NEWFOUNDLAND POWER
A FORTIS COMPANY

Newfoundland Power Inc.

55 Kenmount Road
P.O. Box 8910
St. John's, NL A1B 3P6
Business: (709) 737-5600
Facsimile: (709) 737-2974
www.newfoundlandpower.com

DELIVERED BY HAND

December 14, 2012

Board of Commissioners
of Public Utilities
P.O. Box 21040
120 Torbay Road
St. John's, NL A1A 5B2

Attention: G. Cheryl Blundon
Director of Corporate Services
and Board Secretary

Ladies and Gentlemen:

Re: 2013/2014 General Rate Application

Please find enclosed the original and 12 copies of:

(1) Newfoundland Power's Company Rebuttal Evidence: Depreciation; and

(2) Gannett Fleming's Expert Rebuttal Evidence.

For convenience, the Requests for Information are provided on three-hole punched paper.

Electronic copies of these Requests for Information will be forwarded in due course.

If you have any questions regarding the enclosed, please contact the undersigned at your convenience.

Yours very truly,

Peter Alteen
Vice President,
Regulation & Planning

Enclosures

c. Geoffrey Young (1 copy)
Newfoundland and Labrador Hydro

Thomas Johnson (3 copies)
Consumer Advocate

Company Rebuttal Evidence: Depreciation

COMPANY REBUTTAL EVIDENCE
DEPRECIATION

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SECTION 1: INTRODUCTION

On November 28, 2012, the Consumer Advocate filed Direct Testimony of Jacob Pous in respect of certain depreciation matters (the "Pous Testimony") in Newfoundland Power's 2013/2014 General Rate Application (the "Application").

This Company Rebuttal Evidence is presented in response to the Pous Testimony. The Company Rebuttal Evidence should be read in conjunction with the Gannett Fleming Expert Rebuttal Evidence which is also presented in response to the Pous Testimony and is filed with this Company Rebuttal Evidence.

Amongst other things, this Company Rebuttal Evidence provides a regulatory history of the Equal Life Group, or ELG, procedure used to calculate utility depreciation expense. It also deals with comparisons before the Board between the ELG procedure and the Average Life Group, or ALG, procedure. Some historical references in Board orders and decisions have been to the "unit summation" procedure which is the same as the ELG procedure. For convenience, in this Company Rebuttal Evidence, references to the unit summation procedure in Board orders and decisions are treated as references to the ELG procedure.

SECTION 2: EQUAL LIFE GROUP PROCEDURE

2.1 OVERVIEW

The ELG procedure has been approved for the calculation of depreciation expense for regulated utilities in Newfoundland and Labrador for almost 40 years, although the timing of adoption of the ELG procedure by particular utilities has varied. The basis for approval by the Board in all cases has been that the ELG procedure is considered superior to the ALG procedure in ensuring appropriate cost recovery in utility customer rates.

The ELG procedure for calculating depreciation is the most common procedure in current Canadian public utility practice.

When compared to the ALG procedure, Newfoundland Power's longstanding historical use of the ELG procedure for calculating depreciation results in *lower* overall revenue requirements in this Application. If Newfoundland Power were to change from the ELG procedure to the ALG procedure for calculating depreciation, revenue requirements would be lower for a transition period. However, following this period, Newfoundland Power's overall revenue requirements would be higher.[1] Continued use of the ELG procedure to calculate depreciation expense is beneficial to Newfoundland Power's customers.

Newfoundland and Labrador Hydro ("Hydro") does not currently use the ELG procedure to calculate its depreciation expense. This is a reflection of Hydro's ongoing transition to

[1] The lower revenue requirements in this transition period are attributable to the combination of a true up adjustment and lower depreciation expense which would initially result from the Company's adoption of the ALG procedure. Ultimately, these transitional effects are more than offset by increased return on rate base attributable to adoption of the ALG procedure which would result in higher revenue requirements.

depreciation practices which more fully reflect current Canadian public utility practice following its becoming a fully regulated public utility in 1996.

2.2 REGULATORY HISTORY

Background

The depreciation rates approved by the Board for use by the Company following the 1967 amalgamation that created Newfoundland Power were those approved for a predecessor company Newfoundland Light and Power Company, Limited in 1961.[2] These depreciation rates were calculated using the ALG procedure.

The use of the ELG procedure to calculate regulated utility depreciation expense was first approved by the Board for Newfoundland Telephone in 1972.[3]

Over a series of 5 separate general rate applications in the period 1977 to 1983, the Board would consider Newfoundland Power's adoption of the ELG procedure to calculate depreciation rates.[4] As a result of these considerations, the Board would ultimately approve the Company's full adoption of the ELG procedure to calculate depreciation for all Newfoundland Power plant in service, effective January 1, 1983.

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[2] See Order No. P.U. 9 (1967) which approved the use of depreciation rates of Newfoundland Light and Power Company, Limited which were authorized in Order No. P.U. 19 (1961).

[3] The ELG procedure was first approved by the Board for use by Newfoundland Telephone Co. Ltd. In Order No. 59 (1972), the Board, in approving the ELG procedure, stated "…*the ELG procedure allows specifically and completely for the entire cost of the short-lived as well as the long-lived items of property to be recovered by the time of their retirement and consequently it is superior to the [ALG] procedure which uses an overall average life and an overall depreciation rate*." (emphasis added)

[4] Annual rate cases were common in the late 1970s and early 1980s due to high rates of inflation.

1977 to 1983

The ELG procedure was first considered by the Board for use by Newfoundland Power in 1977. In 1977, the Company presented a depreciation proposal to the Board requesting depreciation rates based upon the ALG procedure for plant in service at December 31, 1977 and the ELG procedure for plant added on or after January 1, 1978.[5] In declining to approve the Company's proposed adoption of ELG at that time, the Board observed:

> "There is merit in amortizing the cost of both short-life and longer-life units during their respective service lives as is done by the [ELG] procedure. However, the Board is of the opinion that such a change is not appropriate in a period when the customers of the Applicant are having to absorb greatly increased expenses due to the rates charged and to be charged to the Applicant by Hydro; increasing fuel adjustment payments and the large capital expenditure the Applicant is required to finance.
>
> The Board, therefore, will deny the Applicant's request for approval to use the [ELG] procedure for depreciating its property added to the plant in service on or after January 1, 1978."[6]

In its 1978 general rate application, Newfoundland Power again requested that the Board approve the use of the ELG procedure for future plant additions while retaining the ALG procedure for plant already in service. The Board retained an expert to review the Company's proposal.[7] In evidence, the Board's expert observed:

> "From the viewpoint of utility customers, it is evident that adoption of the ELG method would, under circumstances most likely to apply in the foreseeable future, imply higher depreciation charges. However, there is an offsetting consideration. Neglecting some minor items not affected by the choice of depreciation method, the rate base is also a cost of service, and in fact a larger item of cost than the annual depreciation charge. A policy which increases the reserve will decrease the cost of maintaining the percentage rate of return at some authorized fixed level."[8]

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5 The Company's depreciation proposal was based upon Montreal Engineering Company, Limited's depreciation study of February, 1977. A copy of this study is Attachment A to the response to Request for Information CA-NP-017.

6 See Order. No. P.U. 34 (1977), page 18.

7 The expert was Mr. G. C. Baker, P. Eng., a longstanding regulatory consultant to the Board.

8 See 1978 Newfoundland Light & Power Co. Ltd. general rate application, transcript, pages 529-530.

Following Newfoundland Power's 1978 general rate hearing, the Board effectively approved Newfoundland Power's adoption of the ELG procedure for property added after January 1, 1979.[9] One of the principal considerations indicated by the Board in approving the Company's depreciation proposal was that "...deferring depreciation on short-life property units to future years gives users incorrect information on the current cost of electric energy."[10]

In its 1980 general rate application, Newfoundland Power requested the Board approve the ELG procedure to determine deprecation for all plant in service, including that acquired prior to January 1, 1979. The Company's evidence was that it was administratively costly to continue computing depreciation using two procedures. Following the hearing, the Board ordered that the rates of depreciation approved in Order No. P.U. 20 (1978) would remain in effect until a new depreciation study was completed and submitted to the Board for approval.[11]

In its 1981 general rate application, Newfoundland Power submitted a new depreciation study to the Board.[12] The new study presented depreciation rates using the ELG procedure only for post-1978 property, as previously approved by the Board. It also presented depreciation rates using the ELG procedure for all property.[13] Following the hearing, in Order No. P.U. 37 (1981), the Board ordered that the existing procedure for calculating depreciation expense be continued.

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[9] See Order No. P.U. 20 (1978), pages 2-3.

[10] See Reasons for Decision Order No. P.U. 20 (1978), page 13.

[11] See Order No. P.U. 21 (1980), page 61. The Company's depreciation proposal was based upon Montreal Engineering Company, Limited's depreciation study of February, 1977. A copy of this study is Attachment A to the response to Request for Information CA-NP-017.

[12] The 1981 Depreciation Study, completed by Montreal Engineering Company Limited, is provided as Attachment B to response to the Request for Information CA-NP-017.

[13] At that hearing, the Company also sought changes to the regulatory treatment of income tax. The proposed changes to the treatment of income tax impacted the effect that changes in depreciation procedure had on overall revenue requirement.

The Board also indicated that Newfoundland Power would be required to "...justify at the next rate hearing, the use of the tax allocation procedure in conjunction with the [ELG] procedure."[14]

In its 1982 general rate application, Newfoundland Power proposed the use of the ELG procedure to calculate depreciation rates for all plant in service in conjunction with the use of the tax allocation procedure as required by Order No. P.U. 37 (1981).

Following the 1982 general rate hearing, the Board approved the Company's proposal to use the ELG procedure to calculate depreciation for all plant in service, effective January 1, 1983. In its order, the Board stated that it:

> "***...agrees that rates of depreciation based on the [ELG] procedure is the best method of recovering invested capital over the useful life of the plant***. Having reached this conclusion, the [ELG] procedure stands the test of a reasonable and prudent expense properly charged to operating account."[15] (emphasis added)

1983 to Present

Since 1983, Newfoundland Power has used the ELG procedure to calculate depreciation for all plant in service.

The Company's current depreciation consultant, Gannett Fleming, completed their initial depreciation study for the Company in 1995. In that study, and in all subsequent depreciation studies completed for Newfoundland Power, Gannett Fleming has recommended the continued

[14] See Order No. P.U. 37 (1981), page 27.
[15] See Order No. P.U. 47 (1982), page 21.

use of the ELG procedure because "...the [ELG] procedure provides for a better match of depreciation expense and loss in service value than the average service life procedure."[16]

The 2010 Depreciation Study filed in support of this Application is the sixth successive Newfoundland Power depreciation study filed with the Board based on the ELG procedure.[17]

Since 1983, the Board has consistently approved depreciation rates for Newfoundland Power calculated on the basis of the ELG procedure for the purpose of setting customer rates.[18]

2.3 CANADIAN REGULATORY PRACTICE

Exhibit R1 shows survey results into the current use of ELG and ALG depreciation procedures by 34 Canadian utilities.

Table 1 summarizes current use of ELG and ALG by the Canadian utilities surveyed.

Table 1
Current Canadian Utility Practice
ELG vs. ALG

	Count	**%**
ELG	17	50
ALG	14	41
Other	3	9

[16] See 1995 Depreciation Study, page I-3, provided as Attachment E to the response to Request for Information CA-NP-017.

[17] All depreciation studies prepared for Newfoundland Power since 1977 are provided as attachments to the response to Request for Information CA-NP-017.

[18] See Order No's P.U. 17 (1987); P.U. 6 (1991); P.U. 7 (1996-97); P.U. 19 (2003) and P.U. 32 (2007).

Of the utilities surveyed, the ELG procedure is currently used by more Canadian public utilities than any other procedure, including the ALG procedure, for calculating depreciation expense. Currently, 50% of Canadian utilities surveyed use the ELG procedure to calculate depreciation expense.[19]

Use of the ELG procedure to calculate depreciation rates for utility ratemaking purposes is consistent with generally accepted public utility practice in Canada.[20]

2.4 CUSTOMER IMPACT OF ELG vs. ALG

Essential Dynamics

In the Board's evaluation of Newfoundland Power's proposed adoption of the ELG procedure from 1977 to 1983, it was clear that, from the customers' perspective, both annual depreciation expense *and* the annual return on rate base were relevant considerations.[21]

The relationship between depreciation expense and net plant in service, which is the biggest component of rate base, is clear. The essential dynamics of this relationship are simply that higher annual depreciation expense results in a lower rate base (and lower return on rate base); conversely, lower annual depreciation expense results in a higher rate base (and higher return on

[19] The use of the ELG procedure for calculating depreciation expense does not appear to be in decline. Manitoba Hydro, which currently uses the ALG procedure, applied to adopt ELG based depreciation rates, effective April 1, 2013. See Exhibit R1.

[20] The results of this survey contradict Mr. Pous' claim that the ALG procedure is utilized almost exclusively by the energy industry. See Direct Testimony of Jacob Pous, page 6, line 4.

[21] During consideration of Newfoundland Power's proposed adoption of the ELG procedure in 1978, it was clear that any increase in depreciation expense resulting from the adoption of the ELG procedure would, from the customers' perspective, be offset by a reduction in rate base and required return on rate base.

rate base).[22] Because of this relationship, any fair comparison of the *customer* impact of the use of the ELG procedure to the ALG procedure must also include an evaluation of relative effects on the Company's return on rate base.

Analysis of Customer Impact

Newfoundland Power has analysed the *pro forma* 2014 revenue requirement impact of its historical use of the ELG procedure for calculating depreciation rates. This analysis compared the revenue requirements associated with the Company's proposed 2014 depreciation expense and return on rate base as contained in the Application to estimated impacts had Newfoundland Power historically calculated depreciation expense based upon the ALG procedure. The results of this analysis are set out in Exhibit R2.

Table 2 compares the Company's proposed 2014 rate base (reflecting depreciation calculated according to the ELG procedure) with the estimated 2014 rate base reflecting depreciation calculated according to the ALG procedure as reflected in Exhibit R2.

Table 2
***Pro forma* 2014 Rate Base**
ALG vs. ELG
($000s)

ALG[23]	ELG[24]	Difference[25]
1,025,106	954,123	(70,983)

[22] Conceptually, the total depreciation recovery by a utility will be the same under either the ELG or the ALG procedure. From a customers' perspective, lower annual depreciation expense will result in a higher return requirement to finance the higher rate base. Because the higher financing costs will typically result in higher taxes, the use of the ALG procedure will tend to increase the overall cost of depreciation for utility customers.

[23] This is the proposed 2014 ratebase which is based upon the ELG procedure plus the *pro forma* difference in ratebase ($954,123,000 + $70,983,000 = $1,025,106,000).

[24] See Exhibit 8 to the Application, line 30.

[25] See Exhibit R2, footnote 3, *Increase in Rate Base*.

Table 2 shows that Newfoundland Power's 2014 rate base is approximately $71 million lower as a result of the Company's adoption of the ELG procedure to calculate depreciation rates.

Table 3 provides a comparison of the total 2014 *pro forma* revenue requirement impacts (i.e., depreciation expense and return on rate base with associated taxes) of the Company's historical use of the ELG procedure as opposed to the ALG procedure to calculate depreciation rates.

Table 3
***Pro forma* 2014 Revenue Requirements**
ALG vs. ELG
($000s)

	ALG	**ELG**	**Difference**
Depreciation	44,503[26]	48,291[27]	3,788[28]
Return and Taxes	108,036[29]	100,578[30]	(7,458)[31]
Total Impact			**(3,670)**

Table 3 shows that Newfoundland Power's *pro forma* 2014 revenue requirements are approximately $3.7 million *lower* as a result of the Company's historic use of the ELG procedure as approved by the Board to calculate depreciation rates.

Newfoundland Power's use of the ELG procedure to calculate depreciation expense is beneficial to customers.

26 This is the ELG amount less the difference amount.
27 See Exhibit 9, page 2 of 2, line 6.
28 See Exhibit R2, *Increase in Depreciation.*
29 This is the ELG amount plus the difference amount.
30 This is the total of the Return on Rate Base and Income Taxes. See Exhibit 9, page 2 of 2, line 7 and line 10.
31 See Exhibit R2, total of increased return on Rate Base ($6,090,000) plus increase in Income Tax ($1,368,000).

Possible Prospective Change

If the Company were to adopt the ALG procedure in calculating annual depreciation expense, its' annual depreciation expense, and its 2013/2014 revenue requirements would be reduced. However, this reduction in revenue requirements would only be transitional since it would be accompanied by an increasing rate base.

Over time, a change in depreciation procedure from ELG to ALG would, when combined with the increased return required to finance the larger rate base, result in increased overall revenue requirements for Newfoundland Power.

2.5 NEWFOUNDLAND AND LABRADOR HYDRO

Hydro's current depreciation practices differ from those of Newfoundland Power.

Prior to 1996, Hydro was not fully regulated under the provisions of the *Public Utilities Act.* A number of Hydro's accounting practices which pre-dated its becoming regulated, including Hydro's depreciation practices, were specifically approved for regulatory purposes by virtue of section 17 of the *Hydro Corporation Act.*

Historically, Hydro used the sinking fund method to calculate depreciation on its hydroelectric generating and transmission assets. Use of this depreciation method has been recognized by Hydro to be out of step with current Canadian public utility practice. Hydro's changing from the sinking fund method to the straight line method of depreciation for these assets can have material customer impacts during the period of adjustment.[32] Hydro's adoption of the ELG procedure at the same time as it moves from sinking fund to straight line depreciation would only tend to increase the rate impacts experienced by customers as a result of Hydro's transition to depreciation practices which are more consistent with current Canadian public utility practice.

Given this historical context, Newfoundland Power has not taken issue with the fact that Hydro has not yet proposed to adopt the ELG procedure to calculate its depreciation expense. This perspective is reasonable in the overall circumstances and not inconsistent with the regulatory history associated with accounting matters in Newfoundland and Labrador.[33] This perspective does not appear inconsistent with the approach taken by utility regulators in other Canadian provinces either.[34]

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[32] In Hydro's Depreciation Study related to plant in service as of December 31, 2004, which was filed in December 2005 in response to Order No. P.U. 7 (2002-2003), a shortfall in accrued depreciation recovery of over $174 million was indicated. This was largely due to the historic use of the sinking fund method. In an updated Hydro Depreciation Study related to plant in service as of December 31, 2007, which was filed in April 2009 and included adoption of the ELG procedure, a shortfall in accrued depreciation of over $271 million was indicated.

[33] Differences in accounting practice between regulated utilities are not uncommon in Newfoundland and Labrador. For example, the Board approved Newfoundland Telephone Co. Ltd's adoption of the ELG procedure to calculate depreciation expense in 1972. The Board did not approve adoption of the ELG procedure by Newfoundland Power until a decade later due to the higher annual depreciation expense associated with the ELG procedure. A similar approach was adopted with respect to deferred income tax accounting. In 1979, the Board approved Newfoundland Telephone Co. Ltd's adoption of deferred income tax accounting (See Order Nos. P.U. 28 and 31 (1979)). Newfoundland Power did not adopt deferred income tax accounting for pensions until 2008 and for other post employment benefits until 2011 (See Order Nos. P.U. 32 (2007) and 31 (2010) for pensions and other post employment benefits respectively).

[34] See Exhibit R1. In Quebec, Hydro Quebec, a government owned utility, uses the ALG procedure to calculate depreciation expense but Gaz Metro, an investor owned utility, uses the ELG procedure. Similarly, the Yukon Electrical Company Limited, in investor owned utility, uses the ELG procedure whereas the Yukon Energy Corporation, a government owned utility uses the ALG procedure.

ELG vs ALG: Survey of Canadian Utility Practice

In December 2012, Newfoundland Power conducted a survey of Canadian utilities to determine the relative use of the ELG and ALG procedures in calculating depreciation.

Table 1 provides the survey respondents' depreciation procedure arrangements; whether they employ Equal Life Group (ELG), or Average Life Group (ALG), or some alternative method (Other).

Table 1
ELG vs. ALG: Survey of Canadian Utility Practice Results

ELG	ALG	Other
AltaGas	BC Hydro	EPCOR[1]
Altalink	BC Transmission Corporation	OPG[2]
ATCO Electric	FortisBC	SaskPower[3]
ATCO Gas	Hydro One	
City of Lethbridge Electric Transmission System	Hydro Quebec	
City of Red Deer Electric Transmission System	Manitoba Hydro Electric[4]	
	Manitoba Hydro Gas	
Enmax	Maritime Electric	
Fortis Alberta	Newfoundland & Labrador Hydro[5]	
Gaz Metro	Northwest Territories Power Corp.	
NB Power	Qulliq	
Newfoundland Power	Terasen Gas	
Northland Utilities (NWT)	TransCanada - Canadian Mainline	
Northland Utilities (Yellowknife)	Yukon Energy Corporation	
Nova Scotia Power		
SaskEnergy		
TransCanada - Alberta		
Yukon Electrical Company Limited		

The survey indicates that 50% Canadian utilities surveyed use the ELG procedure to calculate depreciation, while 41% use the ALG procedure.

1 EPCOR uses a simplified accounting method in which all plant is amortized.
2 OPG uses a modified unit depreciation approach as well as ALG for some of its mass property accounts.
3 SaskPower uses a modified unit depreciation approach.
4 In its 2012/2013 & 2013/2014 General Rate Application filed on June 15, 2012 Manitoba Hydro proposed to adopt ELG based depreciation rates effective April 1, 2013.
5 Newfoundland & Labrador Hydro uses Average Service Lives with a unit accounting depreciation methodology.

ELG vs. ALG
Results of 2014 *Pro forma* Revenue Requirement Analysis[1]
($000s)

Decrease in Depreciation[2]	(3,788)
Increase in Return on Rate Base[3]	6,090
Increase in Income Tax[4]	1,368
Total increase in Revenue Requirement	**3,670**

1 Estimate based on the difference between the results of the 2010 Depreciation Study and the response to Request for Information CA-NP-003.

2 Comprised of the following amounts ($000s)

Total Depreciation using ALG method	40,854
Total Depreciation using ELG method	44,642
Decrease in Depreciation	**(3,788)**

For the ALG method, see response to Request for Information CA-NP-003, Attachment A, Schedule 1, Page 6 of 6, Column 6, Total Depreciable Plant. For the ELG method, see *Volume 3, Depreciation Study*, Page III-9, Column 6, Total Depreciable Plant.

3 The increase in the return on Rate Base (the increase in Rate Base times the 2014 proposed allowed rate of return on Rate Base).

Return on Rate Base ($000s)			
Increase in Net Book Value:			
Decrease in Accumulated Depreciation			
Calculated Accrued Depreciation, ALG method	(463,071)		
Calculated Accrued Depreciation, ELG method	(563,047)		
Difference	99,976		
Increase in Net Book Value		99,976	A
Increase in Future Tax Balance			
Increase in CCA claimed (1978 – 2010)		0	B
Less Increase in Total Depreciation Expense (1978 – 2010)		99,976	C
Timing difference		(99,976)	D=B-C
Future Tax Rate		29%	E
Increase in Future Tax Balance		(28,993)	F=DxE
Increase in Rate Base		70,983	G=A+F
Return on Rate Base (Exhibit 10, page 2 of 2, line 23)		8.58%	H
Increase in Return on Rate Base		**6,090**	I=GxH

Calculated Accrued Deprecation for ALG is provided in Attachment A, Schedule 1, response to Request for Information CA-NP-003, Page 6 of 6, Column 8 for Total Depreciable Plant; and for ELG is provided in *Volume 3, Depreciation Study*, Page III-9, Column 8 for Total Depreciable Plant.

4 This is the increase in income tax required to provide the proposed return on equity for 2014.

Portion of Return related to Equity		
Weighted Return on Preferred Shares (Exhibit 10, page 2 of 2, line 21)	0.06%	
Weighted Return on Common Shares (Exhibit 10, page 2 of 2, line 22)	4.66%	
Total Related to Equity	4.72%	A
2014 Proposed Rate of Return on Rate Base	8.58%	B
Return on Equity and Proportion of Total Return	55.0%	C=A/B
Increase in total return (000s)	6,090	D=See footnote 3
Increase in return related to total equity (000s)	3,350	E=CxD
Increase in Income Tax (@29%) (000s)	**1,368**	F=(E/.71)x.29

EXPERT REBUTTAL EVIDENCE

of

JOHN W. WIEDMAYER, JR.

On Behalf of

Newfoundland Power

December 2012

Gannett Fleming
Valuation and Rate Division
Excellence Delivered As Promised

Contents

Introduction

In Newfoundland Power's 2012 General Rate Application, the Company filed a Depreciation Study performed by Gannett Fleming. The Depreciation Study presented depreciation rates and accruals as of 2010 plant balances and was based on data through 2009. Gannett Fleming has performed depreciation studies for the Company since 1995, and the current Depreciation Study is based on the same methods and procedures as approved by the Board in prior studies Gannett Fleming has conducted. The Depreciation Study is also based on the same methods and procedures as earlier studies dating to 1977.

The Consumer Advocate has retained its own depreciation witness, Jacob Pous. Mr. Pous has challenged the Company's longstanding use of the Equal Life Group ("ELG") procedure, and has also proposed substantial increases in service lives for seven accounts and a large reduction in negative net salvage for one plant account.

This Expert Rebuttal Evidence will address the following three topics:

I. The ELG procedure

II. Mass property life analysis

III. Mass property net salvage

The Company has also filed its own rebuttal evidence to address the claims presented in Mr. Pous' testimony. Based on this combined evidence, the Board should reject each of the changes proposed by Mr. Pous and continue to accept the longstanding depreciation practices it has approved for Newfoundland Power in the past.

Equal Life Group Procedure

In this section, I will address the ELG procedure for calculating annual depreciation accruals. I will explain in depth the ELG procedure, and detail how it is the most accurate way to calculate depreciation expense and is widely accepted for depreciation calculations, especially in Canada. I will also compare the ELG procedure to the Average Life Group ("ALG") procedure, and illustrate the impact on depreciation, rate base and revenue requirements of each procedure. Finally, given that ELG has been used by Newfoundland Power for over 30 years, I will show how the change to ALG proposed by Mr. Pous is an approach that will reduce costs for customers in the near term at the expense of all other customers.

Appendix A to this Expert Rebuttal Evidence refutes in detail the specific arguments against the use of ELG made by Mr. Pous.

The Equal Life Group Procedure

Under the ELG procedure, a group of property (e.g. a vintage within a property account) is subdivided into groups having equal service lives. The size of these "equal life groups" is based on the estimated survivor characteristics of the account. Depreciation can then be calculated for each equal life group based on the straight line method; that is, an equal amount of the group's service value is recorded as depreciation expense in each year of service. The total depreciation for an account is then the summation of the calculated depreciation for each equal life group. In other words, based on the survivor curve estimate for an account, the ELG procedure mathematically estimates the life for each unit in the account, and then depreciates each unit over its expected life. For this reason, the procedure is also known as the *unit summation* procedure. By calculating depreciation for each equal life group, the ELG procedure contrasts with the ALG procedure, which depreciates every asset within an account over the average life of the account.

Robley Winfrey, who developed the Iowa survivor curves at Iowa State University and is generally regarded as the father of utility depreciation practices, referred to the ELG procedure as "the only mathematically correct procedure."[1]

A simple two unit example will demonstrate how the ELG procedure more appropriately matches cost recovery through depreciation to consumption than the ALG procedure. In this example, each unit costs $1,000. Unit A will be in service for 5 years and unit B will be in service for 15 years. There is no net salvage for these units.

Under the ALG procedure, the average service life for the two units is 10 years ((5+15)/2). The annual depreciation rate is 10% (1/10). Thus, for the first five years the total annual depreciation amount is $200 ($2,000 x 10%). At the end of year 5, the total of annual accruals for the account is $1,000 ($200 x 5). At this time, Unit A is retired, which results in a deduction of $1,000 from accumulated depreciation. At the start of year 6, Unit B remains in service and the original cost ($1,000) is offset by the

[1] Iowa Engineering Experiment Station, Bulletin 155 (1942), page 71.

accumulated depreciation of $0. However, at this point one third of the unit's service life has expired, so its accumulated depreciation should not be zero.

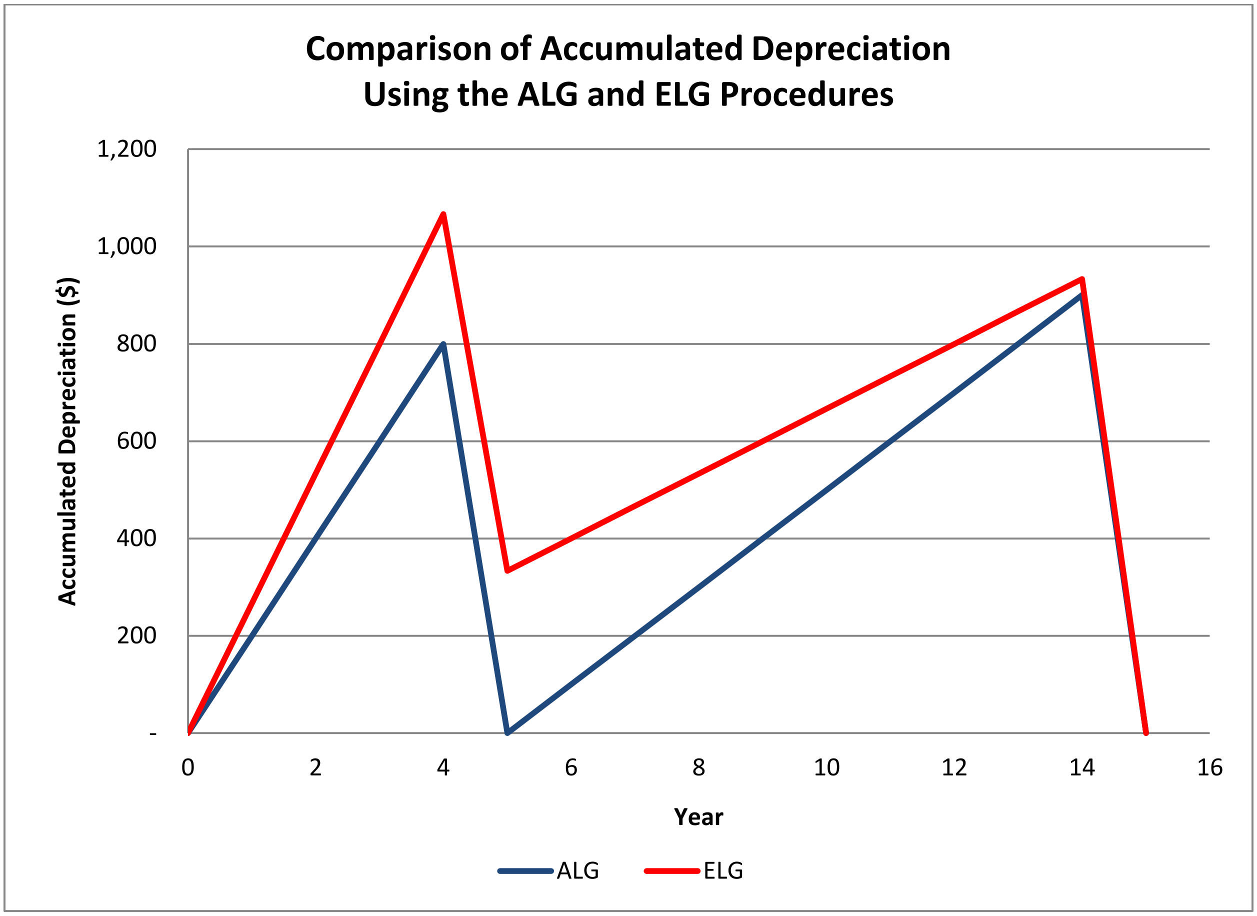
For the remaining 10 years, $100 (10% x $1,000) of annual depreciation expense is charged to accumulated depreciation, for a total of $1,000 of expense over this period. When Unit B is retired, $1,000 is deducted from accumulated depreciation and both the original cost and accumulated depreciation will equal zero. Thus, at the time of Unit B's retirement, the Company will have fully recovered the total depreciable cost of both units. However, at the end of year five only one unit remained in service with two-thirds of its life expectancy still to be consumed but with 100% of the original investment in that unit still to be recovered. As a result, the ALG procedure was ineffective in matching cost recovery to the actual consumption of the asset.

In contrast, if depreciation is determined using the ELG procedure, the pattern of cost recovery better matches actual consumption. Using the same two unit example, the annual depreciation expense under the ELG procedure is calculated by summing the annual expense for each equal life group. In this case, there are two equal life groups – one for Unit A, which has a life of 5 years, and one for Unit B, which has a life of 15 years. The annual depreciation rate for Unit A is 20% (1/5) and for Unit B is 6.67% (1/15). Thus, the annual accruals for years 1 through 5 will be $200 (20% x $1,000) for the first equal life group summed with $66.67 (6.67% x $1,000) for the second, or $266.67. At the end of year 5, when Unit A is retired, the total accruals would be $1,333.33. The retirement of Unit A results in a deduction of $1,000 to accumulated depreciation and, at the start of year 6, the $1,000 original cost of Unit B remains with $333.33 in accumulated depreciation. Thus, with one third of Unit B's life consumed, accumulated depreciation is exactly one third of the original cost for this unit.

In the years 6 through 15, the annual depreciation expense is $66.67 for a total of $666.67 over the 10 year period. Thus, after the retirement of Unit B, the accumulated depreciation is $0 ($1,000 of accruals less the $1,000 retirement of Unit B), and the full recovery of both units has been obtained.

As this example shows, the ELG procedure better matches the recovery of both units with their actual service lives. Figure 1 provides a graph of the accumulated depreciation for both procedures. The end of year 5 provides the best illustration of the difference between the two procedures. Under the ELG procedure, Unit A is fully recovered when retired at the end of year 5; Unit B is one third through its service life and has had one third of its cost recovered. This contrasts with the ALG procedure, in which accumulated depreciation is $0 at the end of year 5, despite the fact that the only unit remaining in service has consumed one third of its service life. Clearly, the ELG procedure better matches the actual service lives for these units.

Figure 1

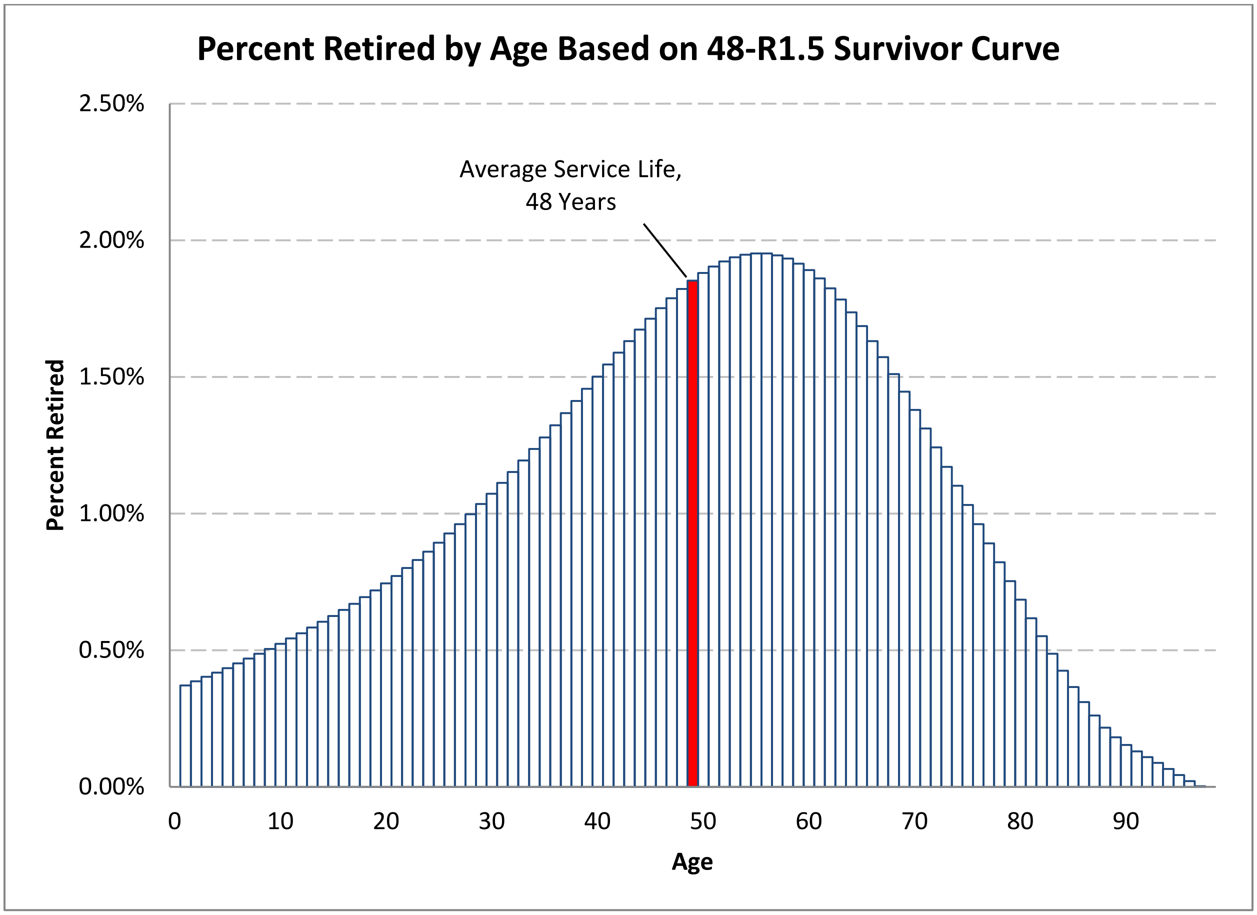


The same principles apply when the ELG procedure is applied to a large group of property with many units, as is typical of utility property. The survivor curve estimated for each property account can be used to divide an account into equal life groups. The survivor curve allows for the calculation of the percentage of the property account that is in each equal life group, which allows for the calculation of ELG annual depreciation accruals for the entire property group. Under the ALG procedure, the depreciation expense for all property in the account is calculated based on the average service life for the entire group.

The ELG procedure recognizes the reality of dispersion. Specifically, it recognizes that in actual utility operations only a very small percentage of the account will actually be retired at the average service life. Figure 2, which is shown below, is a chart of the frequency curve for the 48-R1.5 survivor curve used for Distribution Poles and Fixtures. The frequency curve shows the percentage of property in this account that will be retired at each age, based on the estimated survivor curve. This percentage is also the size of each equal life group.

The shaded bar in Figure 2 represents the percentage of property that will have a life of 48 years. In other words, this shows the percentage of property that is expected to be in service for the average service life. As the chart shows, only 1.82% of the assets will be in service for 48 years; conversely, 98.18% will have a different service life. Some poles will be hit by cars or damaged in storms and retired much earlier than the average, while others will be in service much longer than the average. Most will fall somewhere in between these extremes.

Figure 2



The ELG procedure recognizes this dispersion, and allocates costs for each equal life group over the expected life for that group. As a result, the ELG procedure allocates cost in a manner that approximates the result of each asset being depreciated over its actual life. Conversely, the ALG procedure depreciates every unit of property within an account over the same life, that is, the average life. As Figure 2 shows, this average life will be incorrect the majority of the time – in this example, the average life will be the wrong life for 98.18% of the assets.

Thus, just as was the case for the two unit example provided above, the ELG procedure better matches capital recovery with the actual lives forecast by the estimated survivor curve.

Acceptance of the ELG Procedure

The Board has long accepted the better accuracy of ELG depreciation rates. For Newfoundland Power, the Board first accepted ELG rates for new plant for 1978. In 1982, the Board accepted that ELG rates would be used for all plant, and the procedure has been in place ever since. Even prior to the acceptance of ELG depreciation rates, the Board recognized that ELG depreciation rates represented the most accurate match of depreciation expense to the actual lives of the Company's assets. In Order No. P.U. 34 (1977) the Board noted that:

> "there is merit in amortizing the cost of both short-life and longer-life units during their respective service lives as is done by the Unit Summation procedure."

However, due to other cost pressures at the time, the Board opted to defer the acceptance of the ELG procedure until a later date.

The following year, in Order No. P.U. 20 (1978), the Board accepted the ELG procedure, stating that in light of the fact that:

> "deferring depreciation on short-life property units to future years gives users incorrect information about the current cost of electric energy, the

Board has decided to allow the Applicant to use the Unit Summation method for calculating its annual depreciation expense."

Based on the language in both of these decisions, it is clear that the Board recognized that the ELG procedure (referred to as unit summation in these decisions) was the most accurate procedure for calculating depreciation. Further, the Board also recognized that ALG in fact deferred the recovery of assets that live a shorter life than the average service life. As such, the Board at the time would certainly not have found any claims that ELG represents "accelerated depreciation" to be convincing.

Other jurisdictions in Canada and the United States have also concluded that ELG is the most appropriate depreciation procedure. In the United States, more utilities use ALG, although ELG is still used in many states. However, in Canada more utilities use ELG than ALG. Exhibit R1 to the Company's Expert Rebuttal Evidence provides a list of Canadian utilities and the depreciation procedures used by each. As Exhibit R1 shows, of the 34 utilities surveyed, 17 use ELG, 14 use ALG and 3 use a different procedure. The ELG procedure is also widely used in the telephone industry; first accepted in Canada in the 1970's, then in the U.S. in 1980. Given the acceptance of ELG in each of these jurisdictions, it should be clear that ALG is not used by the "vast majority"[2] of utilities, especially when it comes to Canada's experience. It is also inaccurate to refer to ALG as the "industry standard"[3] as Mr. Pous refers to it in his testimony.

[2] Direct Testimony of Jacob Pous, page 9
[3] Ibid, page 9

Important in the current proceeding is that this Board has accepted the ELG procedure for Newfoundland Power since 1978. As will be explained in the next section, this longstanding practice currently provides a benefit to customers in lower electric rates. Further, while a change in this proceeding to ALG depreciation rates would provide a short term reduction in rates, the impact would be short lived and customers would pay higher rates going forward once the short term effect is exhausted.

Impact of Depreciation Procedure on Customer Rates

Mr. Pous' testimony on the impact of ELG is focused solely on a single issue, depreciation expense, at a single point in time. From this narrow perspective, a switch in calculation procedure may appear to be of benefit to customers. However, when one examines the impact of such a change on other components of the revenue requirement, such as rate base, and examines the impact on different generations of customers, it is clear that such a change is not beneficial for anything other than a short term reduction in depreciation expense.

Newfoundland Power has used ELG depreciation rates since 1978. The result of the use of this procedure has been higher depreciation expense than had ALG depreciation rates been used. However, this has also resulted in a significantly lower rate base because net plant, the biggest component of rate base, is equal to plant less accumulated depreciation.

As the Company has presented in its Expert Rebuttal Evidence, the total impact to current customers of the longstanding use of ELG rates is that the total proposed revenue requirement in this proceeding (which includes ELG based depreciation rates and the lower rate base resulting from longstanding ELG rates) is approximately $3.7 million less than if ALG depreciation rates had been used. This is an important point. The Board's decision in 1978 to use ELG depreciation rates provides a significant benefit to current customers, and it will continue to provide a benefit for customers in the future.

It should be noted that Mr. Pous claims on page 17 of his testimony that there are no benefits to the ELG procedure, "unless of course your objective is to accelerate the recovery of capital." This is incorrect. In its acceptance of ELG in 1978, the Board has provided the benefit to current and future customers of lower rate base and lower customer rates.

Further, any short term reduction in depreciation expense resulting from Mr. Pous' proposal will be offset by a higher rate base in the future. Under Mr. Pous' proposal, at the time of the change in procedure there is a significant decrease in depreciation expense. Since the rate base in his proposal is still based on the historical use of ELG depreciation rates, the reduction to depreciation expense results in a decrease in revenue requirement as well. In other words, the reduction in the Company's revenue requirement from Mr. Pous' proposal results largely from the historical use of ELG depreciation rates.[4] As such, the short term reduction in rates in Mr. Pous' proposal can be viewed as a transfer to current customers of the benefit from higher depreciation rates in the past.

[4] It should be noted here that much of the decrease in depreciation expense is also due to the book accumulated depreciation being higher due to the historical use of ELG depreciation rates.

However, any benefit to customers of reduced depreciation under the ALG procedure would be temporary. The use of the ALG procedure results in a higher rate base. Within a relatively short period of time the impact of the increase in rate base would result in a higher revenue requirement under ALG depreciation than had the Company continued to use ELG depreciation rates. From that point forward, customer rates would continue to be higher than if the Company had not switched from ELG depreciation rates.

Thus, Mr. Pous' proposal to use ALG depreciation rates can only result in a narrow, short term benefit to customers. The temptation to reduce depreciation expense in the short term must be weighed against the full impact of Mr. Pous' proposal. From the perspective of intergenerational equity, it is not a proper practice to provide a short term benefit to current customers at the expense of all others.[5]

Conclusion

The ELG procedure is widely accepted for depreciation rates in Canada, and is the long-standing practice of both Newfoundland Power and the Board. Its use for more than three decades by Newfoundland Power provides a net benefit to current customers, and will continue to provide a net benefit for future customers. Upon the adoption of the ELG procedure, the Board concluded that "deferring depreciation on short-life property units to future years gives users incorrect information about the current cost of electric energy," and as a result decided to "allow the Applicant to use

[5] It should be noted that the adoption of ELG depreciation rates was phased in gradually. In 1977, the Board approved ELG depreciation rates for new plant. Five years later, ELG was expanded to all plant. This gradual phase-in mitigated the short term impacts of an increase in depreciation rates.

the Unit Summation method for calculating its annual depreciation expense." The Board's rationale is still true today, as it was over thirty years ago. Given all the evidence presented in this testimony, the Board should continue to recognize the more accurate recovery of capital provided by the ELG procedure.

Mass Property Life Analysis

This section will address the life analysis for mass property (transmission, distribution and general plant accounts). The analysis performed in the Depreciation Study is consistent with industry practices and prior depreciation studies for Newfoundland Power, and has resulted in the most appropriate service life parameters for each account.

Appendix B to this Expert Rebuttal Evidence explains why each adjustment to service life estimates proposed by Mr. Pous is inappropriate, and demonstrates why each of the estimates set forth in the Depreciation Study is more reflective of the life expectations for each account.

Life Analysis Process for the Depreciation Study

Newfoundland Power has historically maintained its accounting records as "aged" data, which means that it has maintained vintage information for every transaction. Aged data allows for the use of the retirement rate method of life analysis, which is an actuarial method of determining average service lives and survivor curves. This method is discussed at length in the Depreciation Study on pages II-10 through II-29. Based on informed judgment incorporating the analysis of historical data as well as other factors, a survivor curve was estimated for each plant account. The support for each estimate, including additional factors that impacted the analysis, has been set forth in the Depreciation Study as well as in numerous responses to Requests for Information.

Out of the fifty-seven mass property accounts for which this analysis was performed, the estimates in the Depreciation Study represent increases in average service lives over the approved estimates for twenty-seven, decreases for five, and no change for twenty five accounts.

Approach to Depreciation Study

The service life recommendations presented in the Depreciation Study represent a balanced analysis of the life expectations of Newfoundland Power's assets, and incorporate a number of factors, including analysis of the historical data; the outlook and expectations of Company management; prior Company estimates approved by the Board; and a general knowledge of the type of property studied and the experience of other utilities. The Depreciation Study reflects the fact that utility property includes many long-lived assets, and the life estimates are a forecast of retirements that will occur many decades in the future.

For these reasons, caution should be taken before making dramatic changes on the scale recommended by Mr. Pous. Any major changes from the approved estimates should be supported by overwhelming evidence. This is not the case with Mr. Pous' recommendations, which are instead solely based on different interpretations of graphical data, accompanied by general – and often incorrect – assumptions about the property being studied. He has further ignored evidence presented by the Company in the Depreciation Study and in numerous responses to Requests for Information that support the estimates presented in the Depreciation Study.

As discussed in the previous section, all but five of the service life estimates in the Depreciation Study represent either an increase in average service life or a continuation of the service life estimate previously approved by the Board. Thus, in cases where appropriate, the study does recognize that lives for many property accounts have increased. However, the Depreciation Study incorporates a wide range of considerations and presents the most reasonable increases in service life. This approach is in sharp contrast to the estimates proposed by Mr. Pous, which are instead an effort to lengthen service lives as much as possible for the accounts that represent the greatest dollar levels of depreciation expense. That is, in contrast to performing a detailed and balanced Depreciation Study, Mr. Pous has instead subjectively selected a handful of accounts in which he has tried to maximize the reduction in depreciation expense for this rate case.

Each account for which Mr. Pous has presented a recommendation is discussed in detail in Appendix B. However, it is clear that his estimates do not represent a comprehensive and reasonable Depreciation Study, but are instead a results driven approach with the goal of lowering the Company's current depreciation expense.

Curve Fitting

For the Depreciation Study, I have used a combination of mathematical and visual curve matching to fit Iowa survivor curves to original life tables (or "original curves") developed from the Company's historical data. I have incorporated the results of this curve matching with informed judgment based on discussions with Newfoundland Power engineering management and my general knowledge of utility property in order to estimate the survivor curve that best models future life expectations.

Visual curve matching involves graphing the original life tables from the Company's data and then graphically comparing life-curve combinations to the original data. Curves that are visually closest to the original data are considered visual best fits. Mathematical matching is an iterative process that involves comparing Iowa survivor curves to an original curve by calculating the difference between the points on the survivor curve and the original curve. Curves that have the smallest sum of the squares of the differences between the smooth and original curves are calculated to be best fit curves.

When fitting a survivor curve – either visually or mathematically – not all points in the historical data should be given the same weight. Mr. Pous does agree with the concept that not all points have the same value in the analysis, which he discusses on page 22 of his testimony. He opines that "it is more important to match a standard Iowa Survivor curve with the middle and upper portion of an OLT than the tail portion (end of the curve), depending on the dollar level of exposures at issue." Mr. Pous is correct that the dollar level of exposures is an important consideration in determining which portion of the original curve is most representative of future life expectations. However, the dollar level of exposures is only one consideration, and it is just as important to recognize which portions of the curve provide the most information about the retirement pattern for a group of assets. For this reason, Mr. Pous' emphasis on the top (and to a lesser extent the "upper portions of the mid-range") tends to ignore data points that provide an important indication of the survivor curve.

Contrary to Mr. Pous' assertion, the academic literature on survivor curves indicates that the most representative portion of the survivor curve is the middle portion of the curve, generally the portion between 80% and 20% surviving. The reason that this portion is most representative is because the middle portion of the curve is where the majority of retirements occur. There are relatively few retirements at the "head" of the curve, and relatively few at the "tail."

In the development of survivor curves in Bulletin 125, Robley Winfrey (who developed the Iowa Survivor curves) provides analysis showing that when doing curve fitting, the emphasis should be placed not on the first 20% of the curve or the last 20% but rather on the information in the middle years. Mr. Winfrey's analysis is based on the probable error involved in fitting a smooth survivor curve to an observed life table with varying percentages surviving. He concludes:

> "When survivor curves are to be classified according to the 18 types and the probable average life to be determined, it is recommended that more weight be given to the middle portion of the survivor curve, say that between 80 and 20 percent surviving, than to the forepart or extreme lower end of the curve. This inner section is the result of greater numbers of retirements and also it covers the period of most likely the normal operation of the property." [6]

[6] Iowa Engineering Experiment Station, Bulletin 125 (1935), page 91.

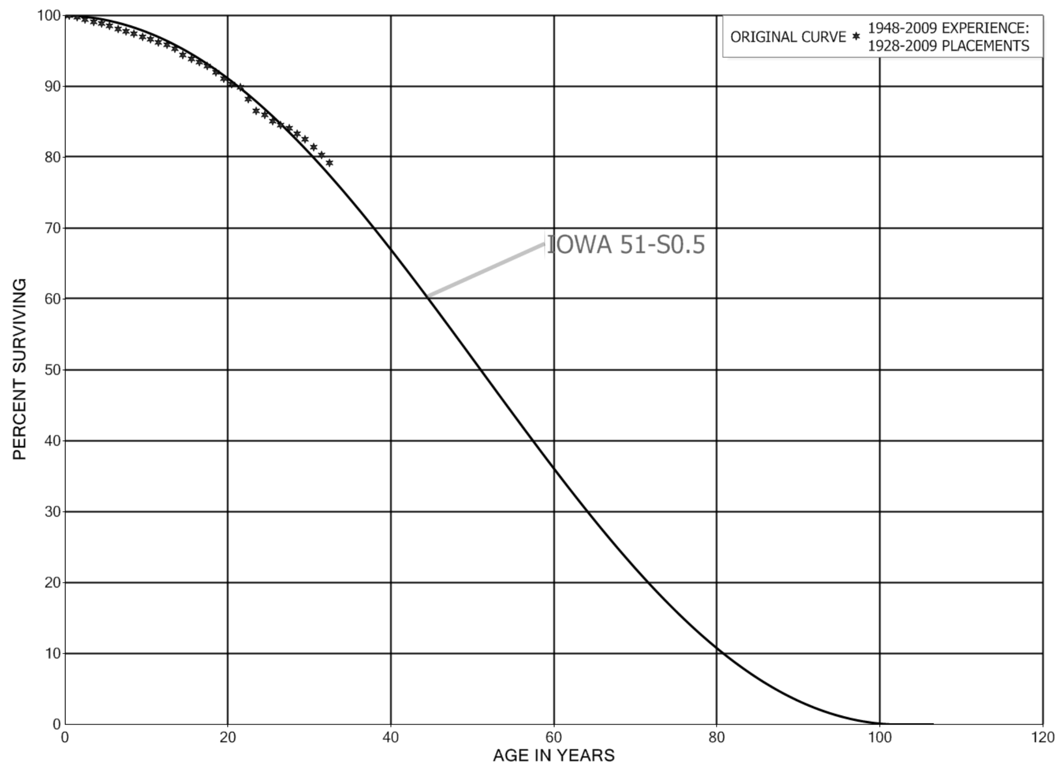
Thus, Mr. Pous' contention that the head and upper mid portion of the curve are the most important portions of the survivor curve is not supported by the literature. To the contrary, the upper portions of the curve generally have percents surviving that exceed 80%.

There is some validity to Mr. Pous' claim that the dollar levels of exposures have importance in the analysis. However, the dollar level of exposures should not be given so much emphasis as to ignore the most relevant portion of the curve. More proper weighting, such as is presented in the Depreciation Study, is to generally exclude data points once they reach a level of exposures not considered to be significant. An accepted rule of thumb is to exclude data points where the level of exposures is less than 1% of the largest dollar level of exposures for the account (this is the criteria Gannett Fleming's software uses). However, this is not a firm rule – there can be cases where data points past this threshold should be considered, and also cases where data points prior to the one percent threshold should not be considered.

The most important concept the depreciation analyst should keep in mind is that the goal of life analysis is to determine the *future* life characteristics of a property group. Thus, when determining which portion of the curve to emphasize, the most important consideration is whether the data points are representative of the future.

The following example, based on the life analysis from the Depreciation Study for Accounts 355.1 and 355.2, will help to illustrate the curve fitting process. The original life table for the overall experience and placement band is presented on pages A-54 and A-55 of the Depreciation Study. The portion of the curve with the highest dollar levels of exposures – those exceeding $10 million – are the data points through age 32. These data points, as well as Mr. Pous' 51-S0.5 survivor curve estimate, are presented below in Figure 3.

Figure 3



This limited set of data points gives the appearance that Mr. Pous' estimate provides a very good visual fit of the original curve. However, only one of these points extends below 80% surviving – that is, only one of these points is in the portion of the curve that provides the most meaningful information about the survivor characteristics for this account. If instead we look at the data points between 80% surviving and the 1% threshold for exposures, it becomes clear that Mr. Pous' estimate does not represent a good fit of the data through the meaningful points.

Figure 4

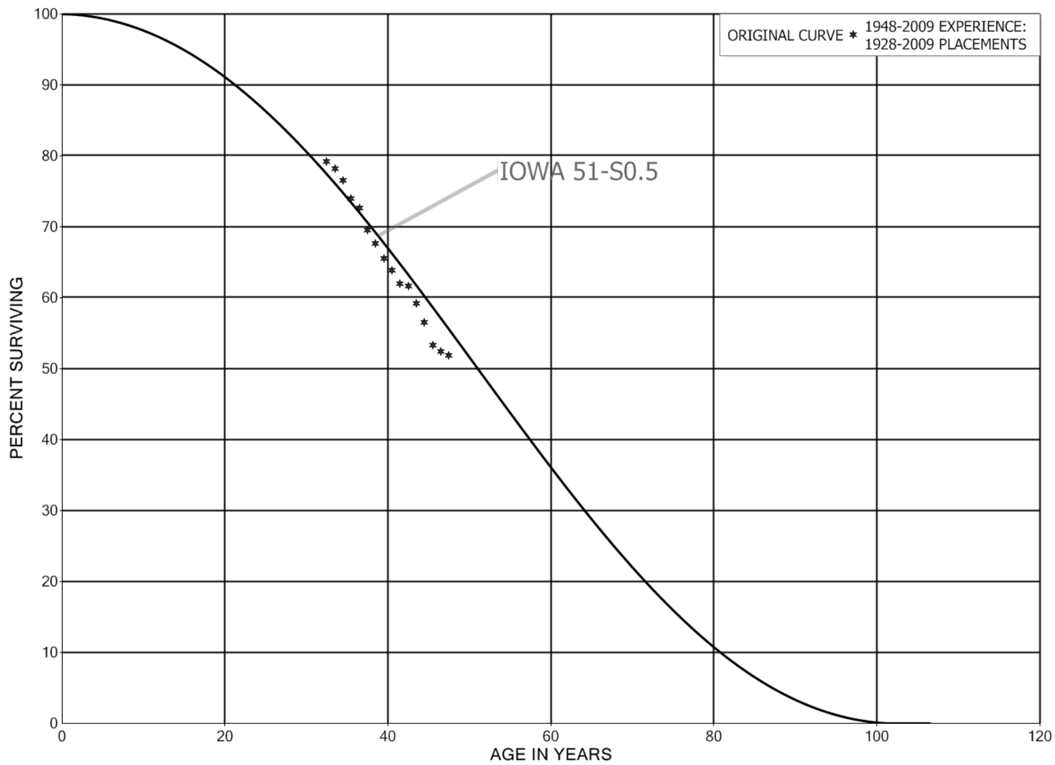
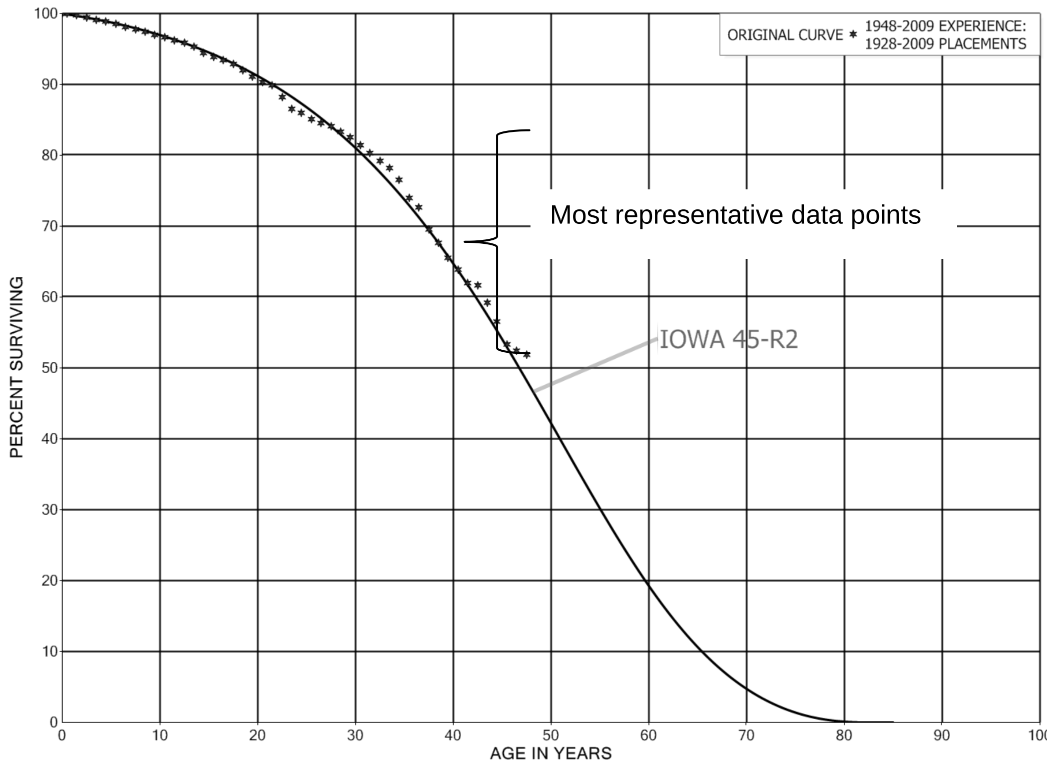


Figure 4 shows Mr. Pous' estimate compared to the most meaningful points. While Mr. Pous' curve starts below the original data points, the curve moves above the data points at age 37.5 and remains above the data points thereafter. The distance between the original curve and Mr. Pous' estimate grows as the age increases. This is because Mr. Pous has selected an estimate that does not reflect the correct level of retirements for this portion of the curve. As a result, his life estimate represents too long of an average service life.

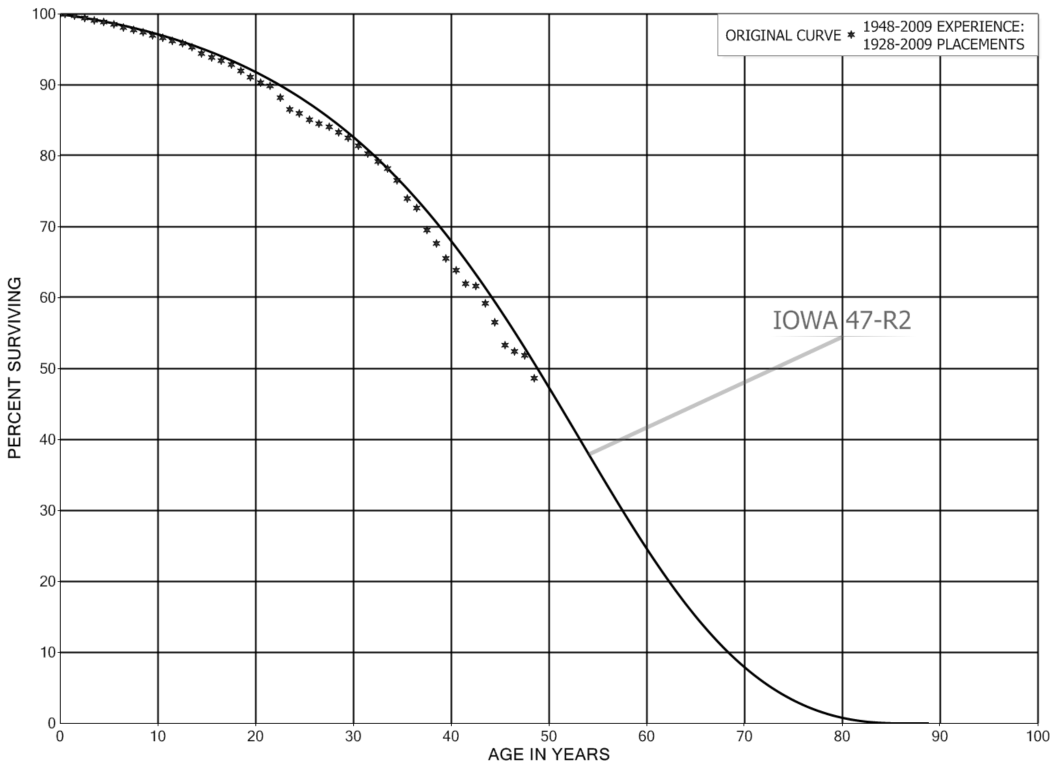
In contrast, Figure 5 shows the mathematical and visual best fit survivor curve for all points through age 47.5. As the chart shows, this curve represents a much better representation of the original data than Mr. Pous' estimate. Most importantly, it shows a superior representation of the trend of retirements between ages 32.5 and age 47.5 – that is the portion of the curve below 80% surviving.

Figure 5



For reasons discussed in detail in the Depreciation Study and in Appendix B, the survivor curve actually selected for this account was the 47-R2. Based on additional information provided in my discussions with Company management, a survivor curve with a life slightly longer than represented by the historical data was selected for this account. As Figure 6 shows, this estimate still represents a good fit of the historical data and represents the appropriate pattern of retirements for this account.

Figure 6



The survivor curve estimates set forth in the Depreciation Study are based on the proper weighting of the original data and represent the best expectations of the retirement expectations for each account. Further, for each account, additional information was incorporated into the judgment used to make the proper life estimate, including the experience of Newfoundland Power and other utilities, as well as the outlook for each account based on discussions with engineering management. These considerations are discussed in the following section.

Other Considerations

In addition to the analysis of historical data, a number of other factors were considered in the selection of the appropriate service life estimates for each account. These include Company policies and outlook based on discussions with management and the survivor curve estimates from previous studies for Newfoundland Power and those of other utilities. In multiple responses to data requests, I have presented the factors considered in the analysis and how these factors were used as the basis for survivor curve estimates. Most notable are the response to Request for Information CA-NP-084, which provides an account by account discussion of each survivor curve estimate, and the response to Request for Information CA-NP-088, which provides the notes from meetings held with Newfoundland Power management.

As discussed previously, the goal of life analysis is to select the survivor curve that represents the best estimate of future expectations. The estimates presented in the Depreciation Study provide the most reasonable estimates of future expectations based on all of the information available. The information presented in the Depreciation Study, as well as in these responses to Requests for Information, provides ample evidence as to the reasonableness of these estimates. In contrast, Mr. Pous has presented a handful of pieces of information – mostly drawn from the experience of others in the industry, not Newfoundland Power - that he claims support his desire to lengthen service lives. A more thorough look at his claims reveals that they are generally either assumptions he makes based on the experience of other utilities, or that they represent an incorrect understanding of the Company's actual practices. The inconsistencies in his testimony are detailed in Appendix B.

A wide array of data was provided to Mr. Pous in the Depreciation Study and in numerous responses to Requests for Information. Many of the conclusions Mr. Pous draws either ignore or misinterpret this information.

One example is the multiple references Mr. Pous makes to the Company's inspection programs, which he uses as a basis for longer service lives. Since the late 1990s the Company has implemented reliability programs for many of its transmission and distribution assets. These programs included more significant inspections of the Company's assets. However, contrary to Mr. Pous' assumption in his testimony and in responses to Requests for Information, the reliability program has not lengthened service lives. Conversely, it has led to higher retirements, as assets that would have been used to failure are now being replaced proactively. The goal of the reliability program is to improve system reliability, not to lengthen service lives. If anything, the program will lead to shorter lives. In the account by account analysis in Appendix B, multiple examples in the Company's data support this conclusion, as retirements have increased significantly over the past ten years.

Another example relates to information provided to Mr. Pous related to life estimates of Distribution Poles. As is detailed in Appendix B in the discussion of Accounts 362.1 and 362.2, Distribution Poles, in multiple data requests the Company was clear that much of the increase in service life reflected in the life table was due to changes in the data capture procedures for the period 2004-2009. The Company was also clear that these changes would not be representative of future experience for these accounts. This information provides evidence that instead a service life shorter than that shown by the historical data is most appropriate. This information was not reflected in Mr. Pous' selection of the best fit curve from the actuarial analysis.

Mr. Pous does not present a balanced approach to a Depreciation Study. Instead, he picks and choses evidence that supports his estimates, and ignores any evidence to the contrary. In fact, the only consistency in his testimony is that he only presents evidence that supports a reduction in depreciation expense.

Mass Property Net Salvage

In addition to the service life estimate for each account, a net salvage estimate must be made in order to recover the full service value of each asset. The net salvage estimates in the Depreciation Study were generally based on 34 years of history, 1976-2009. Recorded retirements, salvage and cost of removal for these years were reviewed for the analysis. I analyzed overall average cost of removal and gross salvage percentages, 5-year averages and rolling 3-year averages of the relationship between salvage and cost of removal to retirements. Moving averages in particular are very important in the analysis, as the Company's data is not time-synchronized. That is, retirements and cost of removal are not necessarily booked in the same year.

Similar to the life analysis, information provided by Company personnel, experience in the industry, and prior estimates for this and other utilities was incorporated into the analysis.

Mr. Pous only proposes an adjustment to one plant account. Mr. Pous recommends an increase in the net salvage percents for Account 365.1, Overhead

Services. By increase, I mean he recommends a lower negative net salvage percent that lowers the depreciation accrual rate and expense. For this account, the approved estimate is negative 60%, which is the same estimate presented in the Depreciation Study. Based on little evidence, Mr. Pous proposes a significant increase to negative 40%.

While he incorporates some historical data as support for his estimate, his justification is primarily based on general concepts that he argues support his proposal. In doing so, he ignores a significant amount of relevant data, and also ignores any factors that will lead to higher removal costs in the future. In the sections that follow, I will discuss the concepts Mr. Pous presents, and will discuss the problems with each of his arguments. Appendix C presents specific data and information for this account, and explains why the estimate from the Depreciation Study is most appropriate.

Economies of Scale

One of the primary factors Mr. Pous considers is the concept of "economies of scale." Economies of scale in construction can occur when projects increase in size. For instance, when removing poles, the cost per pole would decrease if a utility was to remove ten poles on a street versus one pole on the same street. Mr. Pous argues that economies of scale allows him to ignore most years of historical data, and focus primarily on those with the highest levels of retirements.

His argument appears to be that higher quantities of services will be retired in the future, and therefore the costs will be lower. However, as is detailed in Appendix C, he offers no evidence to support this claim. Instead, a more thorough analysis of trends in the Company's data and additional information specific to Newfoundland Power shows both that economies of scale will have a muted impact on net salvage for this account, and other factors that result in increasing cost of removal will offset any efficiency gains from economies of scale.

Mr. Pous' argument regarding economies of scale forms the basis for his opinion that an analysis of the data as described in the previous section should be ignored. Instead, he focuses on only two years of experience to support his estimate. Given the reasons outlined in Appendix C, this approach is not appropriate for this account. Instead, the negative 60% estimate from the Depreciation Study, which is based on a more thorough analysis of the data, represents the proper net salvage estimate.

Replacement Costs

Most of the Company's retirements of services are due to the replacement of existing services. When performing replacement activity, the labour costs from the replacement work order need to be allocated between the new asset and the asset being retired (i.e. cost of removal). Mr. Pous raises a concern with the percentage allocated to cost of removal for services. However, the Company's allocation represents a reasonable representation of the Company's costs.

For replacement work for services, the Company allocates 50% of the labour cost to both the new addition and to the retired service. In Newfoundland Power's experience, when performing a replacement of the service, the crew doing the work does on average spend a similar amount of time on each activity (removing the old service and installing the new service). For this reason alone the 50% allocation rate is reasonable.

Additionally, the majority of the Company's replacement activities for services are the result of specific trouble calls for services that need immediate attention. It is not cost effective for the Company to make wholesale replacements of services, nor is it expected to be so in the future. Since most service replacements are the result of trouble calls, the primary reason for the work is a problem with an old service. Further, much of the replacement work is paid overtime due to after-hours calls. The need to perform the work after-hours is also due to the old service, not the replacement services. For these reasons, the many costs associated with replacement are primarily driven by the asset being replaced, not by the new asset.

As a result of these factors, the Company's allocation rate is a reasonable estimate for the costs of replacing services. Thus, Mr. Pous' concerns are not substantive to warrant any change in net salvage estimates based on the historical data.

Conclusion

The Depreciation Study filed for this General Rate Application represents a thorough, balanced presentation of the best estimates of depreciation for Newfoundland Power. The Depreciation Study is based on longstanding practices for Newfoundland Power as approved by the Board, which are consistent with practices across Canada. The Depreciation Study has incorporated a comprehensive review of available data and information to estimate the life and net salvage parameters that are most representative of future expectations for each property account.

The Consumer Advocate's witness, Jacob Pous, has filed testimony proposing significant adjustments to the results of the Depreciation Study. Instead of providing a balanced approach and a thorough review of the Company's data and other information, Mr. Pous has selectively changed depreciation parameters and procedures that achieve the goal of a reduction in depreciation expense and the short term reduction in revenue requirement. Each adjustment proposed by Mr. Pous represents not a standalone reduction in expenses, but instead a deferral of costs to future customers.

In this Expert Rebuttal Evidence, it is shown that Mr. Pous' proposals represent neither a balanced nor a systematic and rational approach to depreciation. His proposals are presented as beneficial for all customers, but in truth they only provide a short term cost reduction for current customers at the expense of all other customers.

Appendix A

Arguments against the use of the ELG

General

In his testimony, Mr. Pous makes a number of arguments against the ELG procedure.

Specifically, Mr. Pous argues that:

1. The ELG procedure is a form of accelerated depreciation
2. The ELG procedure is unreliable because it is impossible to precisely predict future service lives
3. The degree of error when estimates are incorrect is higher for the ELG procedure than the ALG procedure
4. The ELG procedure is more time sensitive than the ALG procedure
5. Net Salvage estimates are not made on an ELG basis
6. Accumulated depreciation is not maintained on an ELG basis

Each of these arguments is specifically addressed below.

Straight Line vs. Accelerated Depreciation

Mr. Pous contends that ELG is a form of accelerated depreciation. This is contradicted by authoritative depreciation texts and even by sources referred to in Mr. Pous' own testimony. Additionally, the Board has in the past stated that ALG depreciation defers depreciation of assets with lives shorter than the average service life, and that ELG correctly matches depreciation with the lives of these assets.

To illustrate that ELG does not result in accelerated depreciation, consider the two unit example presented in my Expert Rebuttal Evidence starting at page 3. As shown in the two unit example, recovering a 5-year asset equally over 5 years at $200 per year is straight line in that it recovers costs equally over the life of the asset. It is also more precise than recovering a 5-year asset over 10 years, as would be the case with the ALG procedure. Additionally, recovering a 15-year asset equally over 15 years at $66.67 per year is more precise than recovering a 15-year asset over 10 years.

Thus, ELG results in a more precise straight-line recovery of the two assets; it is not an acceleration of depreciation. Both the ALG and ELG procedures result in full recovery and both are straight line. Figure 1 in my Expert Rebuttal Evidence illustrates the more equal recovery pattern of the ELG procedure when viewing the accumulated depreciation balances. Using the ELG procedure, each asset is recovered fully and equally over its entire life cycle.

Mr. Pous' testimony provides little support for his contention that ELG is a form of accelerated depreciation. His argument appears to be entirely dependent on a definition from the glossary of National Association of Regulatory Utility Commissioners' ("NARUC") *Public Utility Depreciation Practices*. However, this interpretation ignores other sections in this source that directly contradict his position.

Specifically, NARUC states that accelerated depreciation is a method that allows:

> "Larger depreciation accruals in the early years of an asset's life and diminishes accruals in later years compared to straight-line methods." (Emphasis added.)

From this Mr. Pous concludes that ELG fits this definition “by the fact that the method [sic] does result in higher levels of depreciation in earlier periods with diminishing levels in later periods for the same data.” Mr. Pous incorrectly treats the concept of a *group* used under the ELG procedure to be synonymous with the term *asset* in the NARUC definition.

Under the ELG procedure, the straight line depreciation accruals for a *group* of assets, such as a property account, may be higher in earlier periods and lower in later periods. However, this is simply the direct result of assigning the proper straight line accruals to each equal life group; that is, each *asset* is depreciated using the straight line method over its actual forecast life.

It should be noted that previously in his testimony Mr. Pous indicates that ELG is not a *method* of depreciation, but instead a grouping *procedure*. As he explains on page 9 of his testimony, “a depreciation system constitutes the method, procedure, and technique employed in the development of depreciation rates.” He presents definitions of each on page 9 of his testimony, and specifically indicates that ELG is a procedure and straight line is a method. By his own definition of a depreciation system, a procedure such as ELG or ALG can be combined with any method, be it straight line, accelerated or deferred.

The definitions presented in the introduction of Mr. Pous’ testimony are consistent with most professionals’ understanding of depreciation methods, procedures and techniques, as well as with the definitions and concepts presented in any authoritative depreciation source with which I am familiar. In fact, sections of the

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NARUC text cited by Mr. Pous support the view that ELG is not a form of accelerated depreciation, but instead a grouping procedure.

On page 17, the NARUC text explains the concept of a method, stating that "generally accepted accounting principles require expenses, such as depreciation, to be allocated by systematic and rational procedures to the periods during which the related assets are expected to provide benefits. The simplest and most logical way to accomplish this is to use a method that distributes the cost of property in a reasonable and consistent manner to all the accounting periods in which the property is providing utility service."

"Several methods for distributing these costs are explained in detail in other chapters. Generally these methods may be grouped as follows: (Emphasis added.)

1. The Deferred Method…
2. The Accelerated Method…
3. The Straight Line Method…"

Having explained the concept of a *method*, NARUC goes on to explain on page 62 that "regardless of which depreciation method is used, several alternatives are available for grouping individual plant units within a depreciation category. The most commonly used grouping procedures are as follows: (Emphasis added.)

1. The Single Unit…
2. The Broad Group[1]…

[1] ALG as proposed by Mr. Pous would be considered Broad Group

3. The Vintage Group…
4. The Equal Life Group…"

Thus, NARUC provides a clear distinction between a *method* and a *procedure*. NARUC is also clear that straight-line is a method and ELG is a procedure. This distinction is consistent with Mr. Pous' definitions presented in the introduction to his testimony. Any of the types of *methods* can be combined with any of the above *procedures* to devise a system of calculating depreciation. As NARUC explains on page 65 in a section entitled *The Depreciation Model*, "The foregoing sections of this chapter discussed several depreciation Methods (e.g. Straight-Line, Sum-of-the-Years-Digits, Declining Balance), Procedures (e.g. Broad Group, Vintage Group, Equal Life Group) and Techniques (Whole Life and Remaining Life). A complete 'depreciation model' is composed of a Method, a Procedure and a Technique.'" In other words, any method can be combined with any procedure.

The calculations in Newfoundland Power's Depreciation Study are based on the combination of the Straight Line *method* and the Equal Life Group *procedure*. However, accelerated or deferred methods could also be used in conjunction with the ELG procedure.

Although Mr. Pous presents it as support for his argument, the NARUC publication most certainly does not support Mr. Pous' assertion that ELG is a form of accelerated depreciation. To the contrary, NARUC is clear that the ELG *procedure* can be used in conjunction with any *method*, whether that method is accelerated, deferred or straight line.

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Precision of Estimates Required for ELG and ALG

Mr. Pous expresses concerns that the ELG procedure requires a precise knowledge of the future. Specifically, he contends that the ELG can only be considered precise under the "impossible assumption that one-year slices of the future can be predicted with absolute precision."[2] His argument appears to be that because a survivor curve estimate is a forecast of the future and may turn out to be incorrect, it is inappropriate to utilize a calculation procedure that attempts to calculate the proper depreciation accruals based on this estimate.

This is not a convincing argument. The goal of a Depreciation Study is to provide the best and most accurate estimates and calculations possible based on information available. The fact that these estimates could, and to some degree will, turn out to be incorrect does not mean that we should rely on inferior practices. Mr. Pous' concern about the precision of ELG is overstated and is also applicable to any calculation procedure, including ALG. Depreciation is by nature an exercise in forecasting the future. It is therefore subject to the same difficulties involved in any forecast of future events. These difficulties are not specific to the ELG procedure; they instead are inherent to any depreciation procedure. Both ELG and ALG depend on the exact same forecasts of future retirement dispersion, generally through the use of Iowa survivor curves. The only difference between the two procedures is that the calculations of annual depreciation rates and expense are performed differently. Specifically, the ELG procedure recognizes that the portion of plant that is expected to be retired before the

[2] Direct Testimony of Jacob Pous, page 18

average service life is depreciation over a shorter period of time and the portion of plant that is expected to be retired after the average service life is depreciated over a longer period of time.

This last point is a very important one. Since the ALG procedure depreciates every asset in an account over the average service life, the ALG rates will never match the actual consumption of the assets (unless of course every asset lasts the average). In other words, even if the survivor curve estimate is correct, the ALG depreciation rates will be incorrect. This is why Winfrey, the creator of the Iowa Curves, called ELG the "only mathematically correct procedure."

Mr. Pous admits that the same survivor curve estimates are used for the ALG and ELG procedures in his response to Request for Information NP-CA-038. Since both procedures use the same Iowa curves to forecast life characteristics, both procedures make the same assumption of precision in estimate.

Mr. Pous suggests that ELG is somehow more dependent on the survivor curve than ALG. Mr. Pous states that the ALG curve simply takes an "average approach, recognizing that some items of property will retire long before the average, while others will last much longer than the average." However, the ALG procedure is very much dependent on the survivor curve estimate. Just as ELG calculations are sensitive to the dispersion represented by the Iowa survivor curve, so are ALG calculations. As an example, for a group of property at an age of 20 years, the average remaining life based on a 40-R4 survivor curve is 20.48 years. If instead the 40-R1 curve is used, the average remaining life for the same group of property is 26.11 years. Both of these estimates have the same average service life. This example shows that dispersion has a significant impact on the ALG procedure as well as the ELG procedure, as changing only the curve type results in a 27% increase in the average remaining life.

Both Mr. Pous and the Company propose depreciation rates based on a modified form of the remaining life technique. When the remaining life technique is used in conjunction with the ALG procedure, the average remaining life directly impacts depreciation expense, as annual accruals are equal to the future accruals divided by the average remaining life. Thus, the ALG depreciation rates are sensitive to the survivor curve just as is the case for ELG.

Forecast Error for ELG and ALG Calculation Procedures

Another argument Mr. Pous presents against the ELG calculation procedure is the claim that the ELG procedure results in a greater error than the ALG procedure when estimates are incorrect. On page 13 of his testimony he states that "when the variance between future estimates and actual events happens and required corrective action is taken, the ELG procedure magnifies the degree of error that has to be corrected and will result in greater fluctuation between depreciation studies." This statement is demonstrably false.

The only evidence Mr. Pous presented in his testimony to support this claim is that he has attached as an appendix to his testimony a portion of testimony he had filed for a proceeding in Texas in 1997. However, despite repeated claims that ALG is most appropriate in the "real world", the only evidence Mr. Pous presents in both his testimony (and in the responses to follow up Requests for Information) to support his claim that ELG is subject to a higher degree of error is a hypothetical two unit example based on specific assumptions that support his claim. A more realistic analysis shows that his claim on the degree of error in the ELG procedure is incorrect.

To demonstrate this point, consider a utility account in which the actual retirements occur in accordance with the 40-R2 survivor curve. To model the error inherent in both the ELG and ALG calculation procedures, consider the following three scenarios:

1. The correct 40-R2 survivor curve is used
2. A 35-R2 survivor curve is used until 2010, at which point the estimate is corrected to the 40-R2 survivor curve
3. A 45-R2 survivor curve is used until 2010, at which point the estimate is corrected to the 40-R2 survivor curve

Thus, this example will model a scenario in which the estimate is correct, and also scenarios in which too high and too low estimates have been used. Based on this model, the error inherent in each procedure for scenarios 2 and 3 can be calculated as the difference between the depreciation rates in these scenarios and the depreciation rates for scenario 1. This example provides a much more realistic case than the simplified expels presented in Mr. Pous' testimony. It also will show the impact of both increasing and decreasing lives – that is, the forecast errors that occur when the estimate is either too high or too low.

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Arguments against the use of the ELG

Figure 1

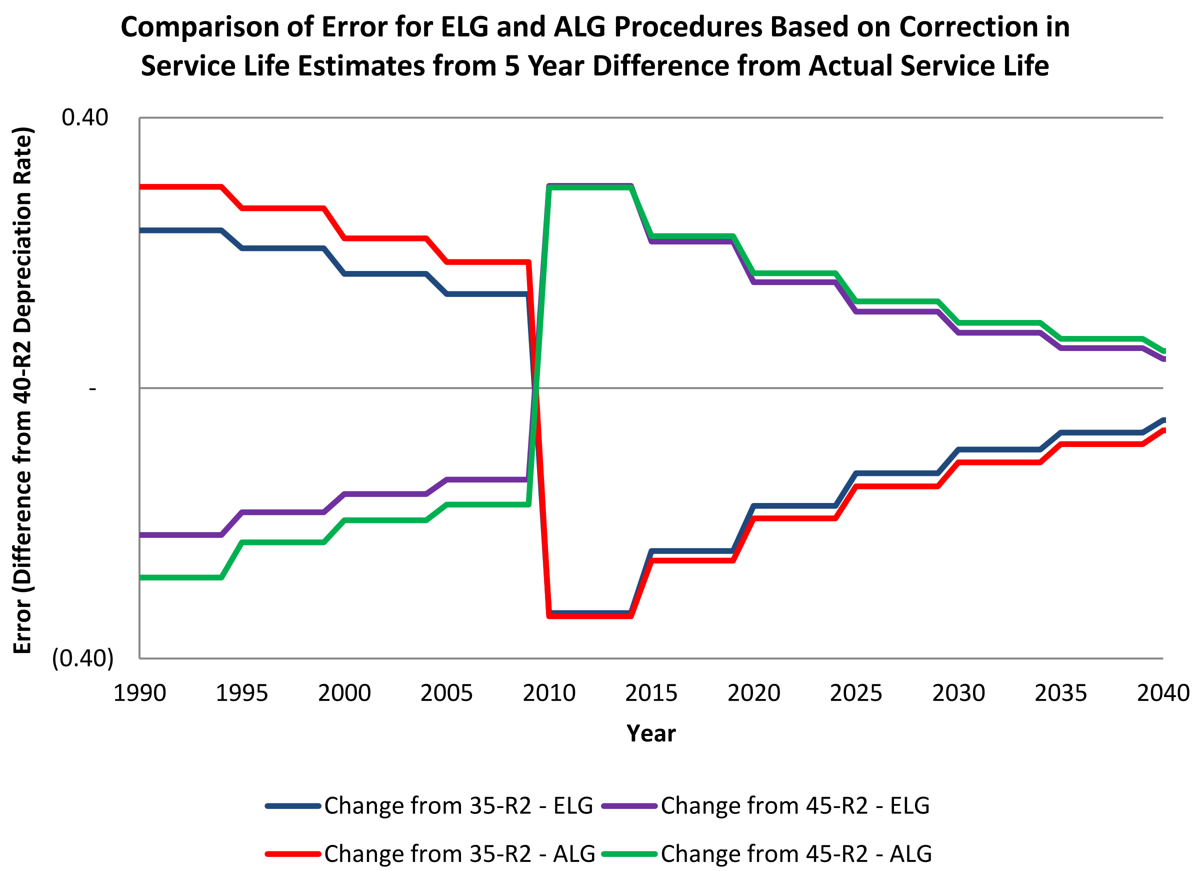

Figure 1 shows the results of this analysis. The solid lines in the chart represent the differences in depreciation rates between scenarios 2 and 3 and scenario 1 for the ELG procedure, and the dashed lines represent the same for the ALG procedure. As the chart shows, at the time of the correction in service life in 2010, the both the ELG and ALG procedures show a similar difference from depreciation rates based on the correct estimate. However, both before and after the change the ALG depreciation rates show a higher degree of error. This analysis indicates there is no basis to conclude that ELG depreciation rates show a higher degree of error.

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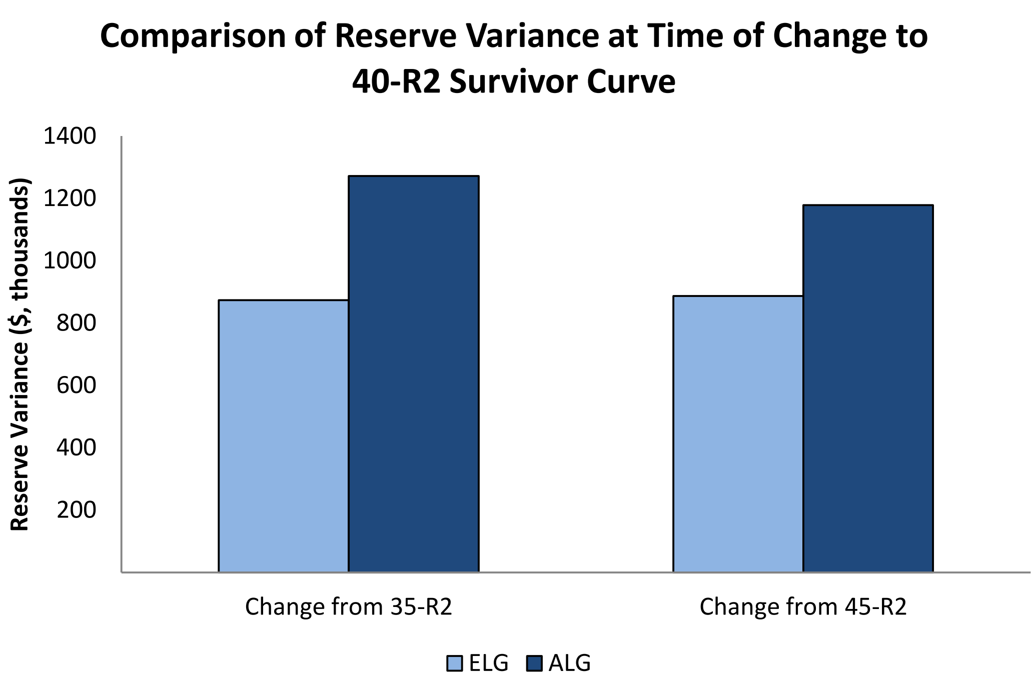
Another way to assess the error in each procedure is to examine the reserve variance, or difference between the book and theoretical reserve, at the time the service life is adjusted to the 40-R2. On page 13 of Mr. Pous' testimony he states that "ELG magnifies the degree of error that has to be corrected," and on page 5 he states that ELG requires "greater levels of true-up to correct for prior differences between estimates and actual retirement patterns" than the ALG procedure. If even of these statements were true, then the reserve variance under the ELG procedure would exceed the reserve variance under the ALG procedure. However, as shown in Figure 2 below, the opposite is true. Thus, for this example the amount of error correction required under the ALG procedure is greater than under the ELG procedure.

Figure 2



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Arguments against the use of the ELG

In Figure 1 and Figure 2, the error for the ALG rates is based on comparison to the ALG rates and theoretical reserve derived from a 40-R2 survivor curve. However, since the property in this example is known to have retirements that occur based on the 40-R2 survivor curve, the ELG rates are the exact same depreciation rates that would be calculated if each unit were depreciated individually over its life. Thus, the correct depreciation rates are the ELG rates based on the 40-R2 survivor curve.

Figure 3

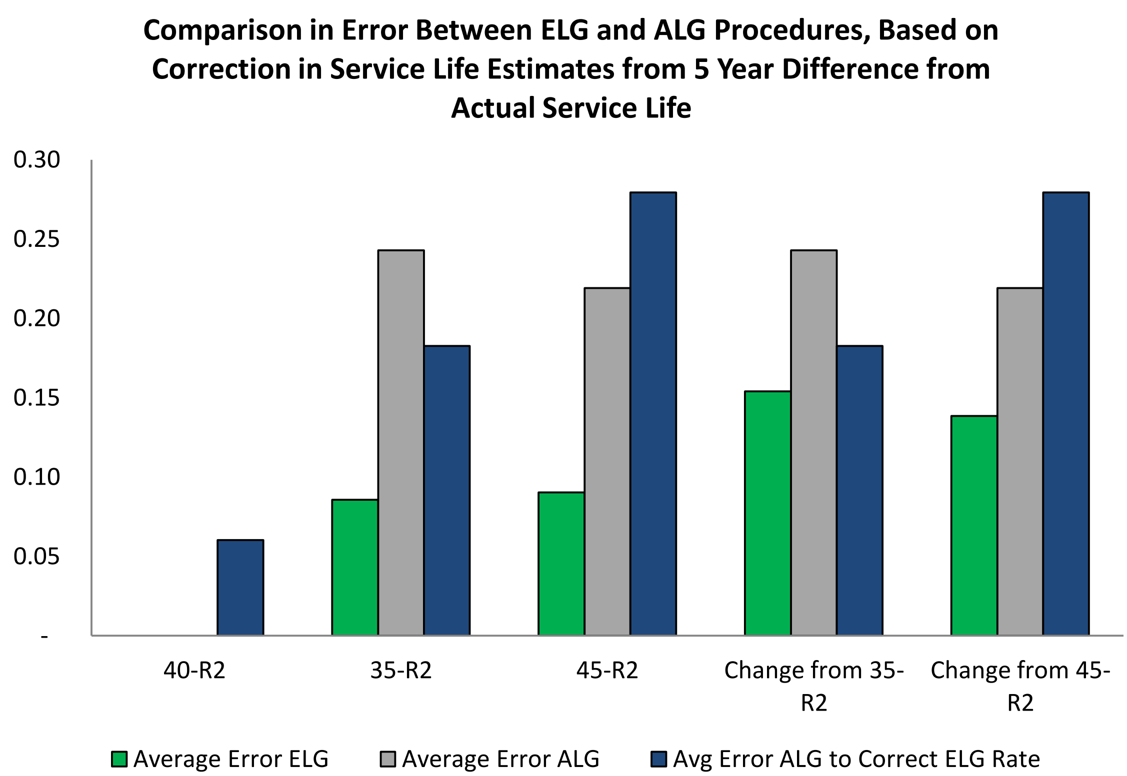

Figure 3 shows the average error for the period 2010 through 2040. This figure includes two additional scenarios, labeled 35-R2 and 45-R2, in which the survivor curve estimate is never corrected. As the figure shows, the error is greater for ALG depreciation rates in every scenario. Thus, an incorrect forecast does not result in greater error for the ELG procedure than the ALG procedure. In fact, in this realistic model the opposite is true. It should also be noted that even when the estimate is correct, the ALG procedure results in error, as shown in the bar labeled 40-R2 in the figure above.

This analysis clearly shows that with more real-world situations the ELG procedure does not result in "a greater degree of error" than the ALG procedure. Instead, while both are subject to forecast errors, only ELG will result in the correct depreciation expense when the service life estimate is correct.

Time Sensitivity of ELG and ALG Procedures

Mr. Pous criticizes the ELG procedure for being "time sensitive." Mr. Pous makes the implication in his testimony that because ELG depreciation rates vary with age, they "may already be one, two or more years out of date by the time implemented."[3]

This argument ignores that utility property is constantly being added and retired. Thus, while ELG depreciation rates change for each *vintage* of plant as the property ages, each year a new vintage of plant is added and property from many vintages is retired. As a result of this constant activity, ELG depreciation rates are far more stable than Mr. Pous suggests.

[3] Direct testimony of Jacob Pous, page 14

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To illustrate this point, I have estimated additions and retirements, as well as the reserve activity, for Account 361.2, Underground Cables for the period 2010 through 2020. The life and net salvage estimates are assumed to be constant over this period of time. To assess the "time sensitive" nature of ELG, I have calculated depreciation rates using the ELG procedure at the end of each year. Table 1 shows the depreciation rates calculated for each year.[4] As the table shows, the ELG depreciation rates are very stable over this period, only varying by two hundredths of a percent.

Table 1: Comparison of ELG and ALG Depreciation Rates for Account 361.2, Underground Cables, 2010-2020

Year	ELG	ALG
2010	2.29	2.06
2011	2.29	2.07
2012	2.29	2.08
2013	2.29	2.09
2014	2.29	2.10
2015	2.29	2.11
2016	2.30	2.13
2017	2.30	2.14
2018	2.30	2.15
2019	2.30	2.16
2020	2.31	2.17

For comparison, I have also calculated ALG depreciation rates for the same period. These are also shown in Table 1. As the chart shows, the variation for ALG rates over this period of time is greater than for the ELG rates. The depreciation rate in 2020 is 0.11 points higher than in 2010, despite the fact that the life and net salvage estimates do not change.

[4] Both the ELG and ALG depreciation rates in this table include the true-up of the reserve variance for each year.

Thus, for this example, the ELG procedure is actually less time sensitive than ALG. In the real world of utility operation - where property is continually added and replaced – the ELG procedure is far less time sensitive than implied in the testimony of Mr. Pous.

When the remaining life technique is used, depreciation rates calculated using both procedures are time sensitive, and in many cases ELG is less time sensitive than ALG. In fact, the remaining life technique is often more time sensitive than any calculation procedure. Mr. Pous consistently proposes the remaining life technique, so the time sensitive nature of a proposal must not be too significant of a concern to him.

It should also be noted that the depreciation rates presented above are in fact the scenario that would occur if Mr. Pous' proposal to change from ELG to ALG depreciation rates is accepted by the Board. In other words, for this account the proposal Mr. Pous presents will actually be *more* time sensitive than the continued use of ELG depreciation rates.

Further, the argument that the ELG procedure should be disregarded because it is "time sensitive" ignores the fact that many other depreciation practices should be considered time sensitive. As shown above, under the remaining life technique any procedure is time sensitive, including ALG. Another example of a time sensitive practice is the use of the life span procedure (the use of this for production plant and general plant buildings is in agreement by all parties). Under the life span procedure depreciation rates are out of date whenever new plant is added.[5]

Thus, the argument against ELG for being "time sensitive" is without substance. The time sensitivity is overstated in Mr. Pous' testimony, as shown in the example above. In reality, due to the use of a modified remaining life technique, his proposal is actually as time sensitive as the continued use of the ELG procedure.

ELG vs. ALG Net Salvage

On page 15 of his testimony, Mr. Pous raises a concern that Gannett Fleming has "presented what would have to be considered an ALG approach to net salvage rather than an ELG approach." He contends that this is an inconsistency in the Company's approach. This is certainly not a strong enough reason to abandon the ELG approach for two main reasons, the first being practical and the second being that he overstates the concern.

Generally speaking, net salvage – expressed as a percentage of original cost – can vary to some degree with age. This is due to a variety of factors, including inflation, the condition of property that is retired, and the effort required to remove property. However, utilities rarely maintain net salvage data on an aged or vintage basis. As a result, quantifying net salvage as a function of age is inherently difficult and imprecise.

Moreover, the net salvage estimates in depreciation studies tend to be conservative estimates of future net salvage. The average age of retirements in the

[5] All else being equal, new additions for life span property increases depreciation rates, as the new assets must be recovered over a shorter period of time.

historical data is generally lower than the average service life. Conversely, the probable life of property in service is necessarily higher than the average service life, as life expectancy increases with age. As a result, the average age of retirements in the future will tend to be higher than the average age of retirements represented in historical data. Thus, net salvage estimates that are based on analysis of historical net salvage data tend to understate the net salvage that will be experienced in the future, due to the effects of inflation. If anything the application of net salvage estimates used in this proceeding would tend to *understate* future net salvage.

Depreciation Reserve

On page 16 of his testimony Mr. Pous criticizes the use of ELG because he claims that Newfoundland Power maintains its depreciation reserve on “the equivalent of an ALG basis.”

Newfoundland Power does not maintain its depreciation reserve on either an ELG or ALG basis. Like any utility company, its reserve is maintained by asset group (i.e. plant account) based on annual experienced retirements, gross salvage and cost of removal as well as calculated annual depreciation accruals. The annual accruals booked in each year are based on the composite depreciation rates prescribed by the Board. This is consistent with group depreciation practices whether the ELG procedure or ALG procedure is used.

Moreover, because Newfoundland Power has used the ELG procedure for nearly three decades, the cumulative depreciation accruals contained in the depreciation reserve are primarily based on ELG depreciation accruals. As a result, it would be inaccurate to characterize Newfoundland Power's depreciation reserve as being maintained on an "ALG basis."

Appendix B

Mass Property Life Account by Account Analysis

Mr. Pous has proposed different service life estimates for 7 accounts. For certain plant accounts, a combined life analysis was performed. For this reason, the changes Mr. Pous proposes are actually changes to five different survivor curve estimates. Each change is shown in the table below. For each of these accounts, the estimates in the Depreciation Study represent increases in service life over the previous estimate. Mr. Pous has recommended increasing the lives even further.

Account	Description	Approved Survivor Curve	NP Survivor Curve	CA Proposed Survivor Curve
355.1 *	Transmission Poles	44-R2.5	47-R2	51-S0.5
355.2 *	Transmission Poles and Fixtures	44-R2.5	47-R2	51-S0.5
361.12	Distribution Bare Aluminum	50-R2.5	55-R2.5	61-R2.5
361.2	Distribution Underground Cables	40-R3	45-R3	57-R2.5
362.1 *	Distribution Poles (Under 35')	45-R1.5	48-R1.5	57-R1
362.2 *	Distribution Poles (35' and Over)	45-R1.5	48-R1.5	57-R1
365.1	Services Overhead	39-S1.5	44-R2	51-R2

* Accounts 355.1 and 355.2 and accounts 362.1 and 362.2 are combined for life analysis

As can be seen in the table, in each case where Mr. Pous has increased the average service life, he has recommended a dramatic change over the life estimates approved by the Board from the last Depreciation Study. He offers little evidence for such significant increases, other than to provide a different interpretation of the graphical representation of the Company's data and general information for each account which is often inaccurate or not pertinent to Newfoundland Power's experience.

Account By Account Analysis

Accounts 355.1 and 355.2 – Transmission Poles and Fixtures

The previous service life estimate for these accounts is the 44-R2.5. In the Depreciation Study, a gradual increase to the 47-R2 is proposed. Mr. Pous proposes to increase the service life further to the 51-S0.5. As I will detail below, Mr. Pous' estimate represents a dramatic increase that is neither supported by the historical data nor any information external to the actuarial analysis.

First, Mr. Pous' estimate does not represent a better fit of the data, nor does it represent a similar fit as his testimony implies. The curve fitting for this account was presented in detail in the Curve Fitting section of the Expert Rebuttal Evidence. As discussed, in order to make the presentation that his estimate represents as good a fit as that in the Depreciation Study, Mr. Pous must ignore significant data points that provide important information about the dispersion pattern for transmission poles. It should be noted that the graph presented on page 26 of Mr. Pous' testimony does not show all of the data points. Instead, it only shows the survivor curve estimates through age 46.5 and shows no information for percents surviving below 50%.

Appendix B

Mass Property Life Account by Account Analysis

Figure 1

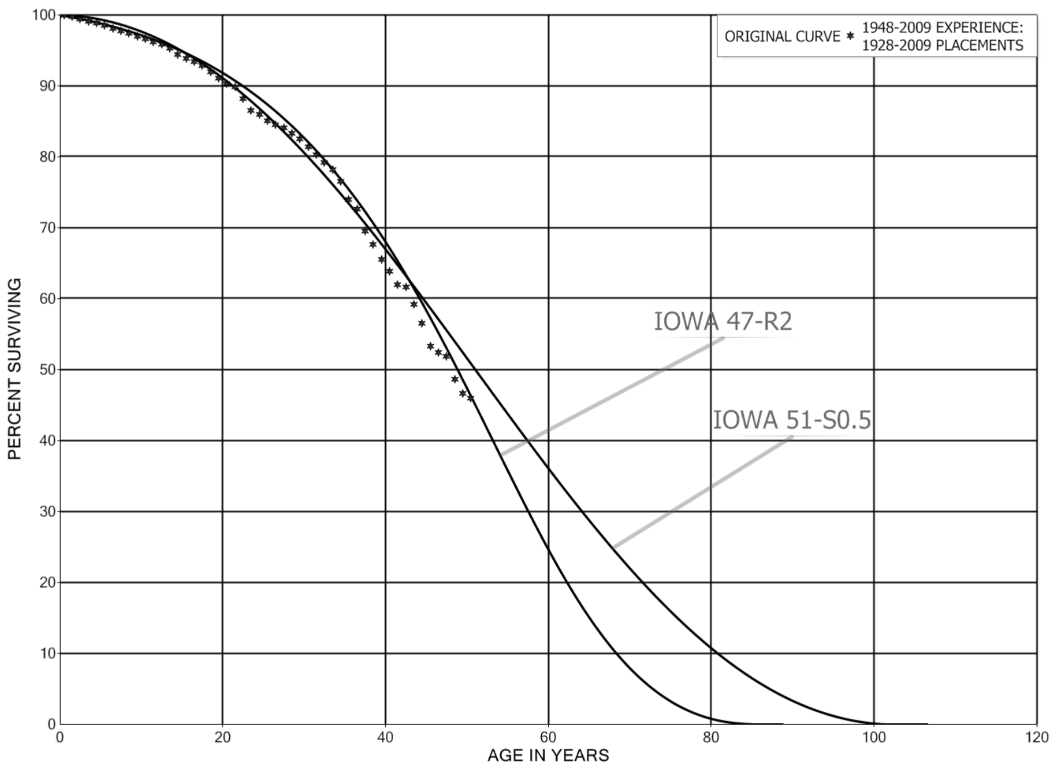


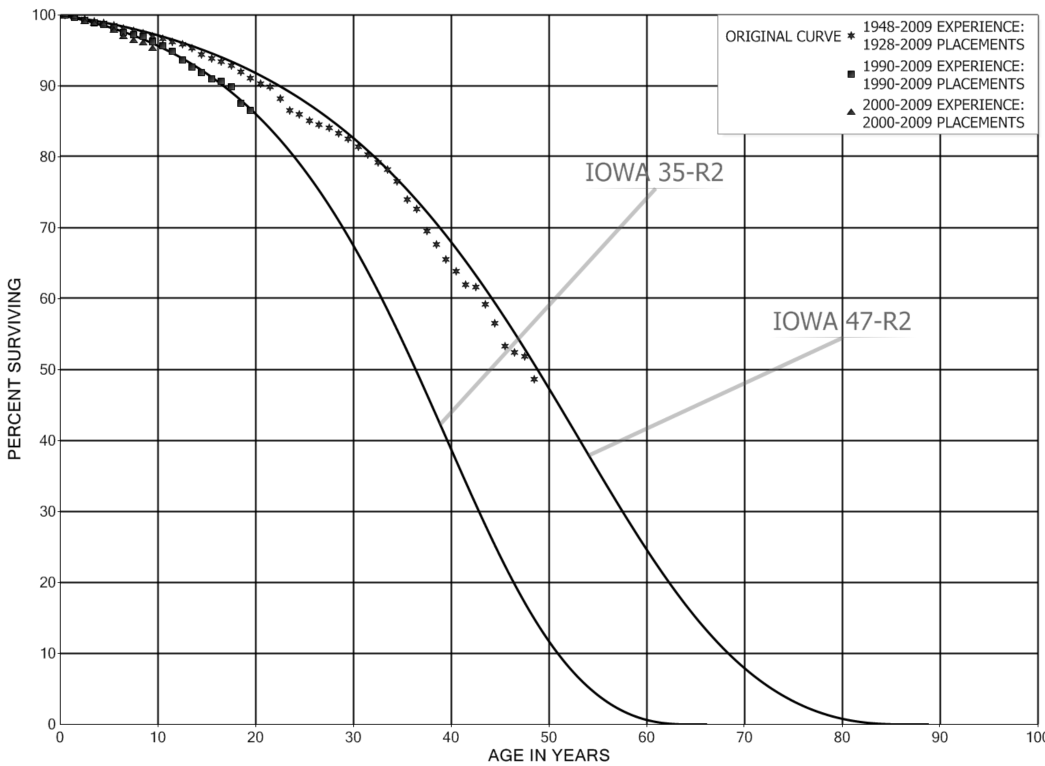
Figure 1 presents a full comparison of both the Company's and Mr. Pous' estimate, as well as the significant data points from the original life table. As the chart shows, Mr. Pous' estimate begins to deviate from the original curve around age 40 and moves further from the original data from that point forward. Importantly, it does not follow the trend of the dispersion pattern that is apparent between 80% and 45% surviving. As discussed in the Curve Fitting section of this Expert Rebuttal Evidence, this is the portion of the survivor curve that provides the most information about the retirement characteristics of a group of property. Mr. Pous ignores this portion of the curve and instead selects a survivor curve that shows a longer service life than the data indicates – that is, he selects a curve that lowers depreciation expense.

Mr. Pous argues that additional information supports his significant increase in service life. He does not actually present any information other than what was presented in the Depreciation Study. However, as explained in the Depreciation Study and in the Life Analysis section of Gannett Fleming's rebuttal testimony, this information was already taken into account. The service life estimate in the Depreciation Study represents a longer life than the historical best fit, thus giving the proper weight to this information while also taking into account the historical dispersion pattern for these accounts.

While the Depreciation Study does take into account improvements to Newfoundland Power's system that have led to a longer service life, it also takes into account other information that will temper any further increase in life. Contrary to Mr. Pous' opinion throughout his testimony and in the response to NP-CA-044, the Company's reliability program will not lead to increased service life for Newfoundland Power's assets. As the Company proactively replaces poles that would have instead been retired upon failure, the reliability program will lead to more retirements in the future. Another issue that has negatively affected pole lives is the type of pole treatment being used. Due to the need to respond to environmental concerns, pole treatments have over the years become more environmentally friendly but less effective in preventing decay. As a result of the requirements of legislation and local concerns, a higher proportion of newly installed poles are treated with CCA than in the past. CCA treated poles have a shorter life expectancy than other treated poles.

Further, if Mr. Pous' claim that more recent assets would have significantly longer lives were true, then we would expect to see more recent placement bands have longer service lives than the overall band. However, the opposite is true.

Figure 2



As Figure 2 shows, more recent placement bands actually show an even shorter life than the overall band. While other factors have contributed to this trend, the data for recent bands is consistent with the Company's experience that more environmentally friendly pole treatments will result in shorter pole life than treatments used in the past.

Mr. Pous provides no evidence to justify his increase in service life other than his interpretation of the historical data and the information provided in the Depreciation Study. The curve he has selected does not represent a more reasonable fit of the data than the estimate in the Depreciation Study, nor does it accurately reflect the retirement characteristics for these accounts. Further, unlike the 47-R2 estimate in the Depreciation Study, Mr. Pous does not put the proper weight on additional Company information related to improvements in pole standards, and does not appear to have considered other impacts that will limit any increase in service life. As a result of all of these considerations, the 47-R2 estimate in the Depreciation Study represents a superior reflection of future life characteristics for these two accounts.

Account 361.12 – Bare Aluminum Cables

The previous service life estimate for this account is the 50-R2.5. In the Depreciation Study, I have proposed an increase to the 55-R2.5 survivor curve. Mr. Pous has proposed an even more significant increase to the 61-R2 survivor curve. His estimate represents a large increase, of 11 years or 22% over the previous estimate. Mr. Pous bases his estimate on fitting the original data, as well as information he presents related to inspection programs, design criteria and the life expectancy of poles. As I will show, the analysis of the historical data does not support such a large increase. Further, Mr. Pous' conclusions based on other information are incorrect – the Company's reliability program and improvements to poles do not generally lead to longer service lives. Instead it is more likely that the opposite is true.

Appendix B

Mass Property Life Account by Account Analysis

Figure 3

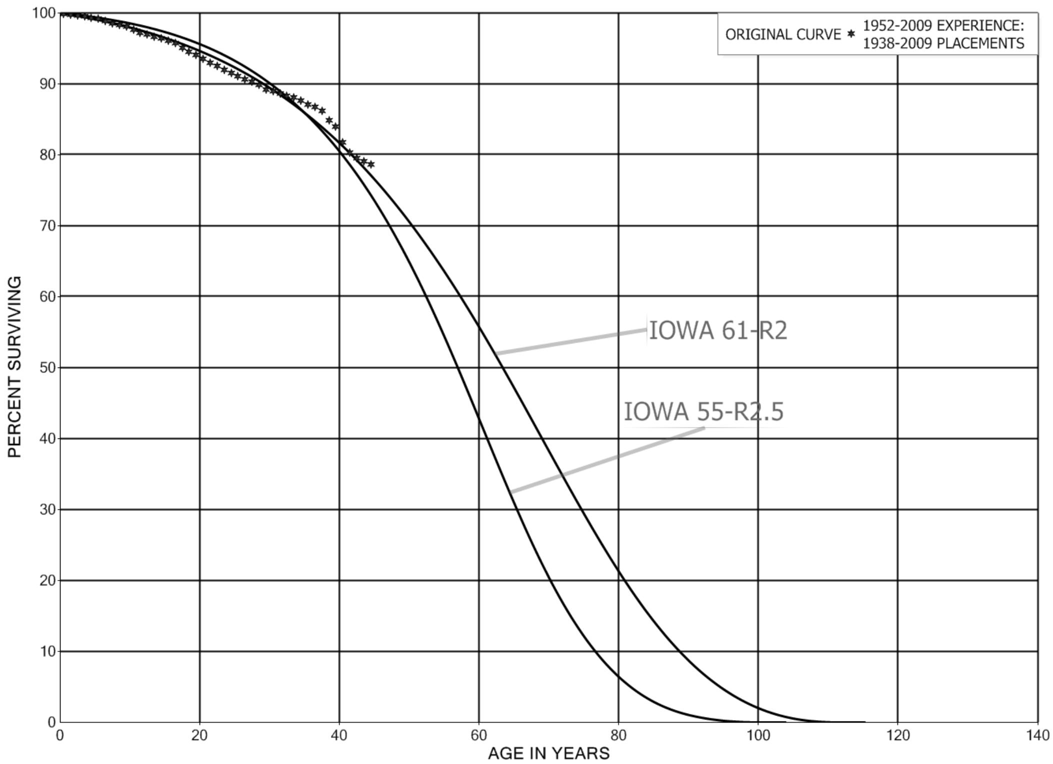


Figure 3 shows both the estimate from the Depreciation Study and that of Mr. Pous compared to the significant points from the original life table for this account. As the chart shows, very few of these data points extend below 80% surviving. That is, there is little information available on the most representative portion of the survivor curve, and as a result judgment must be used to determine the most likely retirement pattern for ages beyond age 40. The chart also shows that Mr. Pous' estimate and mine are fairly similar up until this point, and both are fairly close to the original curve as well.

For this reason, the incorporation of other information is important in determining the proper estimate for this account. There are a number of factors that support the estimate from the Depreciation Study. First, the previous estimate is the 50-R2.5 survivor curve. The estimate I have made recognizes that the data indicates a longer life than the previous estimate. However, the 55-R2.5 estimate in the Depreciation Study continues to use the same dispersion pattern (i.e. the R2.5 curve) as the previous study. This is an important point, as the key difference between the estimate in the Depreciation Study and that of Mr. Pous is that Mr. Pous has changed the dispersion curve from the previous Iowa R2.5 type curve to the R2 type curve. This curve change is the primary reason for the significant change in service life Mr. Pous proposes. However, based on the fact that few of the historical data points represent the most relevant portion of the curve, this change is based almost entirely on judgment.

Additional information provided by the Company supports that the dispersion pattern from the Depreciation Study, which forecasts more retirements from ages 40 to 60 than that proposed by Mr. Pous, is more appropriate for this account. As discussed previously, the Company has instituted a reliability program for its distribution system. This program includes distribution line inspections, as well as other components including improved design standards. However, while better design standards can have the impact of improving the life expectancies for aluminum conductor, the other aspects of the program (including line inspections and better structural integrity for poles) will likely lead to higher levels of retirements for overhead cable. The Company's inspection program will tend to result in the retirement of more cable than had the program not been in place. This is because inspections, including thermo scanning of conductor, will reveal targeted replacements of aging and deteriorating assets. Absent the inspection program, these assets would be run to failure, whereas with the program in place they will be retired proactively. That is, they will be retired earlier and have a shorter life.

Further, the impact the reliability program will have on poles will – if anything - also tend to shorten the lives of overhead cables. Since due to the reliability program the poles in service will generally have less decay and will be stronger structurally, the impact of the elements (such as storms and wind) will have less of an effect on poles. Instead, the elements will have a greater effect on conductor. In other words, wind that would damage decaying poles will not knock down stronger, newer poles, but will instead be more likely to damage the cable on the poles (which is less strong than the poles).

Thus, contrary to Mr. Pous' implication in his testimony, the effect of the Company's reliability program will not be to extend the lives of aluminum conductor. Much of the basis for his significant increase is based on his contention that "the longer life of conductor is anticipated given the industry practice of more inspection programs, better design criteria, and even longer life expectancy for poles."[1] However, two of these three practices will not increase the lives of conductor. While the third, better design criteria, could have an impact, this is already reflected in the increase to the 55-R2.5 survivor curve presented in the Depreciation Study.

Mr. Pous also attempts to argue that more recent data supports his estimate for a longer life. However, he does not provide any justification as to why the period of time he uses for support will be representative of the future. As it turns out, a more thorough

[1] Direct Testimony of Jacob Pous, page 30

look at the data reveals that the opposite is true. First, much of the time period he cites reflects a decrease in capital spending due to an economic slowdown resulting from the cod fishing moratorium in the 1990s. Further, an analysis of more recent data shows the opposite trend of what Mr. Pous presents. Consistent with management expectations, retirements have increased since the implementation of the reliability program.

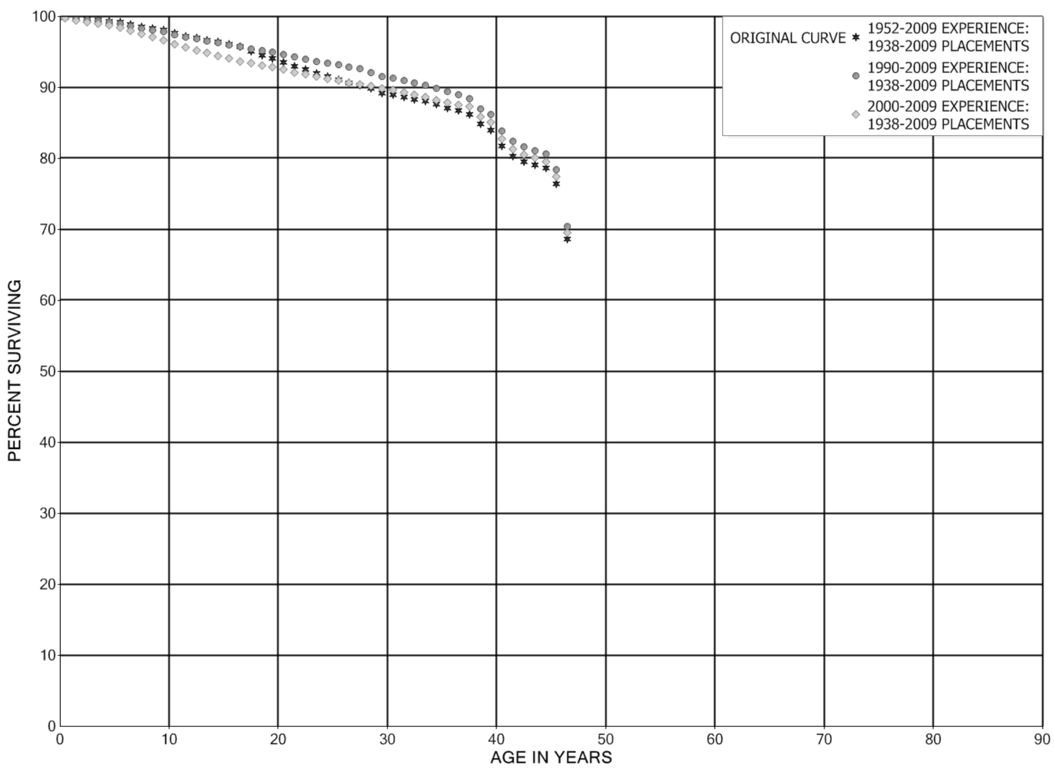
On page 29 of his testimony, Mr. Pous attempts to argue that more recent activity shows that an even longer service life is warranted. Mr. Pous bases his argument on the 1990-2009 experience band. However, the primary driver of the decrease in retirements for this band is that in the 1990s the Company experienced a significant reduction in capital spending. This reduction followed the Canadian government's shut down of the cod fishing industry in 1992. This moratorium significantly impacted the Newfoundland economy, and in response Newfoundland Power decreased capital spending and capital replacements for much of the 1990s. Many of the Company's accounts show a decrease in retirements in the 1990s and many have 1990-2009 experience bands that show a shorter life than the overall band. However, these bands should not be treated as indicative of future experience, as the lower levels of retirements were driven in large part by the impact of the cod moratorium. Instead, longer bands that include both cyclical increases and decreases in capital spending are more representative of the long term outlook for most accounts.

Further, for this account Mr. Pous has ignored even more recent data, which shows the opposite trend (and which is more representative of the impact of the

Company's reliability program). In discovery, Mr. Pous was provided both the 1990-2009 experience band and the more recent 2000-2009 experience band, but only showed the first in his testimony. Both are shown in

Figure 4 below, as is the overall experience band. As the chart shows, while the band Mr. Pous emphasized is generally above the overall band, the opposite is true for the 2000-2009 band. Through age five this band is lower than the overall band, and from age 25 on, the 2000-2009 band is very similar to the overall band. In every year, it is lower than the 1990-2009 band that Mr. Pous presents in his testimony.

Figure 4



Further analysis shows the impact of the cod moratorium in the 1990s and the impact of the reliability program in the 2000s. Figure 5 below shows the retirements for each year for this account from 1967 through 2009. As the chart shows, while retirements declined during the 1990s, they increased significantly starting in 2000. This trend is expected to continue, as the Company continues to make retirements in order to operate a reliable distribution system as part of its reliability program.

Figure 5

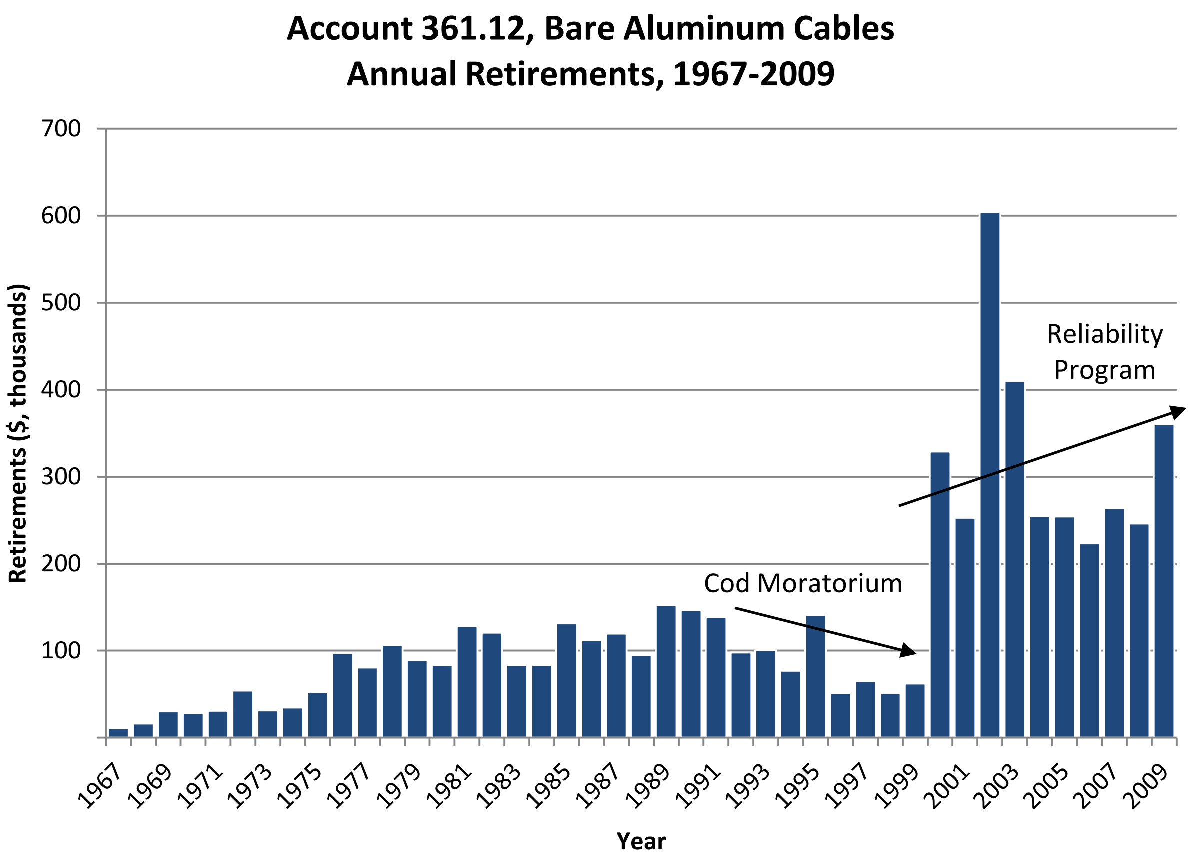
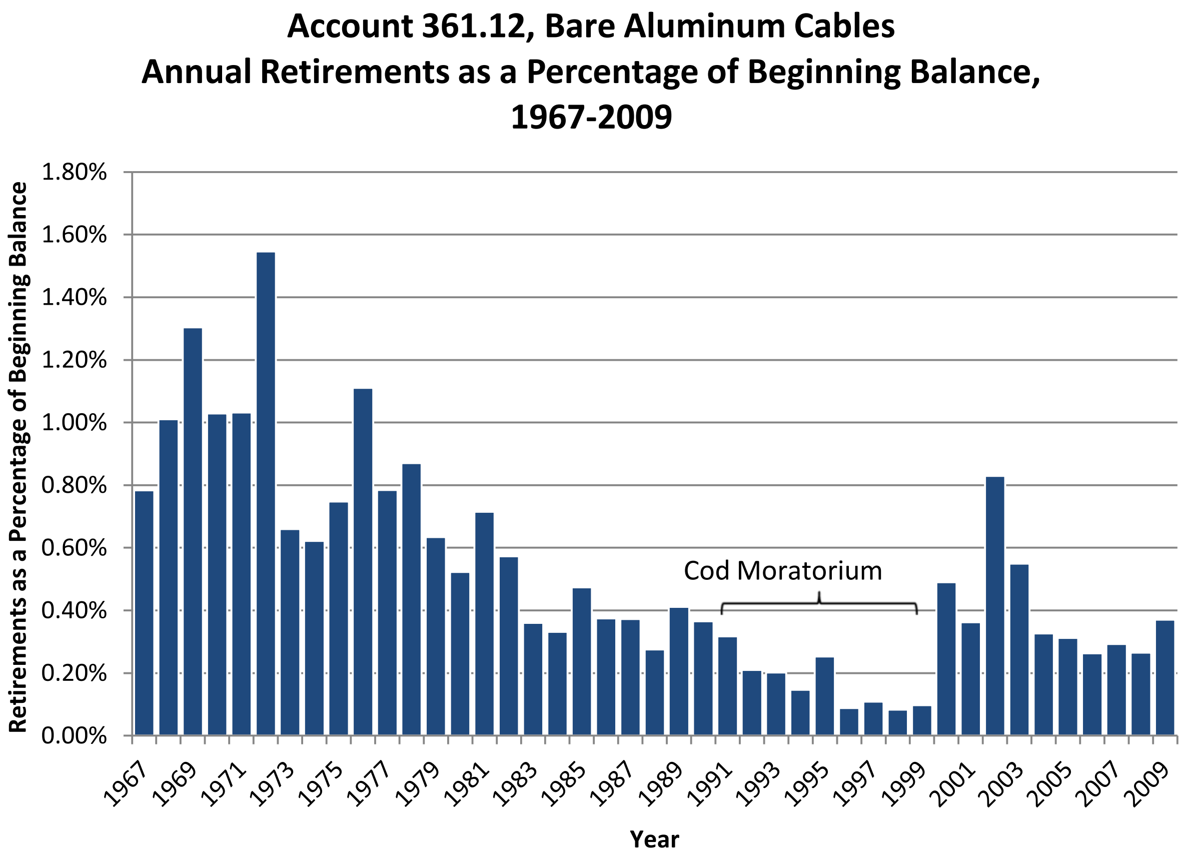


Figure 6 shows the retirements for this period as a percentage of the beginning plant balance for each year. As the chart shows, the period from 1990-1999 represented the lowest level of retirements in percentage terms of any period.

However, a trend towards lower levels of retirements has since reversed, and the retirements in the 2000s were much higher than in the 1990s.

Figure 6



On page 29 of his testimony, Mr. Pous states that “when a more current experience band analysis is performed in order to test if there are trends in the data, an even longer ASL than proposed by Gannett Fleming is appropriate.” Yet his support for this claim is only the 1990-2009 experience band, when a more detailed analysis of more recent activity shows that the trend is actually to *increasing* levels of retirements. In the responses to Requests for Information CA-NP-034 and CA-NP-079, Mr. Pous was provided the exact analysis presented above which shows trends for more recent activity. Instead of providing a balanced analysis of this information, he selected only the period of data that supported his conclusion and ignored more recent activity. When instead this information is placed in the proper context and a more detailed analysis of trends is performed, it is clear that more recent activity shows an increase of retirement activity and a shorter average service life. This is consistent with the Company's outlook for the property in this account.

For all of the reasons presented here, the 55-R2.5 survivor curve estimate from the Depreciation Study is a much more reasonable estimate than that of Mr. Pous. Indeed, most of the evidence Mr. Pous presents to support his estimate – both from the actuarial analysis and from other sources – is incorrect and often misleading. The Board should reject Mr. Pous' arguments and accept the estimate set forth in the Depreciation Study.

Account 361.2 – Underground Cables

This account was combined with Account 367.2, Underground Switches for life analysis.[2] The previous service life estimate for these accounts is the 40-R3 survivor curve. The data indicates that an increase in service life is warranted, and in the Depreciation Study the survivor curve estimate is a gradual increase to the 45-R3 survivor curve. On the basis of relatively little retirement history, Mr. Pous proposes a massive increase of 17 years to the 57-R2.5. This represents a 42.5% increase in average service life.

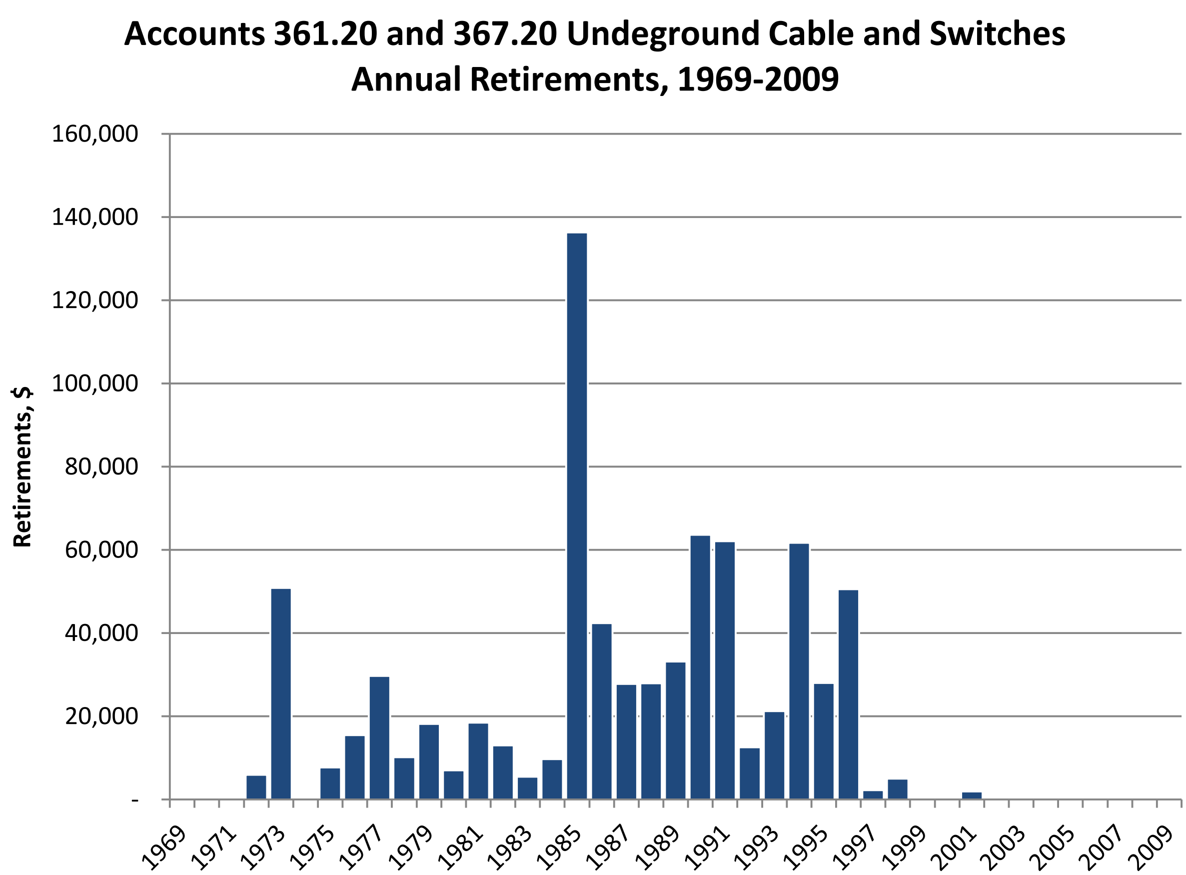
[2] Mr. Pous does not propose an adjustment for Account 367.2. He does not offer an explanation for changing the service life for one account but not the other.

Appendix B

Mass Property Life Account by Account Analysis

The original life table for this account can be found on pages A-73 and A-74 of the Depreciation Study. The life table for this account only reaches 83 percent surviving. That is, there has not been enough retirement activity in this account for the life table to reach the 80% to 20% surviving portion of the curve that provides the most information about the retirement pattern for this account. Due to various factors, the Company has not begun replacing underground cables at a significant level. **Figure 7** shows the annual retirements by year for these accounts. As the figure shows, there have been few retirements since the mid-1990s.

Figure 7



Given that the Company has not reflected many retirements in underground cables in recent years, an increase in average service life is warranted for this account at this time. This has been reflected in the Depreciation Study, as the service life has been increased 5 years to the 45-R3. However, given the small level of retirements in recent years, care should be taken to not increase the service life too much in one study. The trend in **Figure 7** of close to no retirements in the past 10 years is a trend that clearly cannot continue indefinitely without sacrificing the reliability of the Company's distribution system. A comparison with the experience of other utilities provides further evidence that the level of retirements Newfoundland Power has experienced with these accounts will not continue indefinitely.

Mr. Pous himself states on page 24 of his testimony that "industry comparisons become more important when limited levels of utility specific data are available." Given that the original life table does not drop below 83% and there have been limited retirements in recent years, these accounts meet Mr. Pous' criteria of "limited levels of utility specific data." However, while Mr. Pous has offered a survivor curve estimate well into the upper range of estimates for similar property for other utilities, he has not offered "greater levels of support and justification for such parameters."

Figure 8

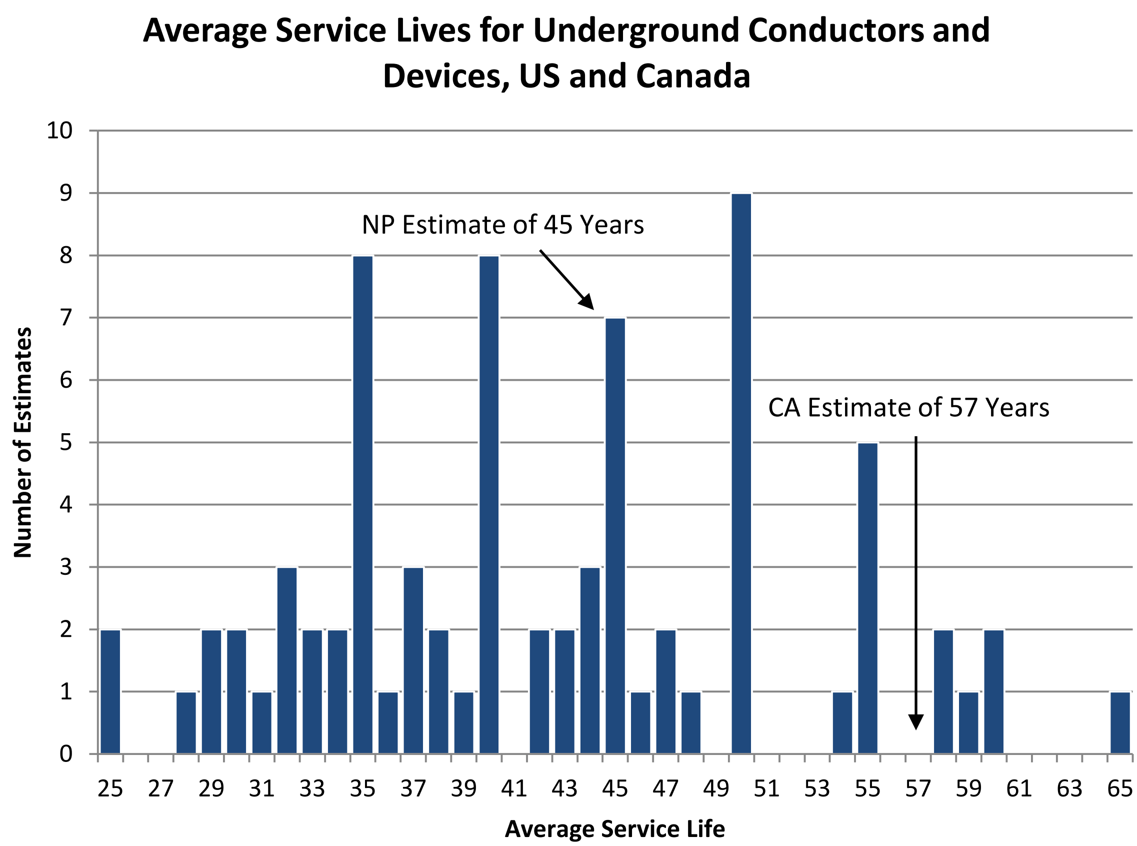


Figure 8 above shows the number of average service life estimates for underground conductors and devices that Gannett Fleming has made for 77 different electric utilities in the United States and Canada. While there is some variation for the lives for these companies, the group as a whole provides evidence that the estimate in the Depreciation Study is far more reasonable than that of Mr. Pous.

The mean estimate for these 77 companies is 42.4 years, and the median is 42 years (for Canadian companies the mean is 42.1 and the median is 42.5). Thus, the

45-R3 survivor curve in the Depreciation Study is very much in line with the experience of most utilities. In contrast, only 6 of the 77 utilities, or 8%, have an average service life estimate equal to or greater than the 57 year estimate proposed by Mr. Pous. Further, only 12 of the 77 have an average service life of greater than 50 years.

It should be clear from this comparison to other electric utilities that the estimate proposed by Mr. Pous is outside of the typical experience for most companies. There are no specific reasons that Newfoundland Power's underground cables should have longer lives than others in the industry. Mr. Pous states on page 24 of his testimony that "Normally, when industry comparisons are used for confirmation purposes and to establish when the values are outside industry ranges, [it requires] greater levels of support and justification for such parameters." Mr. Pous offered no such justification, other than a brief discussion of technology improvements in underground cable. However, these improvements have affected the entire industry, not just Newfoundland Power. Thus, Mr. Pous offers no evidence as to why Newfoundland Power would experience higher lives than the rest of the industry.

In fact, there are a number of reasons that Newfoundland Power would be expected to have shorter lives than others in the industry. First, for many of the companies studied by Gannett Fleming, a majority of the underground conductor is installed in conduit. This is not the case for Newfoundland Power, as only approximately 20% of underground conductor is in conduit. The remaining 80% is direct buried with no protective barrier from the elements.

The fact that the vast majority of the Company's underground cable is direct buried is even more significant for Newfoundland Power because it has a much harsher climate than most of the companies studied by Gannett Fleming. Newfoundland experiences a harsher freeze and thaw cycle than those utilities. As a result, Newfoundland Power's underground cable is subject to harsher conditions than those utilities.

For these reasons, one would expect that, if anything, Newfoundland Power would experience *shorter* lives than others in the industry. Yet Mr. Pous has proposed an estimate at the very high end of the range of lives in the industry.

The 45-R3 estimate presented in the Depreciation Study is a much more reasonable estimate based on the information available. It is very likely that the level of retirements for this account will increase in the future. At that point the actuarial data will reflect lives that are more typical in the industry for this type of property. As discussed previously, the 45-R3 survivor curve does represent an increase over the previous estimate for this account. It therefore does take into account considerations Mr. Pous raises regarding the type of materials for newer installations. However, it reflects the fact that it is far more reasonable to increase to an average service life consistent with others in the industry, rather than the dramatic increase proposed by Mr. Pous.

Accounts 362.1 and 362.2 – Wood Poles and Fixtures

The previous service life estimate for these accounts is the 45-R1.5. In the Depreciation Study, a gradual increase to the 48-R1.5 is proposed, based on a reasoned analysis of the historical data and incorporating a number of considerations based on my discussions with Company management. Mr. Pous proposes a significant increase to the 57-R1. This represents an increase of 12 years, or a 27% increase in average service life. Mr. Pous bases his estimate primarily on fitting the historical data, but also a review of “improvements in treatment of wood poles and initiation of inspection programs.” Upon a more thorough review, none of these considerations offer any justification for such a dramatic increase in service life. Mr. Pous ignores important information about the historical data, and his conclusions concerning the treatment of wood poles and poles inspection programs are incorrect.

First, any consideration of the historical data must consider the proper context of the accounting records available for analysis. Specifically, data from the period 2004-2009 was maintained differently from the data in prior years, and – most importantly – was maintained differently from the Company’s records going forward. Mr. Pous was made aware of these changes in multiple Requests for Information, but chose to ignore the information provided because it did not support his recommendation.

In the response to Requests for Information CA-NP-084 and CA-NP-088, and in the response to the follow up Request for Information CA-NP-546 the Company clearly explained that much of the increase in service life reflected in the life table for distribution poles was due to changes in the data capture procedures for the period 2004-2009. Prior to 2004 the Company maintained a detailed poles database that allowed for specific reporting of pole retirements. The Company discontinued this system in 2004, as the system no longer fit the Company’s requirements. From 2004 through 2010 specific pole identification was not available for recording retirements of poles. This resulted in a different retirement pattern from 2004 through 2010 than in years prior to 2004.

Figure 9

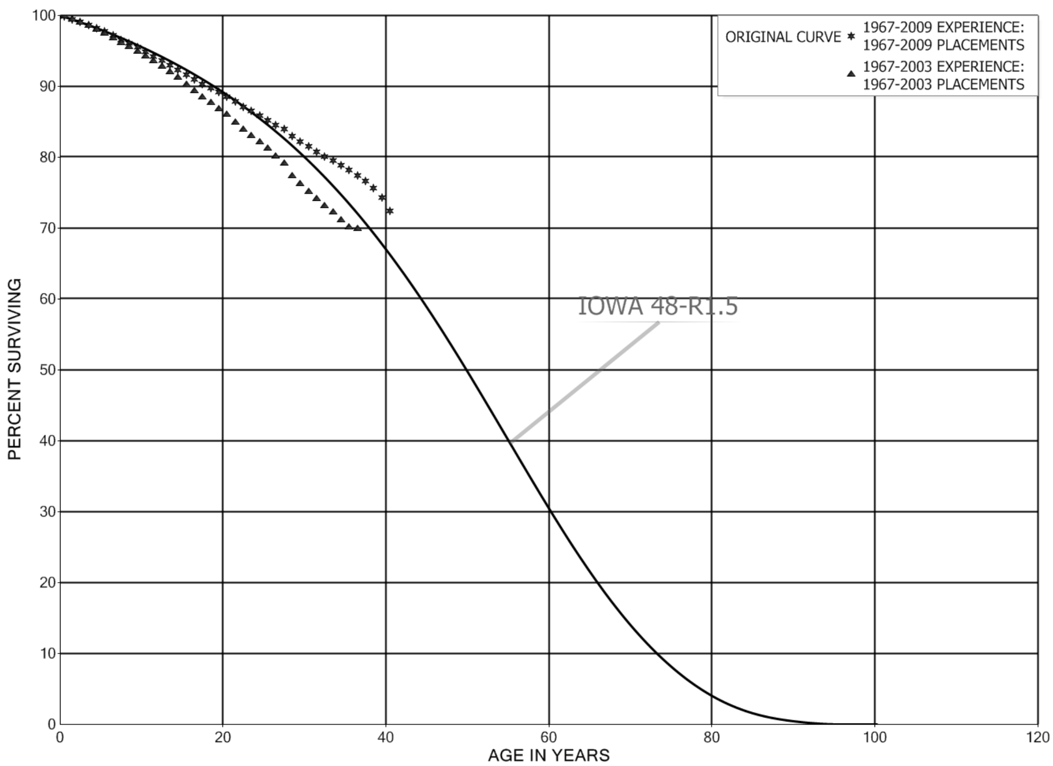
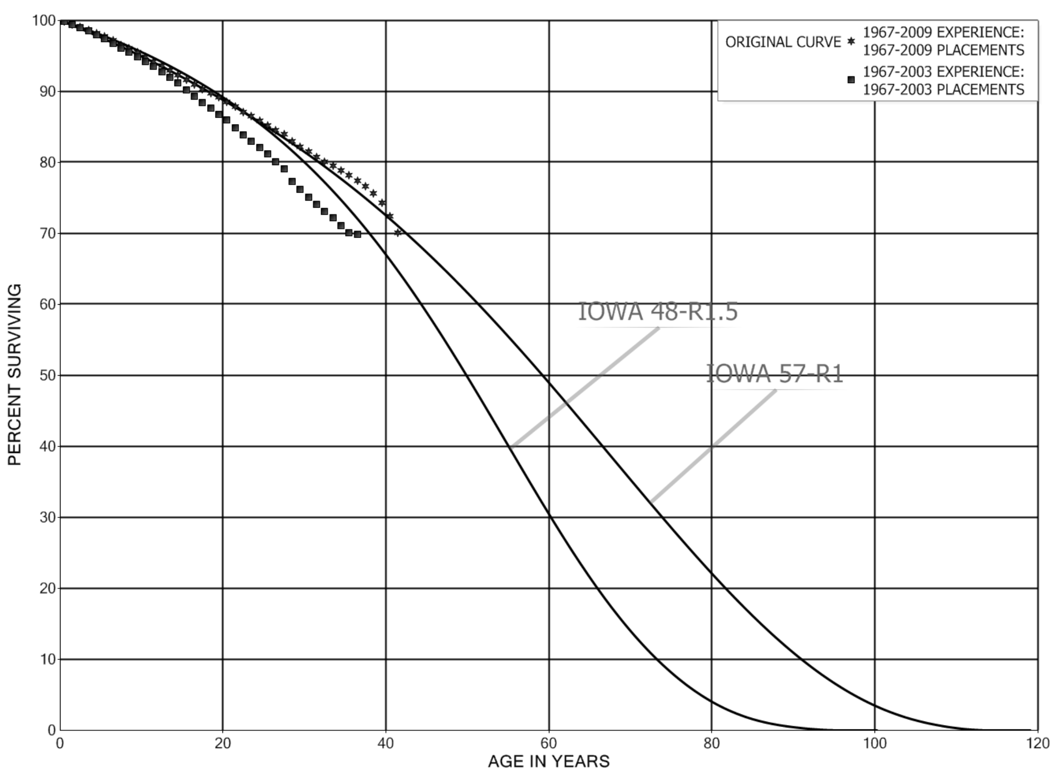


Figure **9** shows the 48-R1.5 survivor curve from the Depreciation Study compared to the original life tables developed for the periods 1967-2009 and 1967-2003. As the chart shows, the data through 2009 shows an increase in life over the 1967-2003 period. However, as discussed above, much of this change was due to the poles database used to price retirements. As discussed in CA-NP-546, in 2010 and 2011 the Company performed a GPS-based pole survey. As a result of the survey, the Company again has pole specific information that is used for retirements. That is, the record keeping prior to 2004 will be more reflective of future expectations for this account than the record keeping from 2004 through 2010.

The 48-R1.5 survivor curve estimate takes into account that while some level of increase in average service life may be warranted, the historical data from the period 2004 through 2009 does not provide the best representation of future expectations for this account. This is in contrast to Mr. Pous' estimate, which as shown in Figure 10 is based primarily on fitting the 1967-2009 data.

Figure 10



Mr. Pous was well aware of the change that occurred in 2004. In addition to the responses provided by the Company in CA-NP-084 and CA-NP-088, he asked a follow up question in CA-NP-546. Yet his recommendation ignores the information provided by the Company, and instead proposes a dramatic increase in average service life based primarily on fitting the historical data.

In addition to the historical data, Mr. Pous bases his estimate on "improvements in treatment of wood poles and initiation of inspection programs."[3] However, as was discussed in the section on transmission poles, neither of these factors are actually supportive of a longer service life. With regard to pole treatment, due to environmental and other concerns, the Company has had to more frequently treat poles with CCA. CCA treated poles have a shorter service life than Penta treated poles, which were more common historically. As a result the trend arising from pole treatment practices is actually towards a shorter life going forward.

As has been discussed in the rebuttal testimony and for other accounts, the inspection program has not in fact led to longer service lives. In fact, it has led to higher retirements and a trend towards a decrease in service life, due to the fact that more poles are replaced proactively and earlier as a result of inspections. Prior to the Company's reliability program, these poles would have instead been replaced at failure or when serious reliability issues arose.

Thus, Mr. Pous' evidence external to the actuarial analysis does not support an increase in service life. Further, while there is some evidence in the historical data for an increase in service life, such a dramatic increase as proposed by Mr. Pous is clearly not warranted once the data is put in the proper context. In contrast, the 48-R1.5 survivor curve represents the most reasonable estimate for distribution wood poles.

[3] Direct Testimony of Jacob Pous, page 35

Account 365.1 – Overhead Services

The previous survivor curve estimate for this account is the 39-S1.5. I have proposed an increase in average service life of five years to the 44-R2 survivor curve. Mr. Pous has proposed to increase the service life further, to the 51-R2 survivor curve. This represents an increase of 12 years, or a 31% increase over the prior estimate.

Figure 11

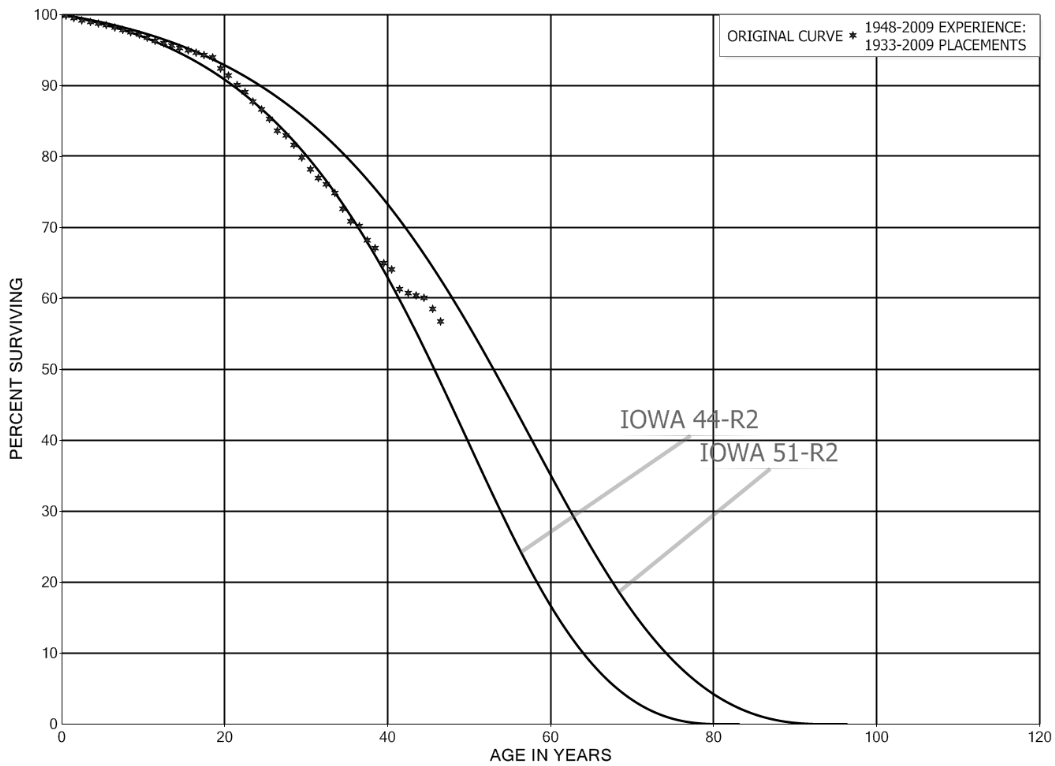


Figure 11 shows a comparison of the estimate from the Depreciation Study with both the original life table and Mr. Pous' estimate. As the figure shows, the estimate from the Depreciation Study is a much better fit of the data. In order to justify his estimate, Mr. Pous instead bases his analysis on a different experience and placement band. His reasoning for disregarding the band presented in the Depreciation Study is that his analysis is more reflective of trends. He also argues, incorrectly, that changes in design, installation and materials support the use of a different range of experience and placements.

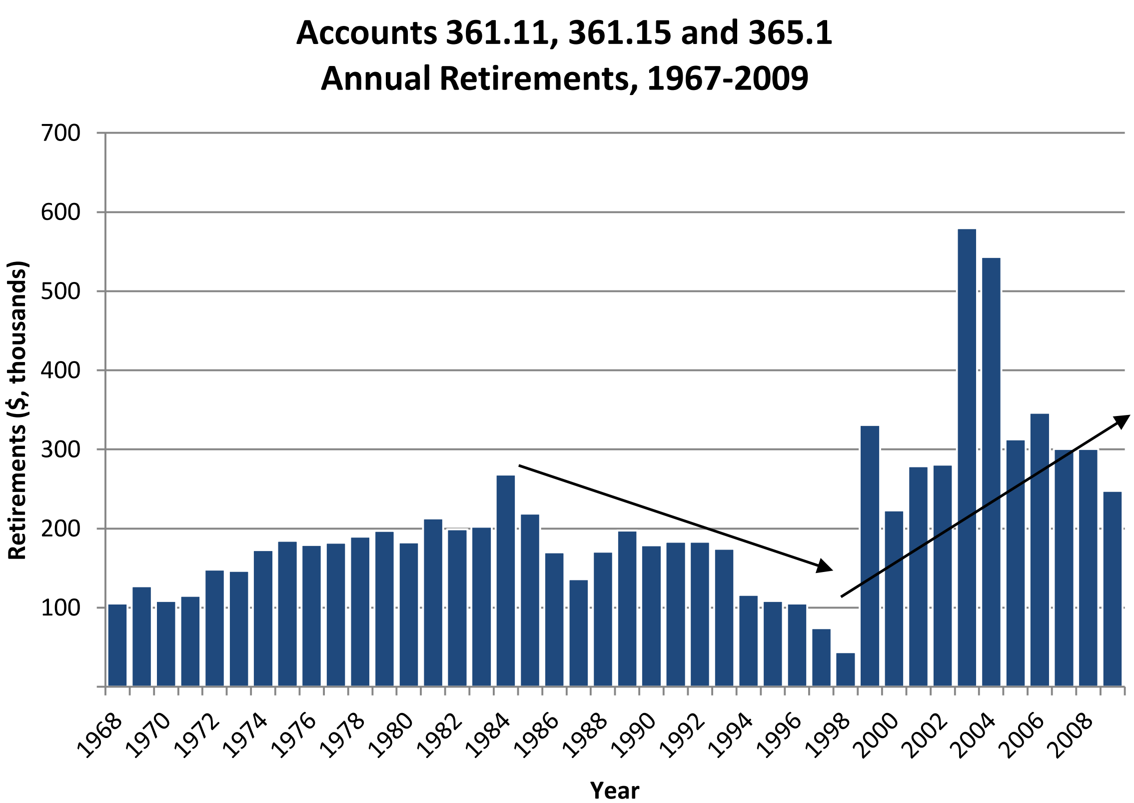
While analysis of different experience and placement bands can reveal trends in the data, exclusive use of more recent bands can put too much emphasis on short term trends that are not representative of the full service lives of long lived utility property. The assets in the Company's distribution accounts will last for many decades, and for this reason the longest experience band available generally provides the best representation of asset service lives over a full life cycle.

As discussed in the section for Account 361.2, for Newfoundland Power trends in the 1990s should not be expected to be reflective of the future. Instead, decreasing retirements and capital spending during this time period are the result of the cod fishing moratorium that began in 1992. Lower retirement experience during this time period does not represent a trend, but instead the impact of events not likely to be experienced in the future. Thus, put in the proper context, longer experience bands should be relied on to present a better picture of the life expectations for Newfoundland Power's distribution system.

Further analysis of the data indicates that the 1990s trend towards a short life is reversing as the Company invests more in upgrading its distribution infrastructure.

Figure 12 shows the retirements by year for this account. As the chart shows, while retirements trended downwards from the mid-1980s to the late-1990s, they have since increased dramatically. Over a long period of time, it is common for utilities to experience increases and decreases in the level of retirements and capital spending, due to a number of factors including capital budget cycles and economic conditions (such as those arising from the cod fishing moratorium). As a result, there are a number of cyclical trends that can be misinterpreted as permanent trends if experience bands that are too short are used. For this reason, longer experience and placement bands should generally be used unless there is a compelling reason to use a shorter band.

Figure 12



Mr. Pous presents very little evidence as to why a shorter band should be used. None of his justifications are compelling. Other than to point out that more recent bands have longer lives, the only additional evidence presented by Mr. Pous is on page 39 of his testimony. Here, he states that during the 1948-2009 “time frame, the industry has experienced changes in design, installation and materials.” However, this is incorrect as it relates to Newfoundland Power. Based on the Company’s experience, services have not experienced any significant changes of this sort that would impact service lives.

Thus, this information does not provide support for relying on a shorter experience and placement bands. To the contrary, Mr. Pous’ use of shorter experience and placement bands places too much emphasis on an unusually low level of capital spending during the 1990s. The historical experience relied on in the Depreciation Study represents the time period most indicative of life expectations for this account. As shown in Figure 11, the 44-R2 estimate from the Depreciation Study is a superior fit of the data when compared to Mr. Pous’ estimate. It therefore is also the most appropriate life estimate for this account.

Appendix C

Mass Property Net Salvage: Account Specific Analysis

Accounts 365.1 - Services

The estimate for this account in the Depreciation Study is negative 60%. As the historical data on pages B-25 and B-26 of the Depreciation Study shows, net salvage has trended more negative in recent years. This trend continued in 2010. These trends, as well as the information presented in my Expert Rebuttal Evidence indicate that a decrease in negative net salvage is not appropriate at this time. Yet Mr. Pous not only proposes a decrease, but proposes a very large decrease.

Figure 1

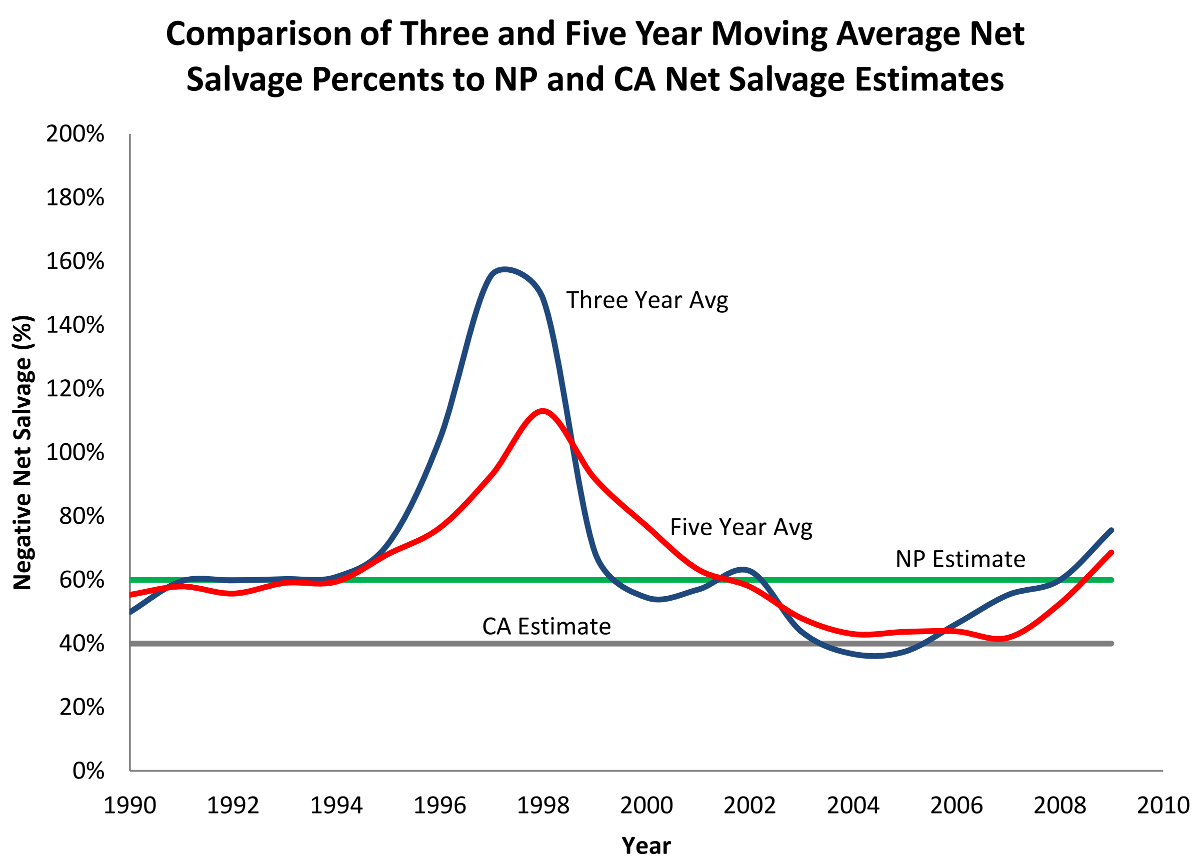


Figure 1 shows a graph of the 3-year and 5-year moving average net salvage percentages for the most recent twenty year period, 1990-2009. The figure also shows Mr. Pous' negative 40% estimate and the negative 60% estimate from the Depreciation Study.[1] As the figure shows, Mr. Pous' estimate is on average much lower than the actual experience of the Company. In contrast, the negative 60% represents a very good estimate of the average of the net salvage percents from this period. Roughly half of the three and five year averages are greater and roughly half are smaller, and the overall average for this period is negative 59%.

As a result, the historical data is very supportive of the estimate of negative 60 % contained in the Depreciation Study. It does not support Mr. Pous' proposal to decrease net salvage to negative 40%.

Mr. Pous argues that the concept of economies of scale rather than standard practices of analyzing moving averages and long term averages in the data. He instead bases his estimate on only two years' worth of experience. However, a closer examination reveals that his argument is not convincing.

He offers no evidence to support that economies of scale will result in significant cost reductions for Newfoundland Power, other than to point out that the number of services retired will have to be higher in the future in order for the account to have a 44 year average service life. However, while it is true that retirements may increase in the future, it does not follow that this will result in cost savings. Cost savings based on economies of scale will only occur in any significant fashion if the Company is able to

[1] For presentation purposes, the chart actually shows negative net salvage as positive.

retire a large number of services in the same location (i.e. replace all services on the same street at one time). This is not the expectation of Company management. The Company normally replaces services when there are issues with a particular service, whether it is due to changing requirements for a customer or a trouble call for an issue with a service. Management expects that this will be typical of service replacements in the future.

Mr. Pous argues that due to economies of scale, he can ignore the net salvage experience of most years and focus primarily on the experience for 2003 and 2004, which have the highest levels of retirements for the past 10 years. He argues that because these years have net salvage close to negative 30%, that percent is a better indication of future experience. However, in focusing on two individual years of experience, Mr. Pous ignores standard practices in net salvage analysis.

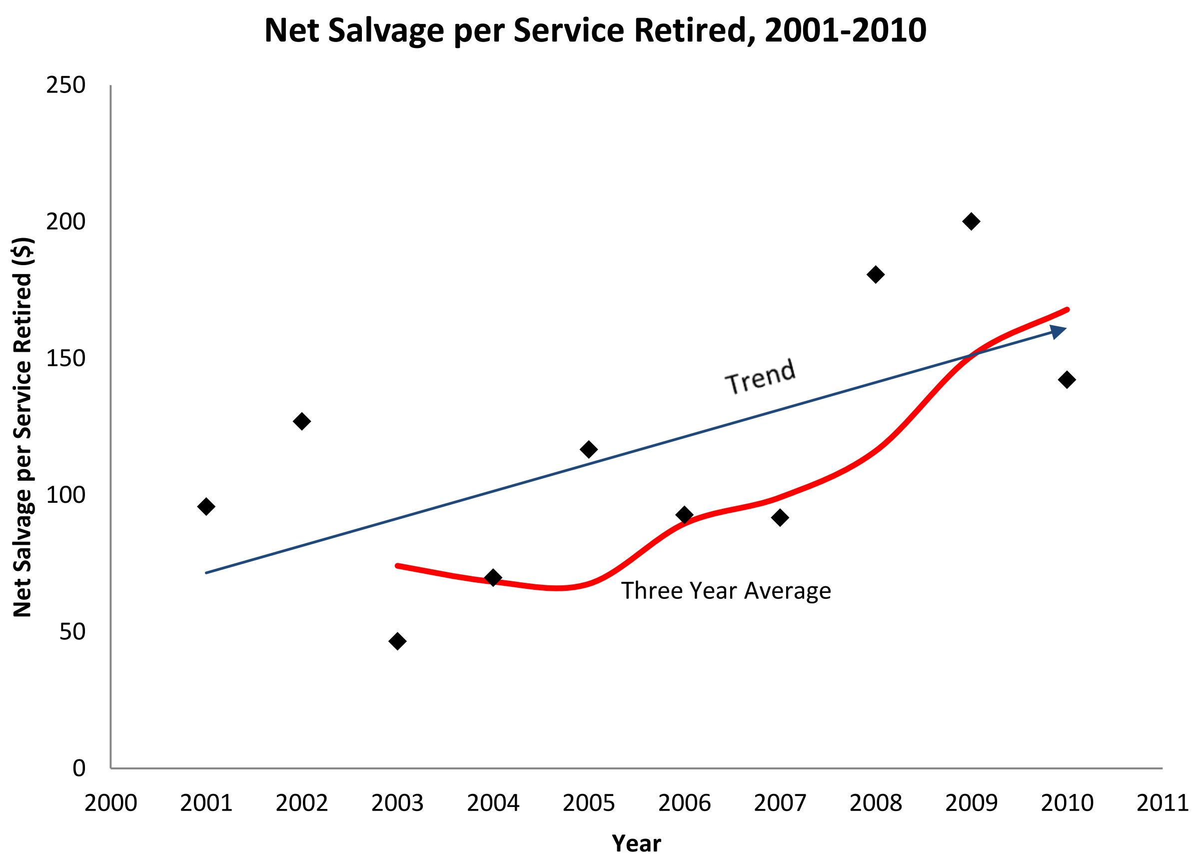
As the Expert Rebuttal Evidence explains, the retirements and cost of removal are not always recorded in the same year. There can also be volatility in experienced net salvage from year to year. Both of these are primary reasons why it is important to examine moving averages when performing net salvage analysis. Instead of following this practice, Mr. Pous selects two years that support his intention to lower negative net salvage (and depreciation expense). However, a closer examination of the data reveals why relying on only one or two data points does not provide an accurate representation of the Company's experience.

It should first be noted that in the response to Request for Information CA-NP-074, which Mr. Pous cites for the number of services retired per year, the year 2010 is included. While this data was not available for the Depreciation Study, it is relevant because it helps to disprove Mr. Pous' thesis regarding the impact of economies of scale. 2010 experienced a relatively high number of service retirements (higher than 2004 but lower than 2003). Service retirements for 2010 totaled $389,228. However, net salvage was a negative $285,195 – higher than for any of the previous years.[2] The net salvage percent for 2010 was negative 73% – much higher than Mr. Pous' estimate and even higher than the estimate in the Depreciation Study. Thus, Mr. Pous' perceived evidence of economies of scale was likely more the result of a small sample size of two years of data, not the result of a reduction in cost of the magnitude Mr. Pous contends.

Further, while he cites – without evidence – that removal cost for Newfoundland Power will decrease due to economies of scale, Mr. Pous ignores a number of factors that will lead to higher cost of removal in the future. First, inflation has and will continue to contribute to increases in removal costs for this account. Indeed, recent data supports these cost increases. For the years provided in the response to Request for Information CA-NP-074, Figure 2 shows the average net salvage recorded per service retired, as well as the three year average of these costs and the best fit trend line. As the chart shows, net salvage costs per service have increased significantly over this period of time.

[2] The retirement and net salvage amounts are for overhead services only, so as to be consistent with the table in CA-NP-074. In the Depreciation Study, overhead and underground services were combined for net salvage analysis.

Figure 2



Another factor that will impact the net salvage for services is the age of retirements. The average age of historical retirements is normally lower than the average age of retirements that will occur for plant currently in service (that is, the probable life of plant in service).

Figure 3

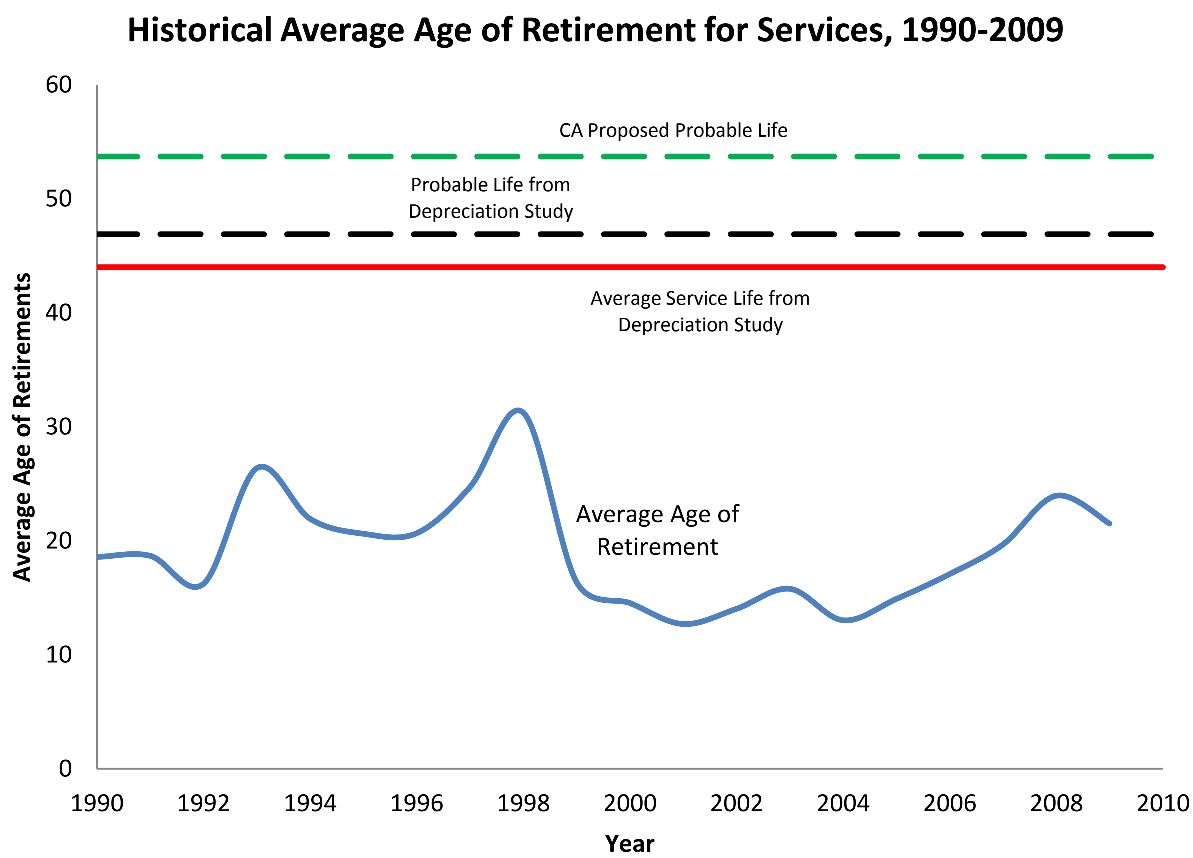


Figure 3 shows the historical average age of retirement for overhead services for each year from 1990 through 2009. As the chart shows, the average age of retirement was much lower than the proposed average service life for this account. More important, the average age of retirements has been much lower than the probable life for this account, which is the average age at which plant currently in service will retire in the future. Due to inflation, removal costs tend to increase with age. Thus, it is likely that future removal costs for plant in service will be even higher than the historical data shows. To illustrate the point, the average age of retirements for Account 365.1, Overhead Services has been 17.5 years for the period 1990 to 2009. Since the probable life going forward is 46.9 years, future retirements will have on average 29.4 years more inflation than historical retirements. Even with modest 2% inflation, this equates to 79% higher removal costs for future retirements than past retirements.[3]

This information is presented not necessarily to argue that net salvage will be much higher in the future than in the past, but to show that there are a number of factors that influence removal costs. Contrary to the presentation in Mr. Pous' testimony, these do not all indicate lower net salvage in the future. Instead, many are factors that drive higher costs in the future. In his testimony, Mr. Pous only considers factors that will lower negative net salvage, while ignoring those that support more negative net salvage estimates. This contrasts to the Depreciation Study, in which a number of factors were considered, resulting in the most reasonable estimates of net salvage going forward.

As discussed in my Expert Rebuttal Evidence none of Mr. Pous' other arguments provide any evidence to the contrary. Thus, given the analysis of the historical data and the trend to more negative net salvage, the negative 60% net salvage estimate represents the best estimate of future expectations for this account. In fact, given the factors discussed in this Expert Rebuttal Testimony, it is most likely a conservative (i.e. less negative) estimate.

[3] Mr. Pous has proposed a longer service life than the Company. Thus, this effect would be even larger based on his service life estimate.