064
<b>Additions of Regulatory Deferral Accounts</b>										
Demand Side Management Programs	9 367	10 806	10 773	10 870	10 416	10 553	10 445	10 589	10 345	9 497
Deferred Income Taxes Carrying Costs	1 535	1 389	1 242	1 096	950	804	658	512	366	219
Regulatory Costs	2 233	1 811	2 554	1 137	1 439	1 137	1 439	1 137	1 439	1 137
Loss on Disposal of Assets	1 768	1 803	1 839	1 876	1 913	1 952	1 991	2 030	2 071	2 113
Change in Depreciation Method	2 375	2 389	2 441	2 525	2 611	2 708	2 804	2 901	3 002	3 106
Change in Depreciation Method - Meters	499	-	-	-	-	-	-	-	-	-
Deferred Ineligible Overhead	700	700	700	700	700	700	700	700	700	700
DSM Deferral Account	(8 200)	-	-	-	-	-	-	-	-	-
<b>Total Additions of Regulatory Deferral Accounts</b>	<b>10 276</b>	<b>18 897</b>	<b>19 549</b>	<b>18 203</b>	<b>18 029</b>	<b>17 853</b>	<b>18 036</b>	<b>17 869</b>	<b>17 922</b>	<b>16 772</b>
<b>Amortization of Regulatory Deferral Accounts</b>										
DSM, Site Restoration & Regulatory Costs	(11 038)	(11 774)	(12 561)	(11 611)	(12 089)	(11 597)	(12 359)	(11 841)	(12 248)	(11 614)
Deferred Income Taxes Amortization	(3 339)	(3 193)	(3 047)	(2 900)	(2 754)	(2 608)	(2 462)	(2 316)	(2 170)	(2 024)
Loss on Disposal of Assets	-	(374)	(427)	(482)	(537)	(593)	(650)	(709)	(769)	(830)
Change in Depreciation Method	-	-	-	-	-	-	-	-	-	-
Deferred Ineligible Overhead	(93)	(113)	(134)	(154)	(175)	(196)	(216)	(237)	(257)	(278)
Meter Rate Change	-	(96)	(96)	(96)	(96)	(96)	(96)	(96)	(96)	(96)
<b>Total Amortization of Regulatory Deferral Accounts</b>	<b>(14 470)</b>	<b>(15 551)</b>	<b>(16 265)</b>	<b>(15 244)</b>	<b>(15 652)</b>	<b>(15 090)</b>	<b>(15 784)</b>	<b>(15 199)</b>	<b>(15 540)</b>	<b>(14 842)</b>
<b>Closing Balance</b>	<b>106 034</b>	<b>109 379</b>	<b>112 663</b>	<b>115 622</b>	<b>117 999</b>	<b>120 761</b>	<b>123 013</b>	<b>125 683</b>	<b>128 064</b>	<b>129 994</b>

2  
3

1 **Figure 7: CGM18 Changes in Regulatory Deferral Accounts – Net Movement Account**

**REGULATORY DEFERRAL CREDIT BALANCES (CGM18)**  
(In Thousands of Dollars)

*For the year ended March 31*

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Opening Balance</b>	26 927	11 964	4 579	4 441	4 302	4 163	4 024	3 886	3 747	3 608
<b>Additions of Regulatory Deferral Accounts</b>										
Impact of 2014 Depreciation Study	1 020	-	-	-	-	-	-	-	-	-
PGVA Balance	(7 783)	(7 246)	-	-	-	-	-	-	-	-
DSM Deferral Account	(8 200)	-	-	-	-	-	-	-	-	-
<b>Total Additions of Regulatory Deferral Accounts</b>	<b>(14 963)</b>	<b>(7 246)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Amortization of Regulatory Deferral Accounts</b>										
Impact of 2014 Depreciation Study	-	(139)	(139)	(139)	(139)	(139)	(139)	(139)	(139)	(139)
<b>Total Amortization of Regulatory Deferral Accounts</b>	<b>-</b>	<b>(139)</b>	<b>(139)</b>	<b>(139)</b>	<b>(139)</b>	<b>(139)</b>	<b>(139)</b>	<b>(139)</b>	<b>(139)</b>	<b>(139)</b>
<b>Closing Balance</b>	<b>11 964</b>	<b>4 579</b>	<b>4 441</b>	<b>4 302</b>	<b>4 163</b>	<b>4 024</b>	<b>3 886</b>	<b>3 747</b>	<b>3 608</b>	<b>3 469</b>

2



1 **5.0 CGM18 NET MOVEMENT ACCOUNT FUNCTIONALIZED BY INCOME STATEMENT**  
2 **LINE ITEM**  
3

4 All additions and amortizations of regulatory deferral accounts are recorded through the  
5 Net Movement account for determining net income for rate setting purposes. The following  
6 figure identifies the specific income statement line items that are impacted by the various  
7 deferral accounts over the ten year forecast period:  
8

9 **Figure 8: Impact of Regulatory Deferral Accounts on Income Statement Line Items**

NET MOVEMENT OF REGULATED ASSETS FUNCTIONALIZED BY INCOME STATEMENT (CGM18) (In Thousands of Dollars)										
<i>For the year ended March 31</i>										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Operating &amp; Administration (IFRS)</b>	63 315	61 250	61 942	62 633	63 600	64 906	66 239	67 598	68 985	70 400
<b>Additions/(Reversals):</b>										
Deferred Ineligible Overhead	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)
<b>Operating &amp; Administration (Rate Setting)</b>	<u>62 615</u>	<u>60 550</u>	<u>61 242</u>	<u>61 933</u>	<u>62 900</u>	<u>64 206</u>	<u>65 539</u>	<u>66 898</u>	<u>68 285</u>	<u>69 700</u>
<b>Other Expenses (IFRS)</b>	12 052	12 799	13 370	12 050	11 899	11 735	11 930	11 772	11 832	10 683
<b>Additions/(Reversals):</b>										
Power Smart Programs	(9 367)	(10 806)	(10 773)	(10 870)	(10 416)	(10 553)	(10 445)	(10 589)	(10 345)	(9 497)
Regulatory Costs	(2 233)	(1 811)	(2 554)	(1 137)	(1 439)	(1 137)	(1 439)	(1 137)	(1 439)	(1 137)
<b>Other Expenses (Rate Setting)</b>	<u>453</u>	<u>183</u>	<u>43</u>	<u>44</u>	<u>45</u>	<u>46</u>	<u>46</u>	<u>47</u>	<u>48</u>	<u>49</u>
<b>Depreciation &amp; Amortization (IFRS)</b>	24 052	25 474	26 694	28 106	29 410	30 638	31 245	32 127	33 099	34 346
<b>Additions/(Reversals):</b>										
Loss on Disposal of Assets	(1 768)	(1 803)	(1 839)	(1 876)	(1 913)	(1 952)	(1 991)	(2 030)	(2 071)	(2 113)
Change in Depreciation Method	(2 375)	(2 389)	(2 441)	(2 525)	(2 611)	(2 708)	(2 804)	(2 901)	(3 002)	(3 106)
Change in Depreciation Method - Meters	(499)	-	-	-	-	-	-	-	-	-
Impact of 2014 Depreciation Study	1 020	-	-	-	-	-	-	-	-	-
	<u>(3 622)</u>	<u>(4 192)</u>	<u>(4 280)</u>	<u>(4 401)</u>	<u>(4 524)</u>	<u>(4 659)</u>	<u>(4 794)</u>	<u>(4 932)</u>	<u>(5 073)</u>	<u>(5 219)</u>
<b>Amortization:</b>										
DSM, Site Restoration & Regulatory Costs	11 038	11 774	12 561	11 611	12 089	11 597	12 359	11 841	12 248	11 614
Loss on Disposal of Assets	-	374	427	482	537	593	650	709	769	830
Change in Depreciation Method	-	-	-	-	-	-	-	-	-	-
Deferred Ineligible Overhead	93	113	134	154	175	196	216	237	257	278
Change in Depreciation Method - Meters	-	96	96	96	96	96	96	96	96	96
Impact of 2014 Depreciation Study	-	(139)	(139)	(139)	(139)	(139)	(139)	(139)	(139)	(139)
	<u>11 131</u>	<u>12 220</u>	<u>13 080</u>	<u>12 205</u>	<u>12 759</u>	<u>12 343</u>	<u>13 183</u>	<u>12 745</u>	<u>13 232</u>	<u>12 679</u>
<b>Depreciation &amp; Amortization (Rate Setting)</b>	<u>31 561</u>	<u>33 502</u>	<u>35 494</u>	<u>35 911</u>	<u>37 645</u>	<u>38 321</u>	<u>39 633</u>	<u>39 940</u>	<u>41 258</u>	<u>41 807</u>
<b>Capital &amp; Other Taxes (IFRS)</b>	16 886	17 407	18 031	18 445	18 874	19 312	19 726	20 148	20 568	20 990
<b>Additions/(Reversals):</b>										
Deferred Taxes Amortization	3 339	3 193	3 047	2 900	2 754	2 608	2 462	2 316	2 170	2 024
<b>Capital &amp; Other Taxes (Rate Setting)</b>	<u>20 225</u>	<u>20 600</u>	<u>21 078</u>	<u>21 345</u>	<u>21 628</u>	<u>21 921</u>	<u>22 188</u>	<u>22 464</u>	<u>22 738</u>	<u>23 014</u>
<b>Finance Expense (IFRS)</b>	21 699	23 474	25 185	26 408	27 168	28 519	29 597	30 332	31 914	32 621
<b>Additions/(Reversals):</b>										
Deferred Taxes Carrying Costs	(1 535)	(1 389)	(1 242)	(1 096)	(950)	(804)	(658)	(512)	(366)	(219)
PGVA carrying costs	338	144	0	0	0	0	0	0	0	0
<b>Finance Expense (Rate Setting)</b>	<u>20 502</u>	<u>22 229</u>	<u>23 943</u>	<u>25 311</u>	<u>26 218</u>	<u>27 715</u>	<u>28 939</u>	<u>29 821</u>	<u>31 548</u>	<u>32 401</u>



# **CENTRA GAS MANITOBA INC.**

## **2014 DEPRECIATION STUDY**

**CALCULATION OF ANNUAL DEPRECIATION  
ACCRUAL RATES RELATED TO  
NATURAL GAS TRANSMISSION AND  
DISTRIBUTION SERVICES FOR PLANT  
IN SERVICE AS OF MARCH 31, 2014**

*Prepared by:*



*Excellence Delivered **As Promised***

CENTRA GAS MANITOBA INC.  
Winnipeg, Manitoba

2014 DEPRECIATION STUDY

CALCULATION OF ANNUAL DEPRECIATION  
ACCRUAL RATES RELATED TO  
NATURAL GAS TRANSMISSION AND DISTRIBUTION SERVICES  
FOR PLANT IN SERVICE AS OF MARCH 31, 2014

GANNETT FLEMING CANADA ULC

Calgary, Alberta



June 3, 2015

Manitoba Hydro  
360 Portage Avenue  
Winnipeg, Manitoba  
R3C 0G8

Attention: Mr. Darren Rainkie  
Vice-President, Finance and Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study of the Centra Gas Manitoba Inc. ("Centra Gas" or the "Company") natural gas transmission, distribution and general plant assets as of March 31, 2014. The depreciation rates as developed in this report are applicable for use in the determination of the Centra Gas depreciation expense for financial reporting and regulatory purposes. Our report presents a description of the methods used in the determination of depreciation and the detailed tabulations of annual and accrued depreciation.

The calculated annual depreciation accrual rates presented in the report are based on the straight line method using the average service life ("ELG") procedure and were applied on a whole life basis, with any accumulated depreciation variances being amortized over the estimated remaining life of the assets.

Respectfully submitted,

GANNETT FLEMING CANADA ULC

A handwritten signature in blue ink, appearing to read "L. Kennedy".

LARRY E. KENNEDY  
Vice President

LEK/hac  
Project #058390.500

Gannett Fleming Canada ULC

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## **CENTRA GAS MANITOBA INC. DEPRECIATION STUDY**

### **EXECUTIVE SUMMARY**

Pursuant to Manitoba Hydro's request, Gannett Fleming Canada ULC ("Gannett Fleming") conducted a depreciation study related to the natural gas transmission, distribution and general plant assets of Centra Gas Manitoba ("Centra Gas") as of March 31, 2014. The purpose of this study was to determine the annual depreciation accrual rates and amounts for book and ratemaking objectives. The results of the study are summarized on the attached Tables 1 and 2.

The attached depreciation rates are based on the straight line method using the equal life group ("ELG") procedure and were applied on a whole life basis based on attained ages and estimated average service lives. As discussed in the last review of depreciation rates, the use of the ELG procedure and the removal of net negative salvage from the depreciation rate calculations are consistent with Manitoba Hydro's planned implementation of the International Financial Reporting Standards ("IFRS"). Also consistent with prior studies conducted on behalf of Centra Gas, variances between the calculated accrued depreciation and the book accumulated depreciation as of March 31, 2014 are amortized over the remaining life of the assets.

Gannett Fleming recommends the annual depreciation accrual rates for the natural gas utility plant in service as of March 31, 2014 as presented in Tables 1 and 2. Gannett Fleming recommends the calculated annual depreciation accrual rates set forth herein apply specifically to gas plant in service as of March 31, 2014 as summarized by Tables 1 and 2 of the study by account detail. Supporting data and calculations are provided as well within the study.

The enclosed depreciation rates are effective for Centra Gas on April 1, 2015 upon its transition to IFRS.

The study results in an annual depreciation expense accrual of \$14.8 million when applied to depreciable plant balances as of March 31, 2014. The report study results are summarized at an aggregate functional group level as follows:

**SUMMARY OF ORIGINAL COSTS, ACCRUAL PERCENTAGES AND AMOUNTS**

<b>PLANT GROUP</b> <b>(1)</b>	<b>ORIGINAL COST</b>	<b>ANNUAL ACCRUAL</b>	
	<b>\$'s</b> <b>(2)</b>	<b>%'s</b> <b>(3)</b>	<b>\$'s</b> <b>(4)</b>
TRANSMISSION	115,233,145		
DISTRIBUTION	562,922,127		
GENERAL	16,747,069		
<b>TOTAL PLANT IN SERVICE</b>	<b>694,902,341</b>		

---

## **PART I. INTRODUCTION**



**CENTRA GAS MANITOBA INC.**  
**DEPRECIATION STUDY**  
**PART I. INTRODUCTION**

**SCOPE**

This report sets forth the results of the depreciation study for Centra Gas Manitoba Inc. (“Centra Gas” or “the Company”), to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of the natural gas transmission, distribution and general plant assets at March 31, 2014. The rates and amounts are based on the straight line whole life method of depreciation with a separate amortization of the variance between the book depreciation reserve and the calculated accrued depreciation. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to natural gas plant in service as of March 31, 2014.

The service life and net salvage estimates resulting from the study were based on: informed judgment which incorporated analyses of historical plant retirement data as recorded through March 31, 2014; a review of Company practice and outlook as they relate to plant operation and retirement; and consideration of current practice in the gas industry, including knowledge of service lives and net salvage estimates used for other natural gas utilities.

**PLAN OF REPORT**

Part I Introduction, contains statements with respect to the plan of the report, and the basis of the study. Part II Development of Depreciation Parameters, presents descriptions of the methods used in the service life and net salvage studies. Part III Calculation of Annual and Accrued Depreciation presents the methods and procedures used in the calculation of depreciation. Part IV Results of Study, presents summaries by depreciable group of annual and accrued depreciation. The Supporting Documents to this study include: Part V. Service Life Statistics, which presents the results of the retirement rate analysis and Part VI. Detailed Depreciation Calculations, which present the detailed tabulations of annual and accrued depreciation. An overview of Iowa curves and the Retirement Rate Analysis are set forth in Appendix A of this report.

## **BASIS OF THE STUDY**

### **Depreciation**

For most accounts, the annual and accrued depreciation were calculated by the straight line method using the equal life group ("ELG") procedure. For certain General Plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages, and estimates of service lives and salvage. Variances between the calculated accrued depreciation or amortization and the book accumulated depreciation are amortized over the composite remaining life of each account.

Continued monitoring and maintenance of the accumulated depreciation reserve at the account level is recommended. Gannett Fleming has determined an amortization amount to correct the present variance with the calculated accrued depreciation, ("theoretical reserve"), over the composite remaining life of each account. Table 2 presented in Part IV of the report sets forth the amortization of the reserve variance at the account level. This adjustment mechanism, whether determined separately as an amortization amount or incorporated in the calculation of remaining life accruals, is widely-accepted. An explanation of the monitoring of the accumulated depreciation reserve and the calculation of the true-up provision is presented beginning on page III-5 of the report.

The straight line method, ELG procedure is a commonly used depreciation calculation procedure that has been widely accepted in jurisdictions throughout North America. Gannett Fleming recommends its continued use. Amortization accounting is used for certain General Plant accounts because of the disproportionate plant accounting effort required when compared to the minimal original cost of the large number of items in these accounts. Many gas utilities in North America have received approval to adopt amortization accounting for these accounts.

### **Service Life Estimates**

The service life estimates used in the depreciation and amortization calculations were based on informed judgment which incorporated a review of management's plans, policies and outlook, a general knowledge of the gas utility industry, and comparisons of

the service life and net salvage estimates from our studies of other gas utilities. The use of survivor curves to reflect the expected dispersion of retirement provides a consistent method of estimating depreciation for gas plant. Iowa type survivor curves were used to depict the estimated survivor curves for the plant accounts not subject to amortization accounting.

The procedure for estimating service lives consisted of compiling historical data for the plant accounts or depreciable groups, analyzing this history through the use of widely accepted techniques, and forecasting the survivor characteristics for each depreciable group on the basis of interpretations of the historical data analyses and the probable future. The combination of the historical experience and the estimated future yielded estimated survivor curves from which the average service lives were derived.

The depreciation rates should be reviewed periodically to reflect the changes that result from plant and reserve account activity. A depreciation reserve deficiency or surplus will develop if future capital expenditures vary significantly from those anticipated in this study.

---

## **PART II. DEVELOPMENT OF DEPRECIATIONS PARAMETERS**

## PART II. DEVELOPMENT OF DEPRECIATION PARAMETERS

### DEPRECIATION

Depreciation, in public utility regulation, is the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility 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 causes to be given consideration are wear and tear, deterioration, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirements of public authorities.

Depreciation, as used in accounting, is a method of distributing fixed capital costs, less net salvage, over a period of time by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing natural gas utility service. Normally, the period of time over which the fixed capital cost is allocated to the cost of service is equal to the period of time over which an item renders service, that is, the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the straight-line method of depreciation.

The calculation of annual and accrued depreciation based on the straight line method requires the estimation of survivor curves and is described in the following sections of this report. The development of the proposed depreciation rates also requires the selection of group depreciation procedures, as discussed in Part III of this report.

### ESTIMATION OF SURVIVOR CURVES

#### Survivor Curves

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages using the retirement rate method of analysis.

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and relative height of the modes. The left-moded curves are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical-moded curves are those in which the greatest frequency of retirement occurs at average service life. The right-moded curves are those in which the greatest frequency occurs to the right of, or after, the average service life. The origin-moded curves are those in which the greatest frequency of retirement occurs at the origin, or immediately after age 0. The letter designation of each family of curves (L, S, R or O) represents the mode of the associated frequency curve with respect to the average service life. The numerical subscripts represent the relative heights of the modes of the frequency curves within each family.

A discussion of the general concept of survivor curves and retirement rate method is presented in Appendix A of this report.

### **Survivor Curve Judgments**

The survivor curve estimates were based on judgment which considered a number of factors. The primary factors were the statistical analysis of data; current policies and outlook as determined during conversations with management personnel and on the knowledge Gannett Fleming developed through the completion of numerous natural gas utility studies.

The following discussion, dealing with a number of accounts which comprise the majority of the investment analyzed, presents an overview of the factors considered by Gannett Fleming in the determination of the average service life estimates. The survivor curve estimates for the remainder of the accounts not discussed in the following sections were based on similar considerations.

Account 465.00 – Transmission Mains - represents 14.7% of the depreciable plant studied. The plant additions for the period 1950 through 2014 were combined with retirement activity over the period of 1990 through 2014 for analysis using the

retirement rate method. The original survivor curve as plotted on page V-8, results in a stubbed lowa curve, however a material amount of retirement activity is observed over the period from 10.5 through to 21.5 years of age with minor amounts of retirement occurring thereafter. The level of retirement activity that is occurring early in the account's life provides indication that a mid-moded survivor curve is required for this account. The currently approved average service and lowa curve for this account is the lowa 65-R4, however as noted above the current indication is that a mid-moded curve is required. Typical average service life estimates for Canadian natural gas utilities for this account range from 62 through 66 years. Discussions with Centra Gas operational personnel indicated that they would anticipate future lives to be at least as long as historic indications which are indicating the 65-R3 lowa curve. Gannett Fleming recommends a moderate decrease to the mode of the lowa curve from a R4 to the R3, and the continued use of the 65 year average service life.

The lowa 65-R3, selected in this study, accounts for the indication of early retirement activity, provides a reasonable interpretation of the retirement experience and is expected to provide a reasonable expectation of the future retirement trends.

Account 467.00 - Transmission Plant - Measuring and Regulating Equipment - represents 1.2% of the depreciable plant studied. The plant additions for the period 1956 through 2014 were combined with retirement activity over the period of 1990 through 2014 for analysis using the retirement rate method. The original survivor curve as plotted on page V-11, results in a sufficient amount of retirement experience for the analysis of historic retirement patterns, with material levels of retirement starting at age 9.5 and continuing thereafter. The currently approved average service and lowa curve for this account is the lowa 50-S2.5. Typical average service life estimates for Canadian natural gas utilities for this account range from 27 through 48 years. Given both the results of the retirement rate analysis and the lives used by other peer Canadian gas utilities, Gannett Fleming recommends a decrease to the life estimate of this account from 50 to 45 years and a change in the mode of the curve from the lowa S2.5 to the lowa R2.

The Iowa 45-R2, selected in this study, accounts for the indication of early retirement activity, provides a reasonable interpretation of the retirement experience and is expected to provide a reasonable expectation of the future retirement trends.

Account 473.00 – Distribution Services - represents 33.4% of the depreciable plant studied. The plant additions for the period 1953 through 2014 were combined with retirement activity over the period of 1990 through 2014 for analysis using the retirement rate method. The original survivor curve as plotted on page V-20, results in a sufficient amount of retirement experience for the analysis of historic retirement patterns, with material levels of retirement starting from the beginning years of the account and continuing at a steady pace thereafter, indicating a low-moded Iowa curve. The currently approved average service and Iowa curve for this account is the Iowa 55-R2.5.

Typical average service life estimates for Canadian natural gas utilities for this account ranges from 45 to 55 years. However, given the results of the retirement rate analysis and indications from management and operational staff that the future indications should be similar to the historic retirement trends, Gannett Fleming views that an increase to the life estimate of this account is required. Furthermore, operational staff has indicated that there is no early generation plastic pipe in this account of the type that has caused indications of early retirement experience in other provinces such as Alberta. As such, it is expected that the average service life indications for Centra Gas may be longer than that of the peers (specifically Alberta peers). Therefore, Gannett Fleming views that an increase in the average service life from 55 years to 62 years is reasonable. Additionally, as noted above, the early retirement experience leads to a lower-moded Iowa curve and, therefore, Gannett Fleming recommends a reduction in the Iowa curve shape from the Iowa R2.5 to the Iowa R2.

The Iowa 62-R2, selected in this study, accounts for the indication of early retirement activity, provides a reasonable interpretation of the retirement experience and is expected to provide a reasonable expectation of the future retirement trends.



Account 475.00 – Distribution Mains - represents 26.3% of the depreciable plant studied. The plant additions for the period 1953 through 2014 were combined with retirement activity over the period of 1990 through 2014 for analysis using the retirement rate method. While the original survivor curve as plotted on page V-26, results in a stubbed observed life curve, retirement indications are observed at almost all age intervals, which provides meaningful historic information. The currently approved average service and lowa curve for this account is the lowa 65-R4.

Typical average service life estimates for Canadian natural gas utilities for this account ranges from 62 to 66 years. However, given the results of the retirement rate analysis and indications from management and operational staff that the future indications should be similar to the historic retirement trends, Gannett Fleming views that an increase to the life estimate of this account is required. Furthermore, operational staff has indicated that there is no early generation plastic pipe in this account of the type that has caused indications of early retirement experience in other provinces such as Alberta. As such, it is expected that the average service life indications for Centra Gas may be longer than of the peers (specifically Alberta peers). Therefore, Gannett Fleming views that an increase in the average service life from 65 years to 68 years is reasonable. While the retirement rate analysis has indicated minor levels of retirement at most age intervals, the amounts plotted on the observed life table still provides for indications of a high-moded lowa curve. Therefore, Gannett Fleming does not recommend any change to the currently used lowa R4 curve shape.

The lowa 68-R4, selected in this study, accounts for the observed retirement activity, provides a reasonable interpretation of the retirement experience and is expected to provide a reasonable expectation of the future retirement trends.

Account 477.00 – Distribution - Measuring and Regulating Equipment - represents 5.4% of the depreciable plant studied. The plant additions for the period 1954 through 2014 were combined with retirement activity over the period of 1990 through 2014 for analysis using the retirement rate method. The original survivor curve as plotted on page V-29, results in a sufficient amount of retirement experience for the analysis of historic retirement patterns, with material levels of retirement starting at age 7.5 and continuing thereafter. The currently approved average service and lowa curve

for this account is the Iowa 35-R2. Typical average service life estimates for Canadian natural gas utilities for this account range from 15 through 50 years, with an average of 36 years when the two extreme estimates are removed. Given both the results of the retirement rate analysis and the lives used by other peer Canadian gas utilities, Gannett Fleming recommends an increase to the life estimate of this account from 35 to 37 years and a change in the mode of the curve from the Iowa R2 to the Iowa R2.5.

The Iowa 37-R2.5, selected in this study, accounts for the observed retirement activity, provides a reasonable interpretation of the retirement experience and is expected to provide a reasonable expectation of the future retirement trends.

Account 478.00 – Distribution - Meters – represents 5.9% of the depreciable plant studied. The plant additions for the period 1962 through 2014 were combined with retirement activity over the period of 1990 through 2014 for analysis using the retirement rate method. The original survivor curve as plotted on page V-34, results in a full and complete observed life table of retirement experience for the analysis of historic retirement patterns. The currently approved average service and Iowa curve for this account is the Iowa 26-S1.5. Typical average service life estimates for Canadian natural gas utilities ranges for this account ranges from 15 through 32 years, with an average of 23 years. Given both the results of the retirement rate analysis and the lives used by other peer Canadian gas utilities, Gannett Fleming recommends a small decrease to the life estimate of this account from 26 to 25 years and a change in the mode of the curve from the Iowa S1.5 to the Iowa R1.5.

The Iowa 25-R1.5, selected in this study, accounts for the observed retirement activity, provides a reasonable interpretation of the retirement experience and is expected to provide a reasonable expectation of the future retirement trends.

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## **PART III. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION**

## PART III. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

### CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

#### Group Depreciation Procedures

When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of the items within a group do not have identical service lives, but have lives that are dispersed over a range of time. There are two primary group procedures, namely, Average Service Life (ASL) and Equal Life Group (ELG).

In the ELG procedure, the property group is subdivided according to service life. That is, each equal life group includes that portion of the property which experiences the life of that specific group. The relative size of each equal life group is determined from the property's life dispersion curve. The calculated depreciation for the property group is the summation of the calculated depreciation based on the service life of each equal life group.

The table on the following page presents an illustration of the calculation of equal life group depreciation in a mass property account using the Iowa 10-R5 survivor curve, 0 percent net salvage and a December 31, 2014 calculation date. In the table, each equal life group is defined by the age interval shown in columns 1 and 2. These are the ages at which the first and last retirement of each group occurs, and the group's equal life, shown in column 3, is the midpoint of the interval. For purposes of the calculation, each vintage is divided into equal life groups arranged so that the midpoint of each one-year age interval coincides with the calculation date, e.g., December 31 in this case. This enables the calculation of annual accruals for a twelve-month period centered on the date of calculation.

The retirement during the age interval, shown in column 4, is the size of each equal life group and is derived from the Iowa 10-R5 survivor curve and 0 percent net salvage. It is the difference between the percents surviving at the beginning and end of the age interval. Each equal life group's annual accrual, shown in column 5, equals the group's size (column 4) divided by its life (column 3).

DETAILED COMPUTATION OF ANNUAL AND ACCRUED FACTORS USING THE EQUAL LIFE GROUP PROCEDURE

INPUT PARAMETERS:

CALCULATION DATE... 12-31-2014  
SURVIVOR CURVE.... 10-R5

AGE INTERVAL		RETIREMENTS		GROUP	YEAR	SUMMATION	AVERAGE	ANNUAL	ACCRUED
BEG	END	LIFE	DURING	ANNUAL		OF ANNUAL	PERCENT		
(1)	(2)	(3)	INTERVAL	ACCRUAL	INST	ACCRUALS	SURVIVING	(9)	(10)
				(5)=(4) / (3)	(6)	(7)	(8)		
0.000	1.000	0.500	0.00000	0.00000000000	2014	10.21593609462	100.000000	0.1022	0.0511
1.000	2.000	1.500	0.00000	0.00000000000	2013	10.21593609462	100.000000	0.1022	0.1533
2.000	3.000	2.500	0.00000	0.00000000000	2012	10.21593609462	100.000000	0.1022	0.2555
3.000	4.000	3.500	0.00084	0.00024000000	2011	10.21581609462	99.999580	0.1022	0.3577
4.000	5.000	4.500	0.04802	0.01067111111	2010	10.21036053906	99.975150	0.1021	0.4595
5.000	6.000	5.500	0.45865	0.08339090909	2009	10.16332952896	99.721815	0.1019	0.5605
6.000	7.000	6.500	1.95737	0.30113384615	2008	9.97106715134	98.513805	0.1012	0.6578
7.000	8.000	7.500	5.58856	0.74514133333	2007	9.44792956160	94.740840	0.0997	0.7478
8.000	9.000	8.500	13.40588	1.57716235294	2006	8.28677771847	85.243620	0.0972	0.8262
9.000	10.000	9.500	24.92229	2.62339894737	2005	6.18649706831	66.079535	0.0936	0.8892
10.000	11.000	10.500	29.97992	2.85523047619	2004	3.44718235653	38.628430	0.0892	0.9366
11.000	12.000	11.500	18.68473	1.62475913043	2003	1.20718755322	14.296105	0.0844	0.9706
12.000	13.000	12.500	4.66098	0.37287840000	2002	0.20836878801	2.623250	0.0794	0.9925
13.000	13.700	13.350	0.29276	0.02192958801	2001	0.00767535580	0.102466	0.0749	1.0000
TOTAL				100.00000					

Columns 7 through 10 show the derivation of the annual and accrued factors for each vintage based on the information developed in the first five columns. The year installed is shown in column 6. For all vintages other than 2010, the summation of annual accruals for each year installed, shown in column 7, is calculated by adding one-half of the group annual accrual (column 5) for that vintage's current age interval plus the group annual accruals for all succeeding age intervals. For example, the figure 10.21593609462 for 2013 equals one-half of 0.00000000000 plus all of the succeeding figures in column 5. Only one-half of the annual accrual for the vintage's current age interval group is included in the summation because the equal life group for that interval has reached the year during which it is expected to be retired.

The summation of annual accruals (column 7) for installations during 2014 is calculated on the basis of an in-service date at the midpoint of the year, i.e., June 30. Inasmuch as the overall calculation is centered on December 31, 2014, the first figure in column 7, for vintage 2014, equals all of the group annual accrual for the first equal life group plus the accruals for all of the subsequent equal life groups.

The average percent surviving derived from the Iowa 10-R5 survivor curve and 0 percent net salvage, is shown in column 8 for each age interval. The annual factor, shown in column 9, is the result of dividing the summation of annual accruals (column 7)

by the average percent surviving (column 8). The accrued factor, shown in column 10, equals the annual factor multiplied by the age of the group at December 31, 2014.

## **CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION**

Amortization is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized. Normally, the distribution of the amount is in equal amounts to each year of the amortization period.

The calculation of annual and accrued amortization requires the selection of an amortization period. The amortization periods used in this report were based on judgment which incorporated a consideration of the period during which the assets will render most of their service, the amortization period and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

For the purpose of calculating annual amortization amounts as of March 31, 2014, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

Amortization accounting is proposed for a number of accounts that represent numerous units of property, but a very small portion of depreciable plant in service. The accounts and their amortization periods are as follows:

<u>ACCOUNT</u>	<u>TITLE</u>	AMORTIZATION PERIOD, <u>YEARS</u>
475.10	Cathodic Protection	20
478.10	AMR/ERT Modules	10
479.10	Computer Hardware Equipment – EMS/SCADA	5
479.30	Computer Hardware Development – EMS/SCADA	5
483.00	Office Furniture and Equipment	10
483.30	Computer system Development	10
486.00	Tools and Work Equipment	15
478.10	Meter Testing	10

A depreciation true-up is not calculated on these accounts where there is less than a 10 percent accumulated depreciation variance.

**MONITORING OF BOOK ACCUMULATED DEPRECIATION**

The calculated accrued depreciation or amortization represents that portion of the depreciable cost which will not be allocated to expense through future depreciation accruals, if current forecasts of service life characteristics and net salvage materialize and are used as a basis for depreciation accounting. Thus, the calculated accrued depreciation provides a measure of the book accumulated depreciation. The use of this measure is recommended in the amortization of book accumulated depreciation variances to insure complete recovery of capital over the life of the property.

The recommended amortization of the variance between the book accumulated depreciation and the calculated accrued depreciation is based on an amortization period equal to the composite remaining life for each property group where the variance exceeds five percent of the calculated accrued depreciation.

The composite remaining life for use in the calculation of accumulated depreciation variances is derived by developing the composite sum of the individual equal life group remaining lives in accordance with the following equation:

$$\text{Composite Remaining Life} = \frac{\sum \left( \frac{\text{Book Cost}}{\text{Life}} \times \text{Remaining Life} \right)}{\sum \frac{\text{Book Cost}}{\text{Life}}}$$

The book costs and lives of the several equal life groups, which are summed in the foregoing equation, are defined by the estimated future survivor curve. Inasmuch as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

$$\text{Composite Remaining Life} = \frac{\sum \text{Whole Life Future Accruals}}{\sum \text{Whole Life Annual Accruals}}$$

or

$$\text{Composite Remaining Life} = \frac{\sum \text{Book Cost} - \text{Calc. Reserve}}{\sum \text{Whole Life Annual Accrual}}$$



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## PART IV. RESULTS OF STUDY

## PART IV. RESULTS OF STUDY

### QUALIFICATION OF RESULTS

The calculated annual and accrued depreciation are the principal results of the study. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate annual depreciation accrual rates. An assumption that accrual rates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and salvage and for the change of the composition of property in service. The annual accrual rates and the accrued depreciation were calculated in accordance with the straight line method, using the equal life group procedure based on estimates which reflect considerations of current historical evidence and expected future conditions.

### DESCRIPTION OF DETAILED TABULATIONS

The service life estimates were based on judgment that incorporated statistical analysis of retirement data, discussions with management and consideration of estimates made for other electric utilities. The results of the statistical analysis of service life are presented in the section beginning on page V-3 of the Supporting Documents.

For each depreciable group analyzed by the retirement rate method, a chart depicting the original and estimated survivor curves followed by a tabular presentation of the original life table(s) plotted on the chart. The survivor curves estimated for the depreciable groups are shown as dark smooth curves on the charts. Each smooth survivor curve is denoted by a numeral followed by the curve type designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. The titles of the chart indicate the group, the symbol used to plot the points of the original life table, and the experience and placement bands of the life tables which were plotted. The experience band indicates the range of years for which retirements were used to develop the stub survivor curve. The placements indicate, for the related experience band, the range of years of installations which appear in the experience.

The tables of the calculated annual depreciation applicable to depreciable assets as of December 31, 2014 are presented in account sequence starting on page VI-2 of the Supporting Documents. The tables indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, and the calculated annual accrual.

CENTRA GAS MANITOBA INC.

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS AS OF MARCH 31, 2014

ACCOUNT	DEPRECIABLE GROUP	CURVE	SURVIVOR AS OF MARCH 31, 2014	NET AMOUNT	SURVIVING ORIGINAL COST	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION EXPENSE	TOTAL DEPRECIATION RELATED TO LIFE		
						RATE (%)	FOR TRUE-UP		RATE (%)		
			(1)	(2)	(3)	(4)	(5)	(6)=(5)/(4)	(7)	(8)=(5)+(7)	(9)=(8)/(4)
401.00	FRANCHISES AND CONSENTS			20-SQ	0	22,105	1,105	5.00	-	1,105 **	5.00
<b>TRANSMISSION</b>											
461.00	LAND RIGHTS			75-SQ	0	3,932,416	52,301	1.33	(1,191)	51,110	1.30
463.00	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING			65-R4	0	1,035,535	16,373	1.58	(3,256)	13,117	1.27
464.00	STRUCTURES AND IMPROVEMENTS - OTHER			65-R4	0	76,421	1,178	1.54	(446)	732	0.96
465.00	MAINS			65-R3	0	101,865,455	1,719,725	1.69	(40,298)	1,679,427	1.65
465.10	CATHODIC PROTECTION			25-SQ	0	195,084	7,803	4.00	124	7,927	4.06
467.00	MEASURING AND REGULATING EQUIPMENT			45-R2	0	8,128,234	206,347	2.54	612	206,959	2.55
	<b>TOTAL TRANSMISSION</b>					<b>115,233,145</b>	<b>2,003,727</b>		<b>(44,455)</b>	<b>1,959,272</b>	
<b>DISTRIBUTION</b>											
471.00	LAND RIGHTS			75-SQ	0	1,306,450	17,376	1.33	-	17,376	1.33
472.00	STRUCTURES AND IMPROVEMENTS			50-R3	0	1,335,428	27,512	2.06	(5,977)	21,535	1.61
472.10	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING			50-R3	0	4,232,659	90,869	2.15	6,959	97,828	2.31
473.00	SERVICES			62-R2	0	232,034,858	4,223,673	1.82	(321,263)	3,902,410	1.68
474.00	REGULATORS AND METER INSTALLATIONS			50-R5	0	52,825,017	1,070,082	2.03	(64,928)	1,005,154	1.90
475.00	MAINS			68-R4	0	182,842,390	2,802,187	1.53	(201,875)	2,600,312	1.42
475.10	CATHODIC PROTECTION			15-SQ	0	2,466,194	164,495	6.67	7,689	172,184	6.98
477.00	MEASURING AND REGULATING EQUIPMENT			37-R2.5	0	37,286,853	1,064,422	2.85	(131,049)	933,373	2.50
477.10	TELEMETRY EQUIPMENT			17-S6	0	4,046,541	230,472	5.70	(46,997)	183,475	4.53
478.00	METERS			25-R1.5	0	41,097,382	1,833,365	4.46	717,908	2,551,273	6.21
478.10	METER - TESTING			10-SQ	0	-	-	10.00	-	-	10.00
479.10	COMPUTER HARDWARE EQUIPMENT - EMS/SCADA			5-SQ	0	441,769	88,354	20.00	-	88,354	20.00
479.30	COMPUTER SYSTEM DEVELOPMENT - EMS/SCADA			7-S3	0	3,006,585	461,812	15.36	(27,416)	434,396	14.45
	<b>TOTAL DISTRIBUTION</b>					<b>562,922,127</b>	<b>12,074,619</b>		<b>(66,949)</b>	<b>12,007,670</b>	
<b>GENERAL PLANT</b>											
482.00	STRUCTURES AND IMPROVEMENTS			45-R3	0	8,983,418	192,975	2.15	(25,508)	167,467	1.86
483.00	OFFICE FURNITURE AND EQUIPMENT			15-SQ	0	265,592	5,050	1.90	28,672	33,722	12.70
483.30	COMPUTER SYSTEM DEVELOPMENT			10-SQ	0	5,304,028	530,403	10.00	-	530,403	10.00
484.00	TRANSPORTATION EQUIPMENT			10-R5	10	199,645	-	0.00	-	-	0.00
485.00	HEAVY WORK EQUIPMENT			20-R5	20	459,767	18,766	4.08	-	-	0.00
486.00	TOOLS AND WORK EQUIPMENT			15-SQ	0	1,512,515	51,904	3.43	-	51,904	3.43
	<b>TOTAL GENERAL PLANT</b>					<b>16,724,964</b>	<b>799,098</b>		<b>3,164</b>	<b>783,496</b>	
	<b>TOTAL DEPRECIABLE PLANT</b>					<b>694,902,341</b>	<b>14,878,549</b>		<b>(108,240)</b>	<b>14,751,543</b>	<b>2.12</b>

\* Rate is provided for the use with future additions.

\*\* Total depreciation expense calculated based upon length of lease term, with no provision for true-up.

\*\*\* Account is fully depreciated.

CENTRA GAS MANITOBA INC.

TABLE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP RELATED TO ORIGINAL COST AS OF MARCH 31, 2014

ACCT	DEPRECIABLE GROUP (1)	SURVIVING ORIGINAL COST	CALCULATED ACCRUED DEPRECIATION	BOOK ACCUMULATED DEPRECIATION	ACCUMULATED DEPRECIATION VARIANCE		PROBABLE REMAINING LIFE	ANNUAL PROVISION FOR TRUE-UP	TRUE-UP RATE (%)	
		AS OF MARCH 31, 2014 (2)	(3)	(4)	AMOUNT (5) = (3)-(4)	PERCENT (6) = (5)/(3)	(7)	(8)=(5)/(7)	(9)=(8)/(2)	
401.00	FRANCHISES AND CONSENTS	22,105	21,426	12,384	9,042	42.20	1.0	-	0.00	
<b>TRANSMISSION</b>										
461.00	LAND RIGHTS	3,932,416	650,054	725,696	(75,642)	(11.64)	63.5	(1,191)	(0.03)	
463.00	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	1,035,535	395,903	553,517	(157,614)	(39.81)	48.4	(3,256)	(0.31)	
464.00	STRUCTURES AND IMPROVEMENTS - OTHER	76,421	45,609	59,420	(13,811)	(30.28)	31.0	(446)	(0.58)	
465.00	MAINS	101,865,455	25,528,288	27,329,624	(1,801,336)	(7.06)	44.7	(40,298)	(0.04)	
465.10	CATHODIC PROTECTION	195,084	3,876	844	3,032	78.23	24.5	124	0.06	
467.00	MEASURING AND REGULATING EQUIPMENT	8,128,234	2,421,271	2,404,369	16,902	0.70	27.6	612	0.01	
	<b>TOTAL TRANSMISSION</b>	<b>115,233,145</b>	<b>29,045,001</b>	<b>31,073,470</b>	<b>(2,028,469)</b>			<b>(44,455)</b>		
<b>DISTRIBUTION</b>										
471.00	LAND RIGHTS	1,306,450	156,021	162,691	(6,670)	(4.27)	66.1 ***	-	0.00	
472.00	STRUCTURES AND IMPROVEMENTS	1,335,428	644,625	797,038	(152,413)	(23.64)	25.5	(5,977)	(0.45)	
472.10	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	4,232,659	1,402,137	1,189,178	212,959	15.19	30.6	6,959	0.16	
473.00	SERVICES	232,034,858	73,840,616	86,080,722	(12,240,106)	(16.58)	38.1	(321,263)	(0.14)	
474.00	REGULATORS AND METER INSTALLATIONS	52,825,017	17,964,084	20,243,062	(2,278,978)	(12.69)	35.1	(64,928)	(0.12)	
475.00	MAINS	182,842,390	54,694,912	64,364,739	(9,669,827)	(17.68)	47.9	(201,875)	(0.11)	
475.10	CATHODIC PROTECTION	2,466,194	654,348	570,688	83,660	12.79	10.9	7,689	0.31	
477.00	MEASURING AND REGULATING EQUIPMENT	37,286,853	15,272,917	18,129,793	(2,856,876)	(18.71)	21.8	(131,049)	(0.35)	
477.10	TELEMETRY EQUIPMENT	4,046,541	3,025,826	3,486,399	(460,573)	(15.22)	9.8	(46,997)	(1.16)	
478.00	METERS	41,097,382	15,064,697	6,306,218	8,758,479	58.14	12.2	717,908	1.75	
478.10	METER TESTING									
479.10	COMPUTER HARDWARE EQUIPMENT - EMS/SCADA	441,769	215,567	202,210	13,358	6.20	2.5 ***	-	0.00	
479.30	COMPUTER SYSTEM DEVELOPMENT - EMS/SCADA	3,006,585	230,906	395,400	(164,494)	(71.24)	6.0	(27,416)	(0.91)	
	<b>TOTAL DISTRIBUTION</b>	<b>562,922,127</b>	<b>183,166,656</b>	<b>201,928,138</b>	<b>(18,761,482)</b>			<b>(66,949)</b>		
<b>GENERAL PLANT</b>										
482.00	STRUCTURES AND IMPROVEMENTS	8,983,418	5,426,242	5,938,948	(512,706)	(9.45)	20.1	(25,508)	(0.28)	
483.00	OFFICE FURNITURE AND EQUIPMENT	265,592	262,569	233,897	28,672	10.92	1.0 *	28,672	10.80	
483.30	COMPUTER SYSTEM DEVELOPMENT	5,304,028	4,508,423	4,331,622	176,801	3.92	1.5 ***	-	0.00	
484.00	TRANSPORTATION EQUIPMENT	199,645	199,645	199,645	0	0.00	0.0	-	0.00	
485.00	HEAVY WORK EQUIPMENT	459,767	373,985	459,767	(85,782)	(22.94)	0.0 **	-	0.00	
486.00	TOOLS AND WORK EQUIPMENT	1,512,515	1,435,293	1,331,160	104,133	7.26	1.5 ***	-	0.00	
	<b>TOTAL GENERAL PLANT</b>	<b>16,724,964</b>	<b>12,206,157</b>	<b>12,495,039</b>	<b>(288,882)</b>			<b>3,164</b>		
	<b>TOTAL DEPRECIABLE PLANT REVIEWED</b>	<b>694,902,341</b>	<b>224,439,240</b>	<b>245,509,030</b>	<b>(21,069,790)</b>			<b>(108,240)</b>		

\* No true-up is calculated as account will be amortized until fully depreciated.

\*\* Fully amortized account, therefore true-up has been suspended.

\*\*\* True-up is not calculated on square accounts with less than 10% accumulated depreciation variance.

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## **APPENDIX A**

### **ESTIMATION OF SURIVOR CURVES**

## ESTIMATION OF SURVIVOR CURVES

### Average Service Life

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages. A discussion of the general concept of survivor curves is presented. Also, the Iowa type survivor curves are reviewed.

### SURVIVOR CURVES

The survivor curve graphically depicts the amount of property existing at each age throughout the life of an original group. From the survivor curve, the average life of the group, the remaining life expectancy, the probable life, and the frequency curve can be calculated. In Figure 1, a typical smooth survivor curve and the derived curves are illustrated. The average life is obtained by calculating the area under the survivor curve, from age zero to the maximum age, and dividing this area by the ordinate at age zero. The remaining life expectancy at any age can be calculated by obtaining the area under the curve, from the observation age to the maximum age, and dividing this area by the percent surviving at the observation age. For example, in Figure 1, the remaining life at age 30 is equal to the crosshatched area under the survivor curve divided by 29.5 percent surviving at age 30. The probable life at any age is developed by adding the age and remaining life. If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve presents the number of units retired in each age interval. It is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

### Iowa Type Curves

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the

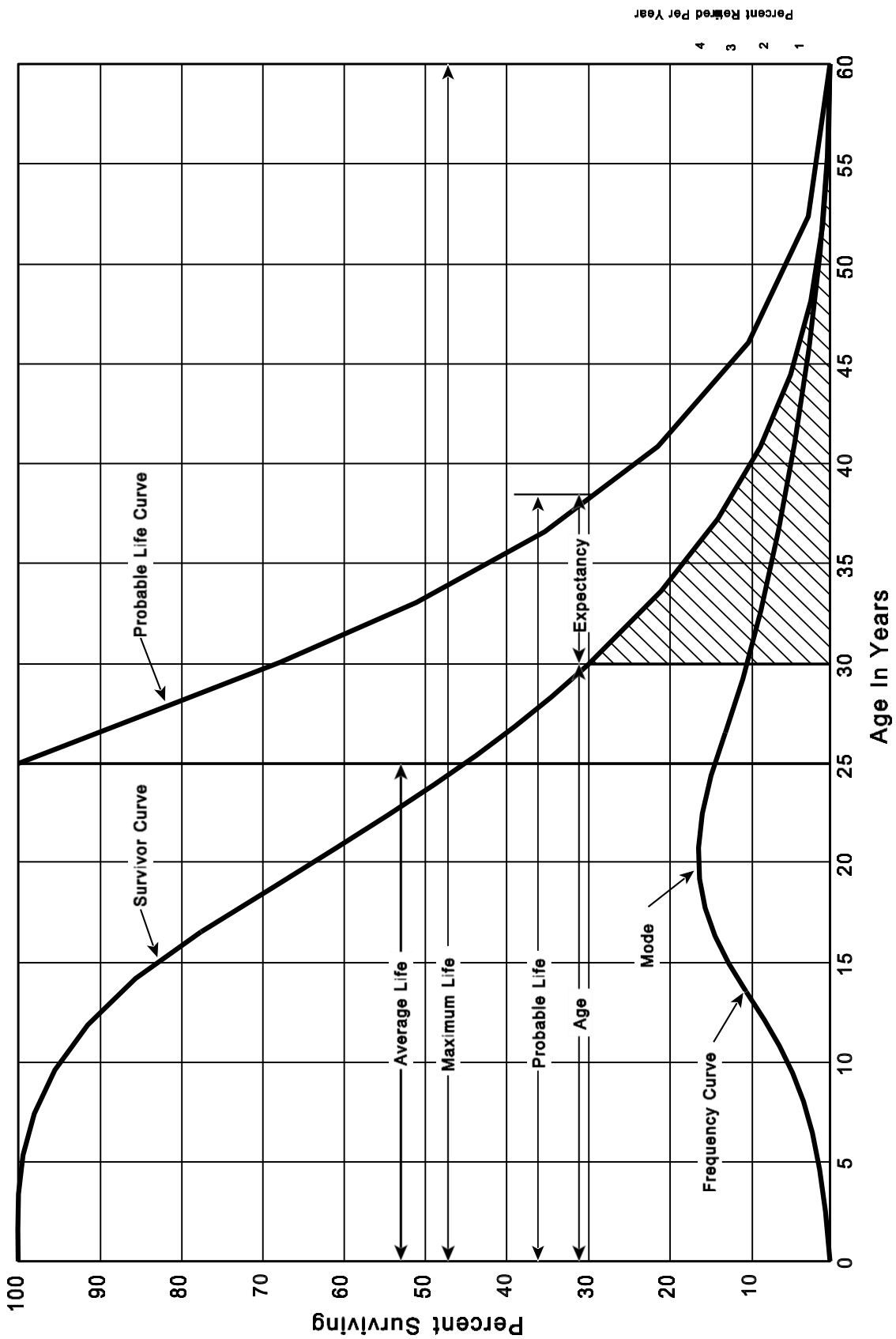


Figure 1. A Typical Survivor Curve and Derived Curves



Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family.

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125.<sup>1</sup> These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."<sup>2</sup> In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis<sup>3</sup> presenting his development of the fourth family consisting of the four O type survivor curves.

<sup>1</sup> Winfrey, Robley. Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.

<sup>2</sup>Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

<sup>3</sup>Couch, Frank V. B., Jr. "Classification of Type O Retirement Characteristics of Industrial Property." Unpublished M.S. thesis (Engineering Valuation). Library, Iowa State College, Ames, Iowa. 1957.

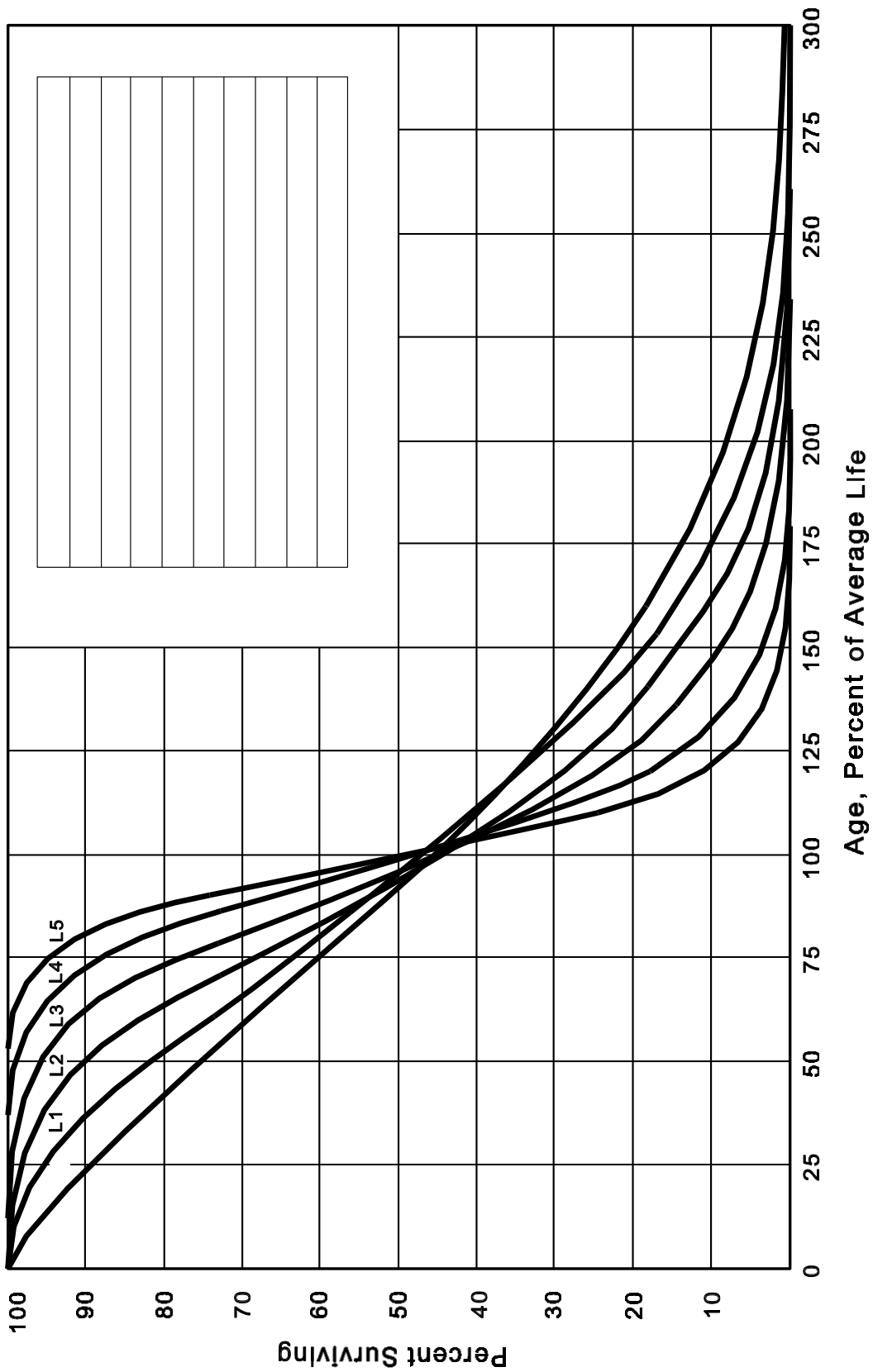


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

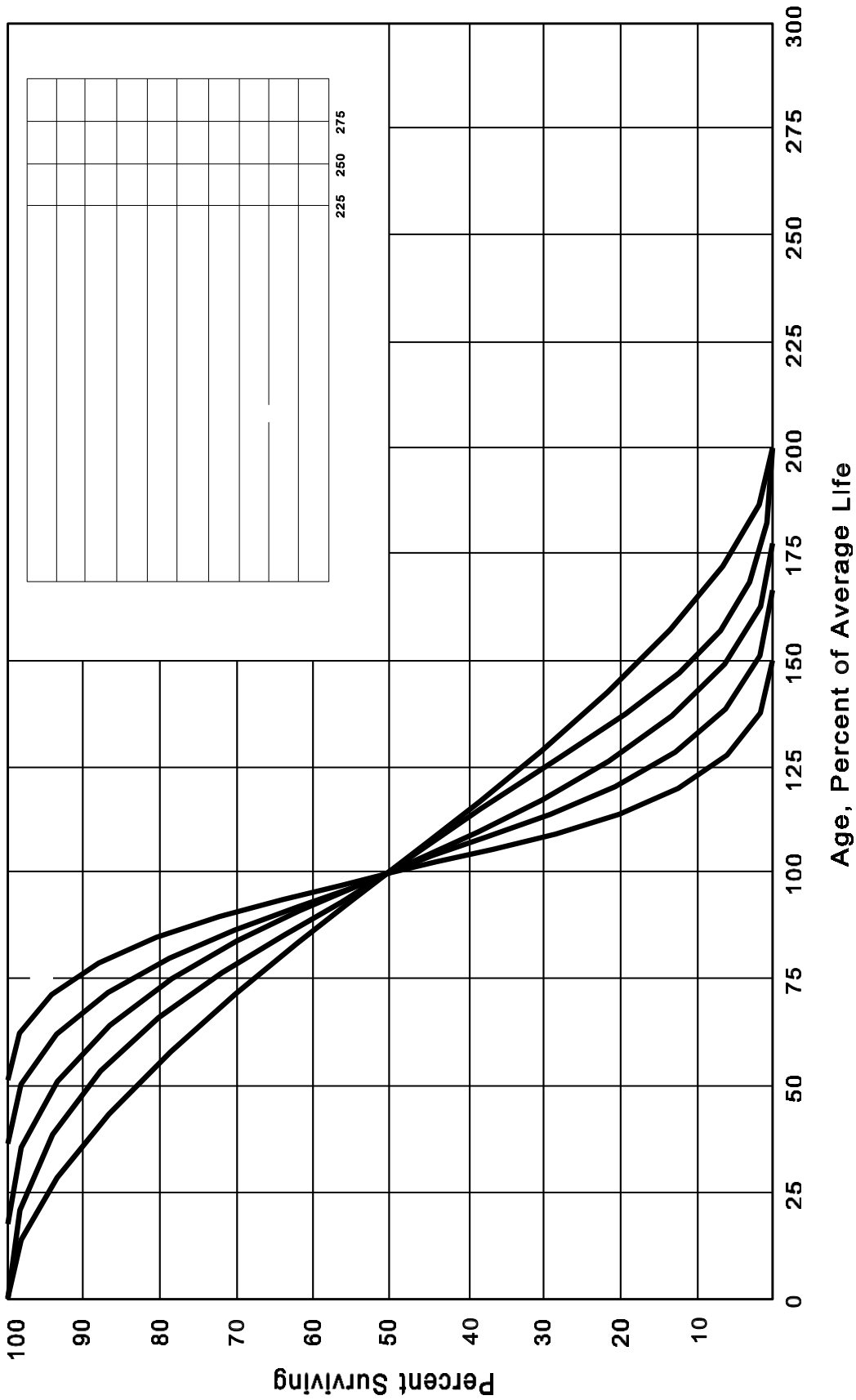


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

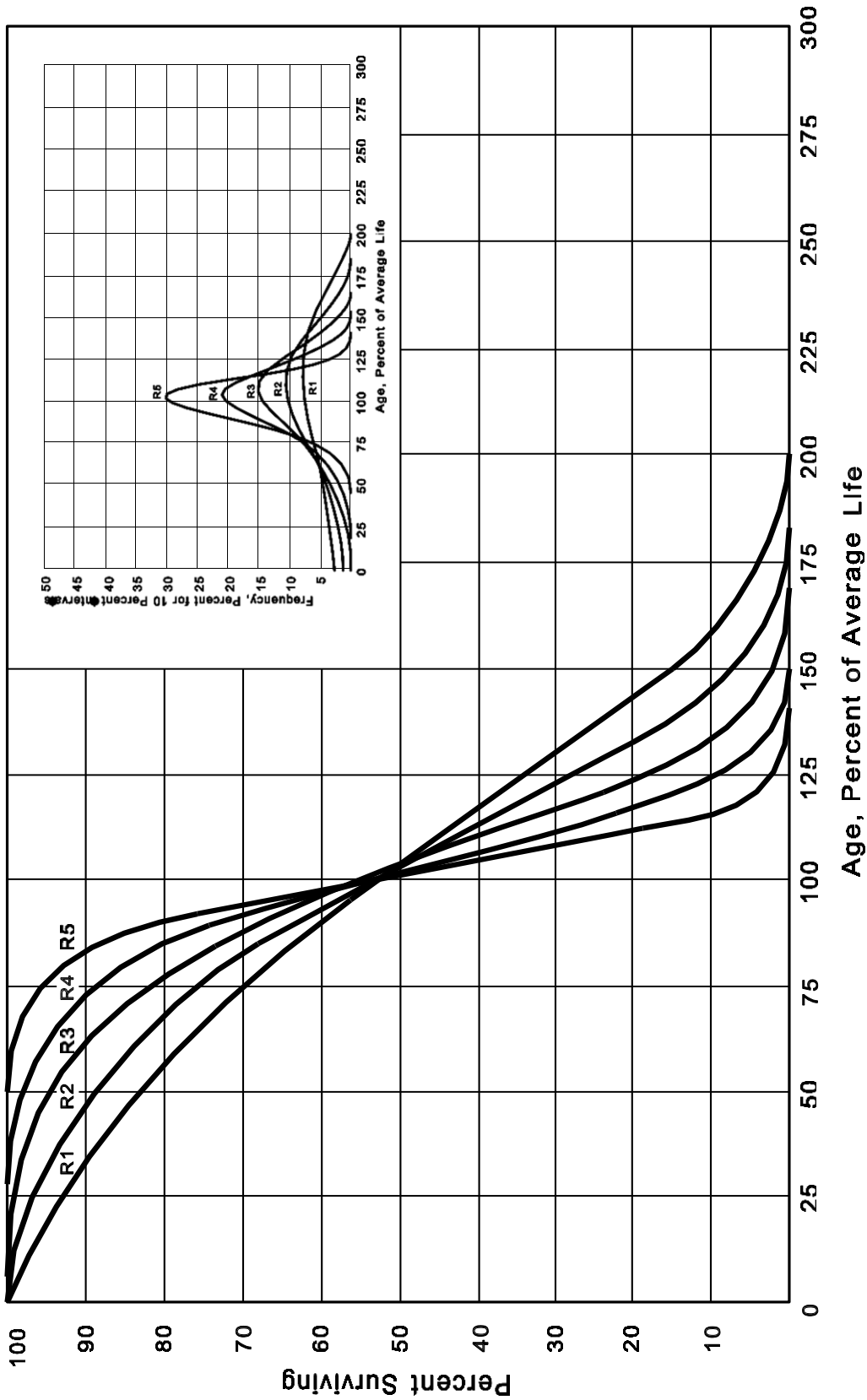


Figure 4. R Modal or "R" Iowa Type Survivor Curves

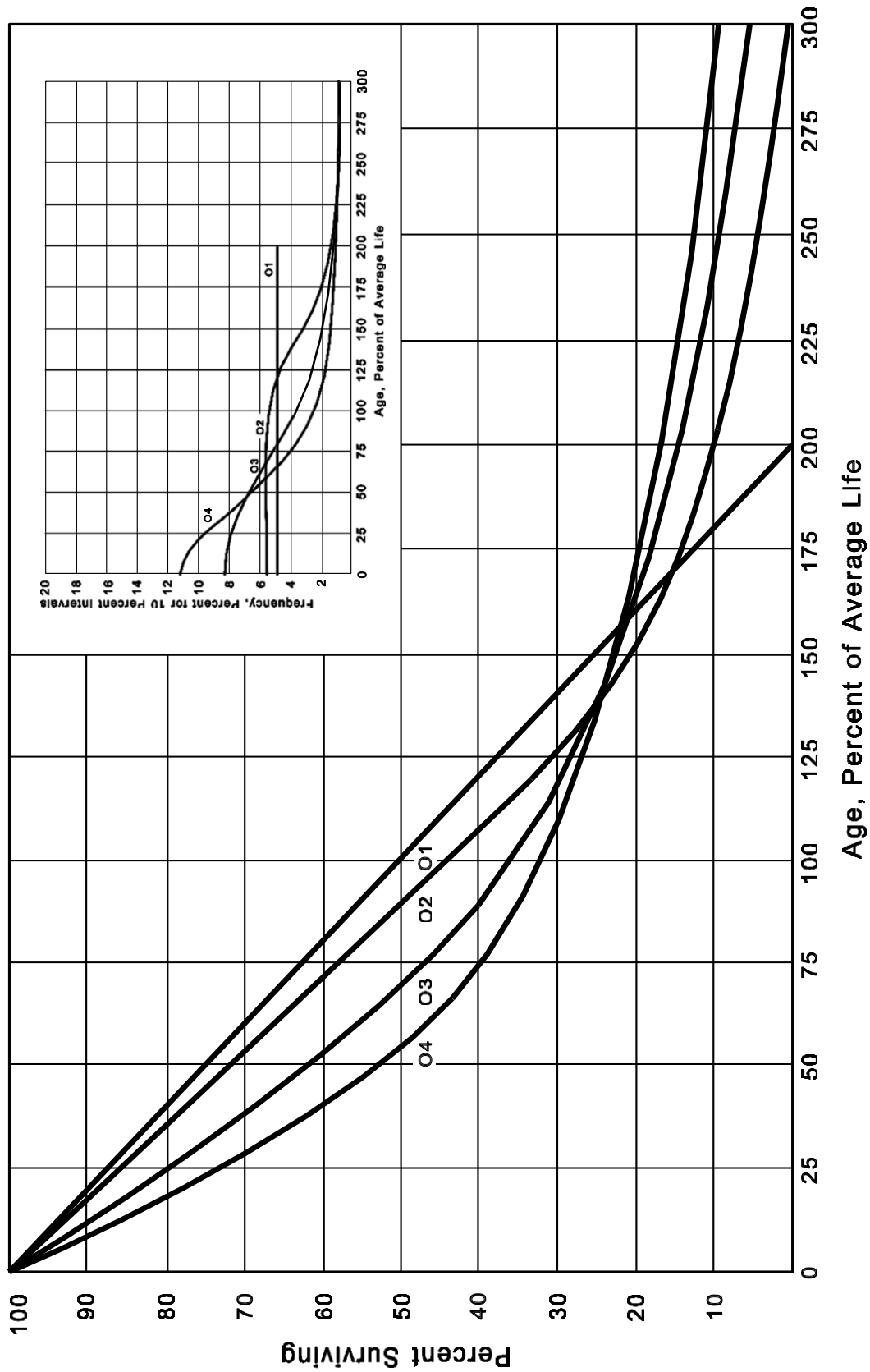


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

### **Retirement Rate Method of Analysis**

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements,"<sup>4</sup> "Engineering Valuation and Depreciation,"<sup>5</sup> and "Depreciation Systems."<sup>6</sup>

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginning of the age intervals during the same period. The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

### **Schedules of Annual Transactions in Plant Records**

The property group used to illustrate the retirement rate method is observed for the experience band 2005-2014 during which there were placements during the years 2000-2014. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on the following pages. In Schedule 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, \$10,000 of the dollars invested in 2000 were

<sup>4</sup>Winfrey, Robley, Supra Note 1.

<sup>5</sup>Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.

<sup>6</sup>Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994.

SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2005-2014  
SUMMARIZED BY AGE INTERVAL

Experience Band 2005-2014											Placement Band 2000-2014	
Year Placed	Retirements, Thousands of Dollars										Total During Age Interval	Age Interval
	During Year											
(1)	<u>2005</u> (2)	<u>2006</u> (3)	<u>2007</u> (4)	<u>2008</u> (5)	<u>2009</u> (6)	<u>2010</u> (7)	<u>2011</u> (8)	<u>2012</u> (9)	<u>2013</u> (10)	<u>2014</u> (11)	(12)	(13)
1999	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2000	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2001	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2002	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2003	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2004	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2005		5	11	12	13	14	15	16	18	20	113	7½-8½
2006			6	12	13	15	16	17	19	19	124	6½-7½
2007				6	13	15	16	17	19	19	131	5½-6½
2008					7	14	16	17	19	20	143	4½-5½
2009						8	18	20	22	23	146	3½-4½
2010							9	20	22	25	150	2½-3½
2011								11	23	25	151	1½-2½
2012									11	24	153	½-1½
2013										13	80	0-½
<b>Total</b>	<b>53</b>	<b>68</b>	<b>86</b>	<b>106</b>	<b>128</b>	<b>157</b>	<b>196</b>	<b>231</b>	<b>273</b>	<b>308</b>	<b>1,606</b>	

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2005-2014  
SUMMARIZED BY AGE INTERVAL

Experience Band 2005-2014

Placement Band 2000-2014

Year Placed	Acquisitions, Transfers and Sales, Thousands of Dollars										Total During Age Interval	Age Interval
	During Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1999	-	-	-	-	-	-	60 <sup>a</sup>	-	-	-	-	13½-14½
2000	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2001	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2002	-	-	-	-	-	-	-	(5) <sup>b</sup>	-	-	60	10½-11½
2003	-	-	-	-	-	-	-	6 <sup>a</sup>	-	-	-	9½-10½
2004	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2005	-	-	-	-	-	-	-	-	-	-	-	7½-8½
2006	-	-	-	-	-	-	-	-	-	-	-	6½-7½
2007	-	-	-	-	-	-	-	(12) <sup>b</sup>	-	-	-	5½-6½
2008	-	-	-	-	-	-	-	-	22 <sup>a</sup>	-	-	4½-5½
2009	-	-	-	-	-	-	-	(19) <sup>b</sup>	-	-	10	3½-4½
2010	-	-	-	-	-	-	-	-	-	-	-	2½-3½
2011	-	-	-	-	-	-	-	-	-	(102) <sup>c</sup>	(121)	1½-2½
2012	-	-	-	-	-	-	-	-	-	-	-	½-1½
2013	-	-	-	-	-	-	-	-	-	-	-	0-½
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>60</b>	<b>(30)</b>	<b>22</b>	<b>(102)</b>	<b>(50)</b>	

<sup>a</sup> Transfer Affecting Exposures at Beginning of Year

<sup>b</sup> Transfer Affecting Exposures at End of Year

<sup>c</sup> Sale with Continued Use

Parentheses Denote Credit Amount.



retired in 2005. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of \$143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2005 retirements of 2000 installations and ending with the 2014 retirements of the 2009 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

$$10 + 12 + 13 + 11 + 13 + 13 + 15 + 17 + 19 + 20.$$

In Schedule 2, other transactions which affect the group are recorded in a similar manner. The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements, but are used in developing the exposures at the beginning of each age interval.

### **Schedule of Plant Exposed to Retirement**

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on the following page. The surviving plant at the beginning of each year from 2005 through 2014 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition, are obtained by adding or subtracting the net entries

SCHEDULE 3. PLANT EXPOSED TO RETIREMENT JANUARY 1  
OF EACH YEAR 2005-2014  
SUMMARIZED BY AGE INTERVAL

Experience Band 2005-2014

Placement Band 2000-2014

Year Placed	Exposures, Thousands of Dollars										Total at Beginning of Age Interval	Age Interval
	Annual Survivors at the Beginning of the Year											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1999	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2000	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2001	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2002	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2003	376	367	257	346	334	321	307	267	280	261	1,097	9½-10½
2004	420 <sup>a</sup>	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2005		460 <sup>a</sup>	455	444	432	419	405	390	374	356	1,952	7½-8½
2006			510 <sup>a</sup>	504	492	479	464	448	431	412	2,463	6½-7½
2007				580 <sup>a</sup>	574	561	546	530	501	482	3,057	5½-6½
2008					660 <sup>a</sup>	653	639	623	628	609	3,789	4½-5½
2009						750 <sup>a</sup>	742	724	685	663	4,332	3½-4½
2010							850 <sup>a</sup>	841	821	799	4,955	2½-3½
2011								960 <sup>a</sup>	949	923	5,719	1½-2½
2012									1,080 <sup>a</sup>	1,069	6,579	½-1½
2013										1,220 <sup>a</sup>	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

<sup>a</sup> Additions during the year.

shown on Schedules 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2006 are calculated in the following manner:

Exposures at age 0	= amount of addition	= \$750,000
Exposures at age ½	= \$750,000 - \$ 8,000	= \$742,000
Exposures at age 1½	= \$742,000 - \$18,000	= \$724,000
Exposures at age 2½	= \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age 3½	= \$685,000 - \$22,000	= \$663,000

For the entire experience band 2005-2014, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

$$255 + 268 + 284 + 311 + 334 + 374 + 405 + 448 + 501 + 609.$$

**Original Life Table**

The original life table, illustrated in Schedule 4 on the following page, is developed from the totals shown on the schedules of retirements and exposures, Schedules 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent

SCHEDULE 4. ORIGINAL LIFE TABLE

CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2005-2014

Placement Band 2000-2014

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval <u>(1)</u>	Exposures at Beginning of Age Interval <u>(2)</u>	Retirements During Age Interval <u>(3)</u>	Retirement Ratio <u>(4)</u>	Survivor Ratio <u>(5)</u>	Percent Surviving at Beginning of Age Interval <u>(6)</u>
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	<u>167</u>	<u>26</u>	0.1557	0.8443	42.24
					35.66
Total	<u>44,780</u>	<u>1,606</u>			

Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.

Column 3 from Schedule 1, Column 12, Retirements for Each Year.

Column 4 = Column 3 divided by Column 2.

Column 5 = 1.0000 minus Column 4.

Column 6 = Column 5 multiplied by Column 6 as of the Preceding Age Interval.

surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15	
Exposures at age 4½	=	3,789,000	
Retirements from age 4½ to 5½	=	143,000	
Retirement Ratio	=	$143,000 \div 3,789,000$	= 0.0377
Survivor Ratio	=	$1.000 - 0.0377$	= 0.9623
Percent surviving at age 5½	=	$(88.15) \times (0.9623)$	= 84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Schedules 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless. The original survivor curve is plotted from the original life table (column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

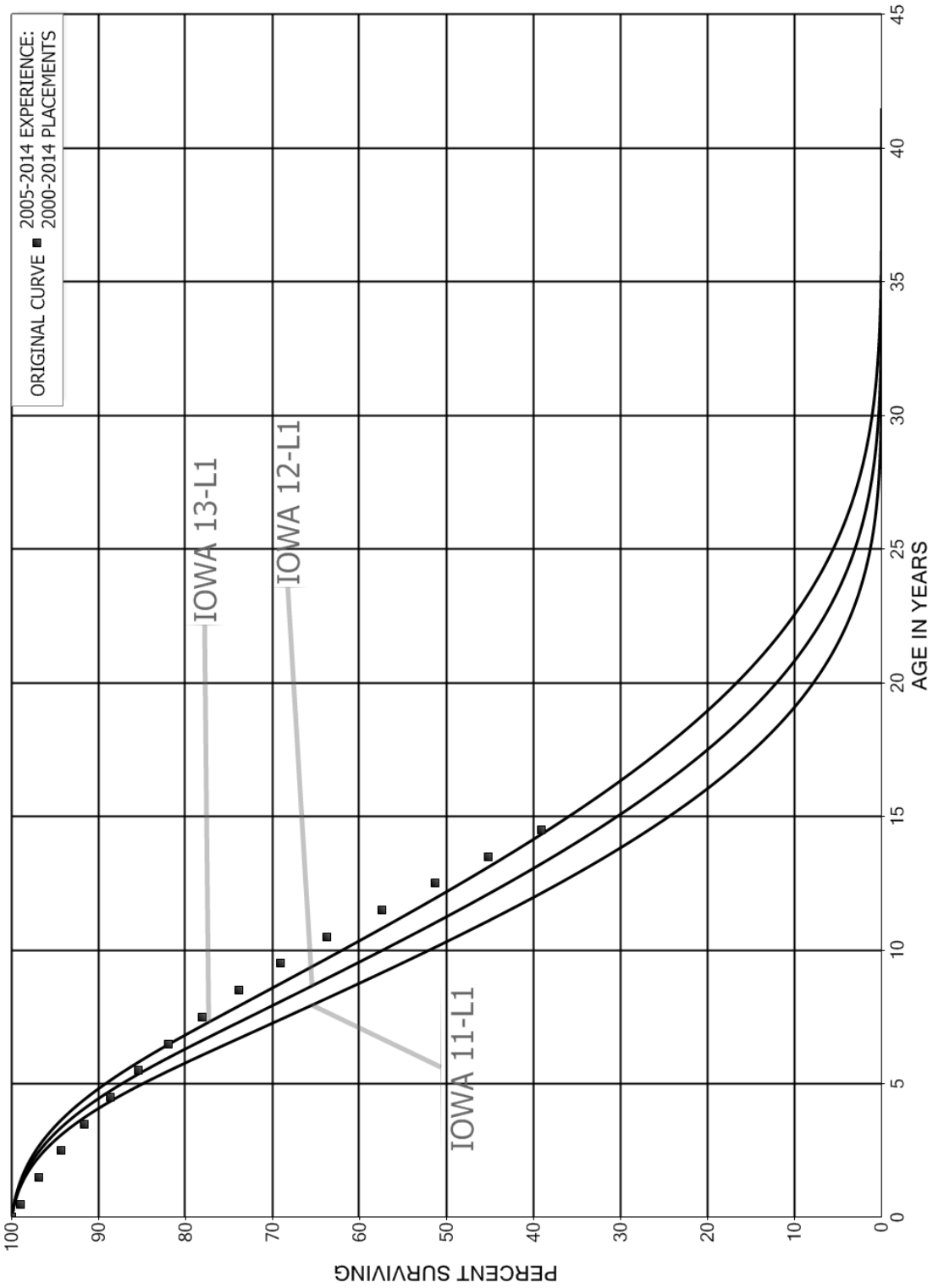
**Smoothing the Original Survivor Curve**

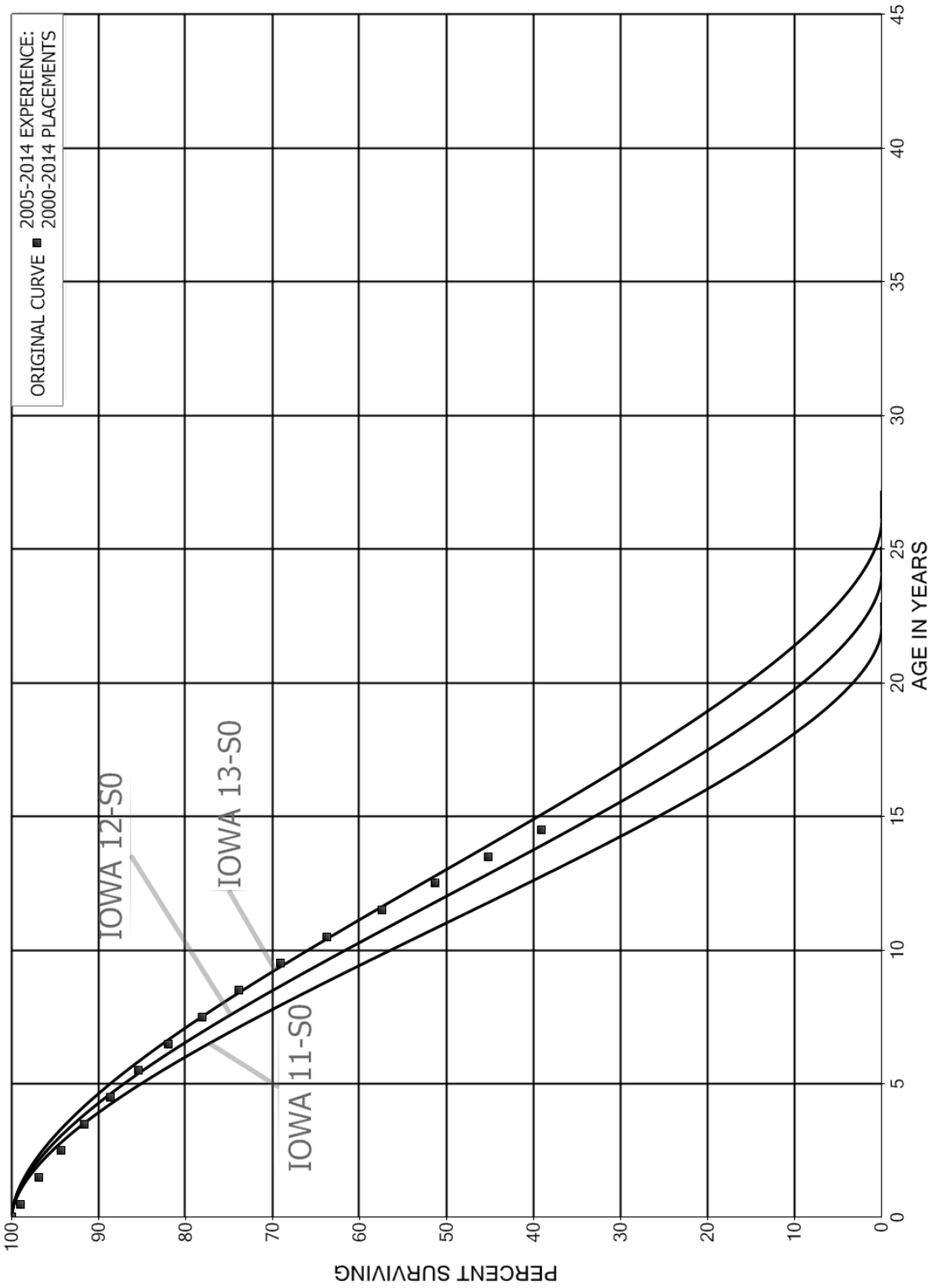
The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an

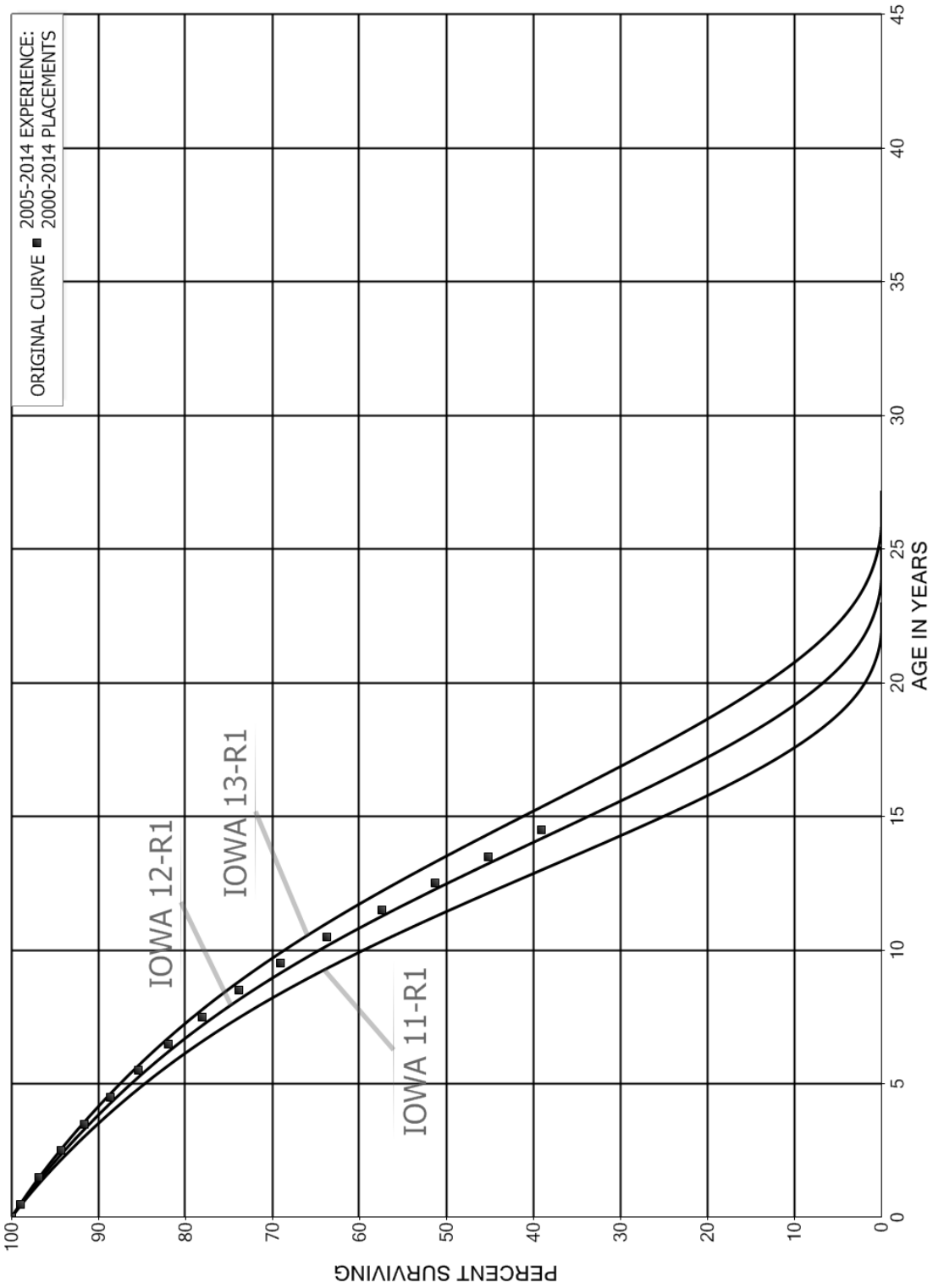
average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

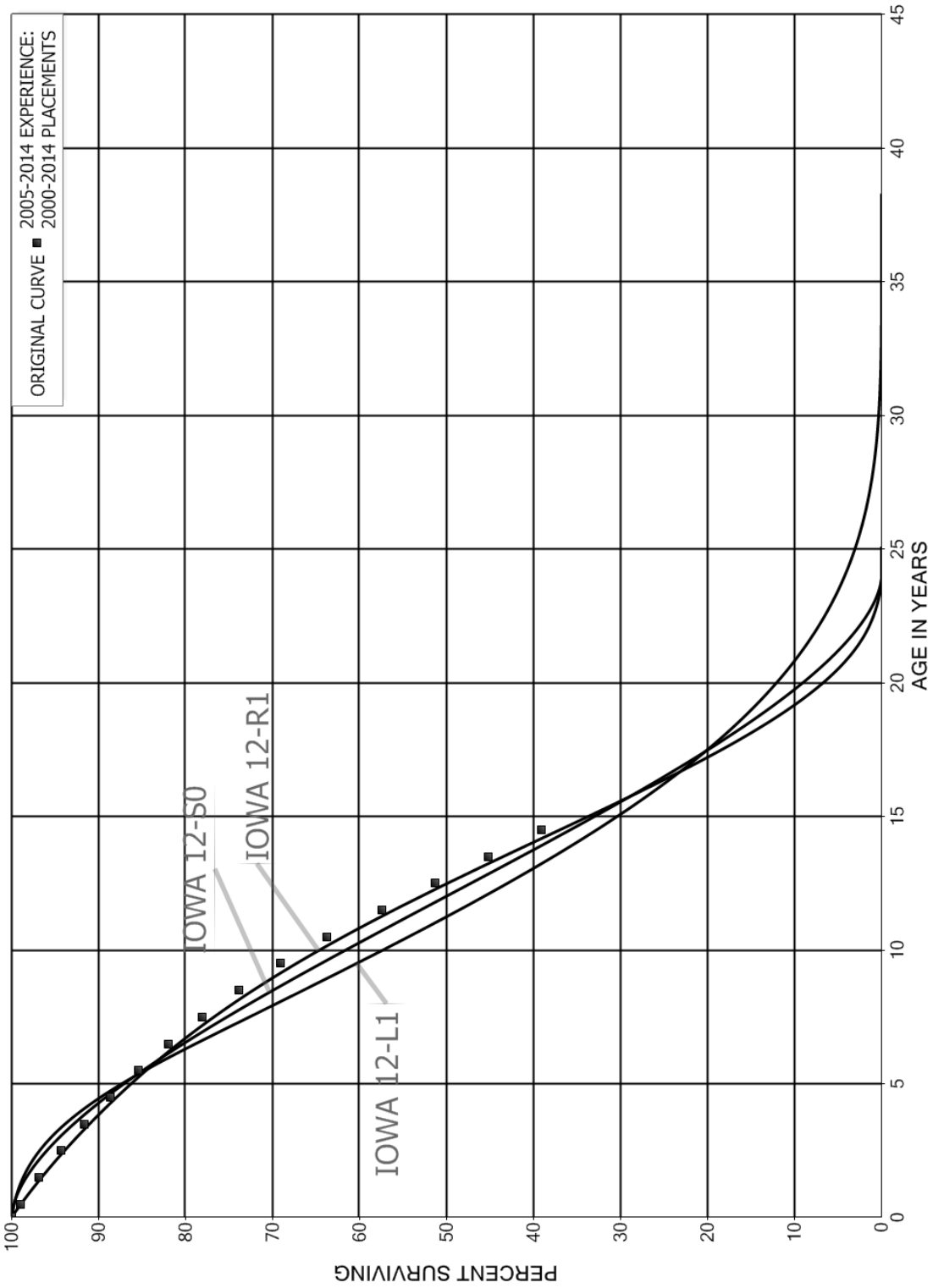
In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 IOWA curve would be selected as the most representative of the plotted survivor characteristics of the group.













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**Gannett Fleming Canada ULC**

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February 25, 2016

Manitoba Hydro  
360 Portage Avenue  
Winnipeg, Manitoba  
T3C 0G8

Attention: Mr. Darren Rainkie  
Vice-President, Finance and Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have calculated depreciation rates based on the original asset costs of Centra Gas Manitoba Inc. ("Centra Gas") as of March 31, 2014 using the depreciation calculation procedures that were approved in your last depreciation study, namely the use of the Average Service Life ("ASL") procedure and incorporation of estimated net salvage percentages. We have also prepared a schedule of depreciation rates incorporating the use of the ASL procedure, but without the incorporation of net salvage percentages. The attached schedules provide a summary of the depreciation rates for both with and without net salvage scenarios related to the transmission, distribution and general plant assets of Centra Gas of March 31, 2014.

The calculated annual depreciation accrual rates presented in the report are applicable to plant in service as of March 31, 2014. The depreciation rates are based on the average service life estimates and interim survivor curve determinations as recently completed in the full depreciation study report. The net salvage percentages used in the enclosed schedules of depreciation rates are consistent with the percentages used in the 2010 Depreciation Study.

Gannett Fleming has calculated and is providing these requested schedules of depreciation rates in order to provide continuity from the last depreciation study, through the transition to the depreciation rates as provided in the recently completed Gannett Fleming Depreciation Study report.

As the attached schedules are a work product of Gannett Fleming, we ask that this cover letter be provided any time that the attached schedules are distributed. Gannett Fleming does, however, authorize the distribution of the electronic version of the attached schedules.

Respectfully submitted,

GANNETT FLEMING CANADA ULC

A handwritten signature in black ink, appearing to read "LEK", is centered below the company name.

LARRY E. KENNEDY  
Vice President

LEK:hac  
Project: 058390:500

/Attachments - 4

CENTRA GAS MANITOBA INC.

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS  
AS OF MARCH 31, 2014  
ASL WITH SALVAGE

ACCOUNT	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	SURVIVING ORIGINAL COST AS OF MARCH 31, 2014 (4)	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION FOR TRUE-UP (7)	TOTAL DEPRECIATION RELATED TO LIFE		
					AMOUNT (5)	RATE (%) (6)=(5)/(4)		EXPENSE (8)=(5)+(7)	RATE (%) (9)=(8)/(4)	
401.00	FRANCHISES AND CONSENTS	20-SQ	0	22,105	1,105	5.00	-	1,105	**	5.00
<b>TRANSMISSION</b>										
461.00	LAND RIGHTS	75-SQ	0	3,932,416	52,301	1.33	(1,191)	51,110		1.30
463.00	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	65-R4	(5)	1,035,535	16,745	1.62	(3,144)	13,601		1.31
464.00	STRUCTURES AND IMPROVEMENTS - OTHER	65-R4	(5)	76,421	1,236	1.62	(429)	807		1.06
465.00	MAINS	65-R3	(15)	101,865,455	1,804,037	1.77	(23,629)	1,780,408		1.75
465.10	CATHODIC PROTECTION	25-SQ	0	195,084	7,803	4.00	135	7,938		4.07
467.00	MEASURING AND REGULATING EQUIPMENT	45-R2	(5)	8,128,234	189,469	2.33	(8,374)	181,095		2.23
<b>TOTAL TRANSMISSION</b>				<b>115,233,145</b>	<b>2,071,591</b>		<b>(36,632)</b>	<b>2,034,959</b>		
<b>DISTRIBUTION</b>										
471.00	LAND RIGHTS	75-SQ	0	1,306,450	17,376	1.33	-	17,376		1.33
472.00	STRUCTURES AND IMPROVEMENTS	50-R3	(10)	1,335,428	29,379	2.20	(5,477)	23,902		1.79
472.10	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	50-R3	5	4,232,659	80,420	1.90	163	80,583		1.90
473.00	SERVICES	62-R2	(50)	232,034,858	5,603,642	2.41	82,448	5,686,090		2.45
474.00	REGULATORS AND METER INSTALLATIONS	50-R5	0	52,825,017	1,056,500	2.00	(72,608)	983,892		1.86
475.00	MAINS	68-R4	(20)	182,842,390	3,225,340	1.76	(42,705)	3,182,635		1.74
475.10	CATHODIC PROTECTION	15-SQ	0	2,466,194	164,495	6.67	7,689	172,184		6.98
477.00	MEASURING AND REGULATING EQUIPMENT	37-R2.5	(20)	37,286,853	1,208,094	3.24	(87,294)	1,120,800		3.01
477.10	TELEMETRY EQUIPMENT	17-S6	0	4,046,541	237,937	5.88	(48,404)	189,533		4.68
478.00	METERS	25-R1.5	0	41,097,382	1,641,170	3.99	356,362	1,997,532		4.86
478.10	METER - TESTING	10-SQ	0	0	0	10.00	-	-	*	10.00
479.10	COMPUTER HARDWARE EQUIPMENT - EMS/SCADA	5-SQ	0	441,769	88,354	20.00	-	88,354		20.00
479.30	COMPUTER SYSTEM DEVELOPMENT - EMS/SCADA	7-S3	0	3,006,585	429,641	14.29	(27,791)	401,850		13.37
<b>TOTAL DISTRIBUTION</b>				<b>562,922,127</b>	<b>13,782,349</b>		<b>162,383</b>	<b>13,944,732</b>		
<b>GENERAL PLANT</b>										
482.00	STRUCTURES AND IMPROVEMENTS	45-R3	15	8,983,418	169,517	1.89	(63,108)	106,409		1.18
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	0	265,592	5,050	1.90	28,672	33,722		12.70
483.30	COMPUTER SYSTEM DEVELOPMENT	10-SQ	0	5,304,028	530,403	10.00	-	530,403		10.00
484.00	TRANSPORTATION EQUIPMENT	10-R5	10	199,645	0	0.00	-	-		0.00
485.00	HEAVY WORK EQUIPMENT	20-R5	20	459,767	0	3.38	-	-		0.00
486.00	TOOLS AND WORK EQUIPMENT	15-SQ	0	1,512,515	51,904	3.43	-	51,904		3.43
<b>TOTAL GENERAL PLANT</b>				<b>16,724,964</b>	<b>756,874</b>		<b>(34,436)</b>	<b>722,438</b>		
<b>TOTAL DEPRECIABLE PLANT</b>				<b>694,902,341</b>	<b>16,611,918</b>		<b>91,315</b>	<b>16,703,233</b>		<b>2.40</b>

\* Rate is provided for the use with future additions.

\*\* Total depreciation expense calculated based upon length of lease term, with no provision for true-up.

\*\*\* Account is fully depreciated.

CENTRA GAS MANITOBA INC.

TABLE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP RELATED TO ORIGINAL COST AS OF MARCH 31, 2014 ASL WITH SALVAGE

ACCT	DEPRECIABLE GROUP (1)	SURVIVING ORIGINAL COST	CALCULATED ACCRUED DEPRECIATION	BOOK ACCUMULATED DEPRECIATION	ACCUMULATED DEPRECIATION VARIANCE		PROBABLE REMAINING LIFE	ANNUAL PROVISION FOR TRUE-UP	TRUE-UP RATE (%)	
		AS OF MARCH 31, 2014 (2)	(3)	(4)	AMOUNT (5) = (3)-(4)	PERCENT (6) = (5)/(3)	(7)	(8)=(5)/(7)	(9)=(8)/(2)	
401.00	FRANCHISES AND CONSENTS	22,105	21,426	12,384	9,042	42.20	1.0	-	0.00	
<b>TRANSMISSION</b>										
461.00	LAND RIGHTS	3,932,416	650,054	725,696	(75,642)	(11.64)	63.5	(1,191)	(0.03)	
463.00	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	1,035,535	395,737	553,517	(157,780)	(39.87)	50.2	(3,144)	(0.30)	
464.00	STRUCTURES AND IMPROVEMENTS - OTHER	76,421	45,667	59,420	(13,753)	(30.12)	32.0	(429)	(0.56)	
465.00	MAINS	101,865,455	26,132,115	27,329,624	(1,197,509)	(4.58)	50.7	(23,629)	(0.02)	
465.10	CATHODIC PROTECTION	195,084	4,153	844	3,309	79.68	24.5	135	0.07	
467.00	MEASURING AND REGULATING EQUIPMENT	8,128,234	2,082,993	2,404,369	(321,376)	(15.43)	38.4	(8,374)	(0.10)	
	<b>TOTAL TRANSMISSION</b>	<b>115,233,145</b>	<b>29,310,719</b>	<b>31,073,470</b>	<b>(1,762,751)</b>			<b>(36,632)</b>		
<b>DISTRIBUTION</b>										
471.00	LAND RIGHTS	1,306,450	156,021	162,691	(6,670)	(4.27)	66.1 ***	-	0.00	
472.00	STRUCTURES AND IMPROVEMENTS	1,335,428	640,233	797,038	(156,805)	(24.49)	28.6	(5,477)	(0.41)	
472.10	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	4,232,659	1,194,905	1,189,178	5,727	0.48	35.1	163	0.00	
473.00	SERVICES	232,034,858	89,858,471	86,080,722	3,777,749	4.20	45.8	82,448	0.04	
474.00	REGULATORS AND METER INSTALLATIONS	52,825,017	17,619,738	20,243,062	(2,623,324)	(14.89)	36.1	(72,608)	(0.14)	
475.00	MAINS	182,842,390	62,269,632	64,364,739	(2,095,107)	(3.36)	49.1	(42,705)	(0.02)	
475.10	CATHODIC PROTECTION	2,466,194	654,348	570,688	83,660	12.79	10.9	7,689	0.31	
477.00	MEASURING AND REGULATING EQUIPMENT	37,286,853	15,986,724	18,129,793	(2,143,069)	(13.41)	24.6	(87,294)	(0.23)	
477.10	TELEMETRY EQUIPMENT	4,046,541	3,004,778	3,486,399	(481,621)	(16.03)	10.0	(48,404)	(1.20)	
478.00	METERS	41,097,382	11,829,826	6,306,218	5,523,608	46.69	15.5	356,362	0.87	
479.10	COMPUTER HARDWARE EQUIPMENT - EMS/SCADA	441,769	215,567	202,210	13,358	6.20	2.5 ***	-	0.00	
479.30	COMPUTER SYSTEM DEVELOPMENT - EMS/SCADA	3,006,585	214,760	395,400	(180,640)	(84.11)	6.5	(27,791)	(0.92)	
	<b>TOTAL DISTRIBUTION</b>	<b>562,922,127</b>	<b>203,645,003</b>	<b>201,928,138</b>	<b>1,716,865</b>			<b>162,383</b>		
<b>GENERAL PLANT</b>										
482.00	STRUCTURES AND IMPROVEMENTS	8,983,418	4,261,535	5,938,948	(1,677,413)	(39.36)	26.6	(63,108)	(0.70)	
483.00	OFFICE FURNITURE AND EQUIPMENT	265,592	262,569	233,897	28,672	10.92	1.0 *	28,672	10.80	
483.30	COMPUTER SYSTEM DEVELOPMENT	5,304,028	4,508,423	4,331,622	176,801	3.92	1.5 ***	-	0.00	
484.00	TRANSPORTATION EQUIPMENT	199,645	179,680	199,645	(19,965)	(11.11)	0.0 **	-	0.00	
485.00	HEAVY WORK EQUIPMENT	459,767	295,009	459,767	(164,758)	(55.85)	0.0 **	-	0.00	
486.00	TOOLS AND WORK EQUIPMENT	1,512,515	1,435,308	1,331,160	104,148	7.26	1.5 ***	-	0.00	
	<b>TOTAL GENERAL PLANT</b>	<b>16,724,964</b>	<b>10,942,524</b>	<b>12,495,039</b>	<b>(1,552,515)</b>			<b>(34,436)</b>		
	<b>TOTAL DEPRECIABLE PLANT</b>	<b>694,902,341</b>	<b>243,919,672</b>	<b>245,509,030</b>	<b>(1,589,358)</b>			<b>91,315</b>		

\* No true-up is calculated as account will be amortized until fully depreciated.

\*\* Fully amortized account, therefore true-up has been suspended.

\*\*\* True-up is not calculated on square accounts with less than 10% accumulated depreciation variance.

CENTRA GAS MANITOBA INC.

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS  
AS OF MARCH 31, 2014  
ASL WITHOUT SALVAGE

ACCOUNT	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	SURVIVING ORIGINAL COST AS OF MARCH 31, 2014 (4)	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION FOR TRUE-UP (7)	TOTAL DEPRECIATION RELATED TO LIFE	
					AMOUNT (5)	RATE (%) (6)=(5)/(4)		EXPENSE (8)=(5)+(7)	RATE (%) (9)=(8)/(4)
401.00	FRANCHISES AND CONSENTS	20-SQ	0	22,105	1,105	5.00	-	1,105	** 5.00
<b>TRANSMISSION</b>									
461.00	LAND RIGHTS	75-SQ	0	3,932,416	52,301	1.33	(1,191)	51,110	1.30
463.00	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	65-R4	0	1,035,535	15,947	1.54	(3,518)	12,429	1.20
464.00	STRUCTURES AND IMPROVEMENTS - OTHER	65-R4	0	76,421	1,177	1.54	(497)	680	0.89
465.00	MAINS	65-R3	0	101,865,455	1,568,728	1.54	(90,811)	1,477,917	1.45
465.10	CATHODIC PROTECTION	25-SQ	0	195,084	7,803	4.00	135	7,938	4.07
467.00	MEASURING AND REGULATING EQUIPMENT	45-R2	0	8,128,234	180,447	2.22	(10,917)	169,530	2.09
	<b>TOTAL TRANSMISSION</b>			<b>115,233,145</b>	<b>1,826,403</b>		<b>(106,799)</b>	<b>1,719,604</b>	
<b>DISTRIBUTION</b>									
471.00	LAND RIGHTS	75-SQ	0	1,306,450	17,376	1.33	-	17,376	1.33
472.00	STRUCTURES AND IMPROVEMENTS	50-R3	0	1,335,428	26,709	2.00	(7,510)	19,199	1.44
472.10	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	50-R3	5	4,232,659	80,420	1.90	163	80,583	1.90
473.00	SERVICES	62-R2	0	232,034,858	3,735,761	1.61	(571,259)	3,164,502	1.36
474.00	REGULATORS AND METER INSTALLATIONS	50-R5	0	52,825,017	1,056,500	2.00	(72,608)	983,892	1.86
475.00	MAINS	68-R4	0	182,842,390	2,687,783	1.47	(254,248)	2,433,535	1.33
475.10	CATHODIC PROTECTION	15-SQ	0	2,466,194	164,495	6.67	7,703	172,198	6.98
477.00	MEASURING AND REGULATING EQUIPMENT	37-R2.5	0	37,286,853	1,006,745	2.70	(195,826)	810,919	2.17
477.10	TELEMETRY EQUIPMENT	17-S6	0	4,046,541	237,937	5.88	(48,404)	189,533	4.68
478.00	METERS	25-R1.5	0	41,097,382	1,641,170	3.99	356,362	1,997,532	4.86
478.10	METER - TESTING	10-SQ	0	0	0	10.00	-	-	* 10.00
479.10	COMPUTER HARDWARE EQUIPMENT - EMS/SCADA	5-SQ	0	441,769	88,354	20.00	-	88,354	20.00
479.30	COMPUTER SYSTEM DEVELOPMENT - EMS/SCADA	7-S3	0	3,006,585	429,641	14.29	(27,791)	401,850	13.37
	<b>TOTAL DISTRIBUTION</b>			<b>562,922,127</b>	<b>11,172,891</b>		<b>(813,418)</b>	<b>10,359,473</b>	
<b>GENERAL PLANT</b>									
482.00	STRUCTURES AND IMPROVEMENTS	45-R3	15	8,983,418	169,517	1.89	(63,108)	106,409	1.18
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	0	265,592	5,050	1.90	28,672	33,722	12.70
483.30	COMPUTER SYSTEM DEVELOPMENT	10-SQ	0	5,304,028	530,403	10.00	-	530,403	10.00
484.00	TRANSPORTATION EQUIPMENT	10-R5	10	199,645	0	0.00	-	-	*** 0.00
485.00	HEAVY WORK EQUIPMENT	20-R5	20	459,767	0	3.38	-	-	*** 0.00
486.00	TOOLS AND WORK EQUIPMENT	15-SQ	0	1,512,515	51,904	3.43	-	51,904	3.43
	<b>TOTAL GENERAL PLANT</b>			<b>16,724,964</b>	<b>756,874</b>		<b>(34,436)</b>	<b>722,438</b>	
	<b>TOTAL DEPRECIABLE PLANT</b>			<b>694,902,341</b>	<b>13,757,273</b>		<b>(954,653)</b>	<b>12,802,620</b>	<b>1.84</b>

\* Rate is provided for the use with future additions.

\*\* Total depreciation expense calculated based upon length of lease term, with no provision for true-up.

\*\*\* Account is fully depreciated.



CENTRA GAS MANITOBA INC.

TABLE 2. CALCULATED ACCRUED DEPRECIATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP RELATED TO ORIGINAL COST AS OF MARCH 31, 2014 ASL WITHOUT SALVAGE

ACCT	DEPRECIABLE GROUP (1)	SURVIVING ORIGINAL COST	CALCULATED ACCRUED DEPRECIATION	BOOK ACCUMULATED DEPRECIATION	ACCUMULATED DEPRECIATION VARIANCE		PROBABLE REMAINING LIFE	ANNUAL PROVISION FOR TRUE-UP	TRUE-UP RATE (%)	
		AS OF MARCH 31, 2014 (2)	(3)	(4)	AMOUNT (5) = (3)-(4)	PERCENT (6) = (5)/(3)	(7)	(8)=(5)/(7)	(9)=(8)/(2)	
401.00	FRANCHISES AND CONSENTS	22,105	21,426	12,384	9,042	42.20	1.0	-	0.00	
<b>TRANSMISSION</b>										
461.00	LAND RIGHTS	3,932,416	650,054	725,696	(75,642)	(11.64)	63.5	(1,191)	(0.03)	
463.00	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	1,035,535	376,927	553,517	(176,590)	(46.85)	50.2	(3,518)	(0.34)	
464.00	STRUCTURES AND IMPROVEMENTS - OTHER	76,421	43,493	59,420	(15,927)	(36.62)	32.0	(497)	(0.65)	
465.00	MAINS	101,865,455	22,727,306	27,329,624	(4,602,318)	(20.25)	50.7	(90,811)	(0.09)	
465.10	CATHODIC PROTECTION	195,084	4,153	844	3,309	79.68	24.5	135	0.07	
467.00	MEASURING AND REGULATING EQUIPMENT	8,128,234	1,985,423	2,404,369	(418,946)	(21.10)	38.4	(10,917)	(0.13)	
	<b>TOTAL TRANSMISSION</b>	<b>115,233,145</b>	<b>25,787,356</b>	<b>31,073,470</b>	<b>(5,286,114)</b>			<b>(106,799)</b>		
<b>DISTRIBUTION</b>										
471.00	LAND RIGHTS	1,306,450	156,021	162,691	(6,670)	(4.27)	66.1 ***	-	0.00	
472.00	STRUCTURES AND IMPROVEMENTS	1,335,428	582,032	797,038	(215,006)	(36.94)	28.6	(7,510)	(0.56)	
472.10	STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	4,232,659	1,194,905	1,189,178	5,727	0.48	35.1	163	0.00	
473.00	SERVICES	232,034,858	59,905,649	86,080,722	(26,175,073)	(43.69)	45.8	(571,259)	(0.25)	
474.00	REGULATORS AND METER INSTALLATIONS	52,825,017	17,619,738	20,243,062	(2,623,324)	(14.89)	36.1	(72,608)	(0.14)	
475.00	MAINS	182,842,390	51,891,356	64,364,739	(12,473,383)	(24.04)	49.1	(254,248)	(0.14)	
475.10	CATHODIC PROTECTION	2,466,194	654,348	570,688	83,660	12.79	10.9	7,703	0.31	
477.00	MEASURING AND REGULATING EQUIPMENT	37,286,853	13,322,271	18,129,793	(4,807,522)	(36.09)	24.6	(195,826)	(0.53)	
477.10	TELEMETRY EQUIPMENT	4,046,541	3,004,778	3,486,399	(481,621)	(16.03)	10.0	(48,404)	(1.20)	
478.00	METERS	41,097,382	11,829,826	6,306,218	5,523,608	46.69	15.5	356,362	0.87	
479.10	COMPUTER HARDWARE EQUIPMENT - EMS/SCADA	441,769	215,567	202,210	13,358	6.20	2.5 ***	-	0.00	
479.30	COMPUTER SYSTEM DEVELOPMENT - EMS/SCADA	3,006,585	214,760	395,400	(180,640)	(84.11)	6.5	(27,791)	(0.92)	
	<b>TOTAL DISTRIBUTION</b>	<b>562,922,127</b>	<b>160,591,251</b>	<b>201,928,138</b>	<b>(41,336,887)</b>			<b>(813,418)</b>		
<b>GENERAL PLANT</b>										
482.00	STRUCTURES AND IMPROVEMENTS	8,983,418	4,261,535	5,938,948	(1,677,413)	(39.36)	26.6	(63,108)	(0.70)	
483.00	OFFICE FURNITURE AND EQUIPMENT	265,592	262,569	233,897	28,672	10.92	1.0 *	28,672	10.80	
483.30	COMPUTER SYSTEM DEVELOPMENT	5,304,028	4,508,423	4,331,622	176,801	3.92	1.5 ***	-	0.00	
484.00	TRANSPORTATION EQUIPMENT	199,645	179,680	199,645	(19,965)	(11.11)	0.0 **	-	0.00	
485.00	HEAVY WORK EQUIPMENT	459,767	295,009	459,767	(164,758)	(55.85)	0.0 **	-	0.00	
486.00	TOOLS AND WORK EQUIPMENT	1,512,515	1,435,308	1,331,160	104,148	7.26	1.5 ***	-	0.00	
	<b>TOTAL GENERAL PLANT</b>	<b>16,724,964</b>	<b>10,942,524</b>	<b>12,495,039</b>	<b>(1,552,515)</b>			<b>(34,436)</b>		
	<b>TOTAL DEPRECIABLE PLANT</b>	<b>694,902,341</b>	<b>197,342,557</b>	<b>245,509,030</b>	<b>(48,166,473)</b>			<b>(954,653)</b>		

\* No true-up is calculated as account will be amortized until fully depreciated.

\*\* Fully amortized account, therefore true-up has been suspended.

\*\*\* True-up is not calculated on square accounts with less than 10% accumulated depreciation variance.

The following chart compares the 2014 Depreciation Study CGAAP ASL (no negative salvage) depreciation rates to the 2010 Depreciation Study CGAAP ASL (no negative salvage) depreciation rates:

<b>Depreciation Rate Tables (Centra Gas)</b>			
<b>2014 CGAAP ASL (no negative salvage) Study vs. 2010 CGAAP ASL (no negative salvage) Study</b>			
<b>DEPRECIABLE GROUP</b>	<b>2014 Expected Service Life</b>	<b>2014 Proposed ASL Rate %</b>	<b>2010 Previous ASL Rate %</b>
<b>FRANCHISES AND CONSENTS</b>	20	5.00	5.56
<b>TRANSMISSION:</b>			
LAND RIGHTS	75	1.30	1.29
STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	65	1.20	1.82
STRUCTURES AND IMPROVEMENTS - OTHER	65	0.89	2.00
MAINS	65	1.45	1.45
TRANSMISSION CATHODIC PROTECTION	25	4.07	NA
MEASURING AND REGULATING EQUIPMENT	45	2.09	1.81
<b>DISTRIBUTION:</b>			
LAND RIGHTS	75	1.33	1.29
STRUCTURES AND IMPROVEMENTS	50	1.44	1.76
STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING	50	1.90	1.71
SERVICES	62	1.36	1.63
REGULATORS AND METER INSTALLATIONS	50	1.86	2.13
MAINS	68	1.33	1.42
DISTRIBUTION CATHODIC PROTECTION	15	6.98	NA
MEASURING AND REGULATING EQUIPMENT	37	2.17	2.45
TELEMETRY EQUIPMENT	17	4.68	5.00
METERS	25	4.86	4.15
METER SAMPLING/TESTING	10	10.00	NA
COMPUTER HARDWARE EQUIPMENT - EMS/SCADA	5	20.00	20.00
COMPUTER SYSTEM DEVELOPMENT - EMS/SCADA	7	13.37	20.00
<b>GENERAL PLANT:</b>			
STRUCTURES AND IMPROVEMENTS	45	1.18	2.36
OFFICE FURNITURE AND EQUIPMENT	15	12.70	6.67
COMPUTER SYSTEM DEVELOPMENT	10	10.00	10.00
TRANSPORTATION EQUIPMENT	10	-	14.70
TOOLS AND WORK EQUIPMENT	15	3.43	6.67

February 26, 2016

Manitoba Hydro  
360 Portage Avenue  
Winnipeg, Manitoba  
T3C 0G8

Attention: Mr. Darren Rainkie  
Vice-President, Finance and Regulatory

Ladies and Gentlemen:

Based on my review of the loss as projected in the gains/loss model for the year ending March 31, 2015 related to the Centra Gas Account 478 – Meters, I determined that the average service life and lowa curve requires a change to better reflect the life expectancy of the assets in this account. As such, we included the retirement data related to the year 2015 to our historic retirement data bases and prepared a new actuarial analysis of Account 478.

Based on our additional analysis, I have concluded that a revision for the average service life to the lowa 20-L1.5 is reasonable at this time. In order to provide the impact of this change on the Centra Gas depreciation rate, we have prepared a depreciation calculation based on this change in the lowa curve. I have attached revised versions of the Tables 1 and 2 from the last depreciation study which now incorporate this change. The attached tables reflect the changed rate on both an Equal Life Group procedure and separately for the use of the Average Service Life procedure. Both of the attached scenarios exclude any provision for net negative salvage.

As the attached schedules are a work product of Gannett Fleming, we ask that this cover letter be provided any time that the attached schedules are distributed. Gannett Fleming does, however, authorize the distribution of the electronic version of the attached schedules.

Respectfully submitted,

GANNETT FLEMING CANADA ULC

A handwritten signature in black ink, appearing to read 'LEK', is positioned above the printed name and title.

LARRY E. KENNEDY  
Vice President

LEK:hac  
Project: 058390:500

/Attachments - 4

CENTRA GAS MANITOBA INC.

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS  
AS OF MARCH 31, 2015  
ELG

ACCOUNT	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	SURVIVING ORIGINAL COST AS OF MARCH 31, 2015 (4)	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION FOR TRUE-UP (7)	TOTAL DEPRECIATION RELATED TO LIFE	
					AMOUNT (5)	RATE (%) (6)=(5)/(4)		EXPENSE (8)=(5)+(7)	RATE (%) (9)=(8)/(4)
478.00	METERS	20-L1.5	0	42,641,151	2,298,403	5.39	813,661	3,112,064	7.30

CENTRA GAS MANITOBA INC.

TABLE 2. CALCULATED ACCRUED DEPREICATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP RELATED TO ORIGINAL COST AS OF MARCH 31, 2015  
ELG

ACCT	DEPRECIABLE GROUP (1)	SURVIVING ORIGINAL COST AS OF MARCH 31, 2015 (2)	CALCULATED ACCRUED DEPRECIATION (3)	BOOK ACCUMULATED DEPRECIATION (4)	ACCUMULATED DEPRECIATION VARIANCE		PROBABLE REMAINING LIFE (7)	ANNUAL PROVISION FOR TRUE-UP (8)=(5)/(7)	TRUE-UP RATE (%) (9)=(8)/(2)
					AMOUNT (5) = (3)-(4)	PERCENT (6) = (5)/(3)			
478.00	METERS	42,641,151	18,107,475	8,018,075	10,089,400	55.72	12.4	813,661	1.91

CENTRA GAS MANITOBA INC.

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS  
AS OF MARCH 31, 2015  
ASL

ACCOUNT	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE (3)	SURVIVING ORIGINAL COST AS OF MARCH 31, 2015 (4)	CALCULATED ANNUAL ACCRUAL		ANNUAL PROVISION FOR TRUE-UP (7)	TOTAL DEPRECIATION RELATED TO LIFE	
					AMOUNT (5)	RATE (%) (6)=(5)/(4)		EXPENSE (8)=(5)+(7)	RATE (%) (9)=(8)/(4)
478.00	METERS	20-L1.5	0	42,641,151	2,132,058	5.00	559,409	2,691,467	6.31

CENTRA GAS MANITOBA INC.

TABLE 2. CALCULATED ACCRUED DEPREICATION, BOOK ACCUMULATED DEPRECIATION AND DETERMINATION OF ANNUAL PROVISION FOR TRUE-UP RELATED TO ORIGINAL COST AS OF MARCH 31, 2015  
ASL

ACCT	DEPRECIABLE GROUP (1)	SURVIVING ORIGINAL COST AS OF MARCH 31, 2015 (2)	CALCULATED ACCRUED DEPRECIATION (3)	BOOK ACCUMULATED DEPRECIATION (4)	ACCUMULATED DEPRECIATION VARIANCE		PROBABLE REMAINING LIFE (7)	ANNUAL PROVISION FOR TRUE-UP (8)=(5)/(7)	TRUE-UP RATE (%) (9)=(8)/(2)
					AMOUNT (5) = (3)-(4)	PERCENT (6) = (5)/(3)			
478.00	METERS	42,641,151	13,894,104	6,957,435	6,936,669	49.93	12.4	559,409	1.31