



VANCOUVER, BRITISH COLUMBIA

2017 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES AS OF DECEMBER 31, 2016

PREPARED FOR
PACIFIC NORTHERN GAS LTD
VANCOUVER, BRITISH COLUMBIA

AUGUST 25, 2017



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August 25, 2017

Mr. Verlon G. Otto, CPA, CA
Pacific Northern Gas Ltd.
#2550 – 1066 West Hastings Street
Vancouver, B.C.
V6E 3X2

Attention: Mr. Verlon Otto
Director, Regulatory Affairs

Ladies and Gentlemen:

Pursuant to your request, we have conducted a review and assessment of the natural gas distribution assets of Pacific Northern Gas Ltd. Our report presents a description of the methods used in the estimation of service life and our recommendations for average service life estimates.

We gratefully acknowledge the assistance of Pacific Northern Gas Ltd. personnel in the completion of the review.

Respectfully submitted,

CONCENTRIC ADVISORS ULC

A handwritten signature in black ink, appearing to read "LEK", is written over a faint, larger version of the same signature.

LARRY E. KENNEDY, CDP
Vice President

LEK/
Project: 059170

PACIFIC NORTHERN GAS LTD
Vancouver, British Columbia

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ACCRUAL RATES AS OF DECEMBER 31, 2016

CONCENTRIC ADVISORS ULC

Calgary, Alberta



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EXECUTIVE SUMMARY

Pursuant to Pacific Northern Gas Ltd.'s ("PNG." or "Company") request, Concentric Advisors ULC ("Concentric") conducted a depreciation study related to natural gas distribution and general plant accounts as of December 31, 2016. The purpose of this study was to determine the annual depreciation accrual rates and amounts applicable to the original cost of gas plant as of December 31, 2016.

The depreciation rates presented herein are based on generally-accepted methods and procedures for calculating depreciation. The depreciation rates are based on the straight-line method using the average service life group procedure and were applied on a remaining life basis. The calculations were based on attained ages, estimated average service life, and forecasting net salvage characteristics for each depreciable group of assets.

While the methodology adopted in this study is generally consistent with that applied in determining the depreciation rates as per the 2009 depreciation study completed by Gannett Fleming, Concentric notes that it is proposing a change from PNG's last approved depreciation study. This study makes provision of the recovery of cost of removal to be collected through depreciation expense, as compared to the current collection of cost of removal in the year of occurrence. The inclusion of an allowance for net salvage provides for the proper matching of expenses to revenues and ensures for accurate intergenerational equity.

Concentric recommends the calculated annual depreciation accrual rates set forth herein apply specifically to natural gas plant in service as of December 31, 2016 as summarized by Tables 1A COR, 1B COR, 1C COR and 1D COR for components of Life. Tables 1E has also shown to illustrate the combined impacts for the Fort St. John and Dawson Creek combined entity. Detailed supporting data and calculations are provided within the study.

In BCUC Order G-130-12, the Commission directed "In PNG's next Revenue Requirements Application, it should provide an analysis of the potential use of negative salvage accounting. Also, in PNG's next depreciation study, the depreciation expert should be engaged to provide depreciation rates as well as negative salvage provision rates for each asset class. These two items should be presented separately from each other and the basis for the determination of negative salvage rates should be disclosed."

As a result of this Order, Concentric Advisors has added Tables 2A, 2B, 2C and 2D which are summary tables of the calculated annual accrual for depreciation expense and rates on a net salvage basis. Tables 2E has also been added to illustrate the combined impacts for the Fort St. John and Dawson Creek combined entity. Furthermore, the basis for Concentric Advisors determination of each applicable fixed asset account's net salvage has been provided in Part II as Survivor Curve and Net Salvage Judgements.

Detailed supporting data and calculations are further provided within the study.

In BCUC Order G-114-13, the Commission directed "The Commission Panel accepts that it continues to be appropriate for PNG to record the costs of asset retirements in the ordinary course of business to the Plant Gains and Losses deferral account as they are incurred. However, the Panel is supportive of PNG's decision to include an evaluation of the potential of using negative salvage accounting in its next Depreciation Study. Our expectation is that this evaluation will include a thorough examination of the pros and cos of utilizing negative salvage accounting and the costs of its implementation." In this regard, Concentric Advisors has provided its examination of utilizing net salvage in PNG's depreciation rates in Part I - Basis of The Study – Depreciation Net Salvage.

This study results in a consolidated annual depreciation expense accrual of \$10.0 million when applied to depreciable plant balances as of December 31, 2016. The report study results are summarized at an aggregate functional group level and then at a system level as follows:

**TOTAL CONSOLIDATED
SUMMARY OF ORIGINAL COST, ACCRUAL PERCENTAGES AND AMOUNTS**

PLANT GROUP (1)	ORIGINAL COST \$'s (2)	ANNUAL ACCRUAL	
		%'s (3)	\$'s (4)
GATHERING	3,889,174	4.43	172,412
PROCESSING	33,200	2.70	895
TRANSMISSION	223,758,907	1.77	3,964,563
DISTRIBUTION	148,594,698	3.03	4,501,365
GENERAL	23,817,468	5.52	1,315,139
TOTAL PLANT IN SERVICE	400,093,446	2.49	9,954,374

**WEST SYSTEM
SUMMARY OF ORIGINAL COST, ACCRUAL PERCENTAGES AND AMOUNTS**

PLANT GROUP (1)	ORIGINAL COST \$'s (2)	ANNUAL ACCRUAL	
		%'s (3)	\$'s (4)
GATHERING	-		-
PROCESSING	33,200	2.70	895
TRANSMISSION	199,842,201	1.74	3,480,895
DISTRIBUTION	65,880,621	3.34	2,201,711
GENERAL	16,873,587	5.66	955,644
TOTAL PLANT IN SERVICE	282,629,608	2.35	6,639,145

**FORT ST. JOHN
SUMMARY OF ORIGINAL COST, ACCRUAL PERCENTAGES AND AMOUNTS**

PLANT GROUP (1)	ORIGINAL COST \$'s (2)	ANNUAL ACCRUAL	
		%'s (3)	\$'s (4)
GATHERING	-		-
PROCESSING	-		-
TRANSMISSION	13,097,887	1.97	257,916
DISTRIBUTION	53,962,473	2.58	1,394,625
GENERAL	2,347,674	5.25	123,225
TOTAL PLANT IN SERVICE	69,408,034	2.56	1,775,766

DAWSON CREEK
SUMMARY OF ORIGINAL COST, ACCRUAL PERCENTAGES AND AMOUNTS

PLANT GROUP (1)	ORIGINAL COST \$'s	ANNUAL ACCRUAL	
	(2)	% 's (3)	\$'s (4)
GATHERING	-		-
PROCESSING	-		-
TRANSMISSION	8,639,235	2.07	178,668
DISTRIBUTION	25,785,055	3.12	803,893
GENERAL	3,924,576	5.65	221,905
TOTAL PLANT IN SERVICE	38,348,866	3.14	1,204,466

TUMBLER RIDGE
SUMMARY OF ORIGINAL COST, ACCRUAL PERCENTAGES AND AMOUNTS

PLANT GROUP (1)	ORIGINAL COST \$'s	ANNUAL ACCRUAL	
	(2)	% 's (3)	\$'s (4)
GATHERING	3,889,174	4.43	172,412
PROCESSING	-		-
TRANSMISSION	2,179,584	2.16	47,084
DISTRIBUTION	2,966,549	3.41	101,136
GENERAL	671,631	2.14	14,365
TOTAL PLANT IN SERVICE	9,706,938	3.45	334,997

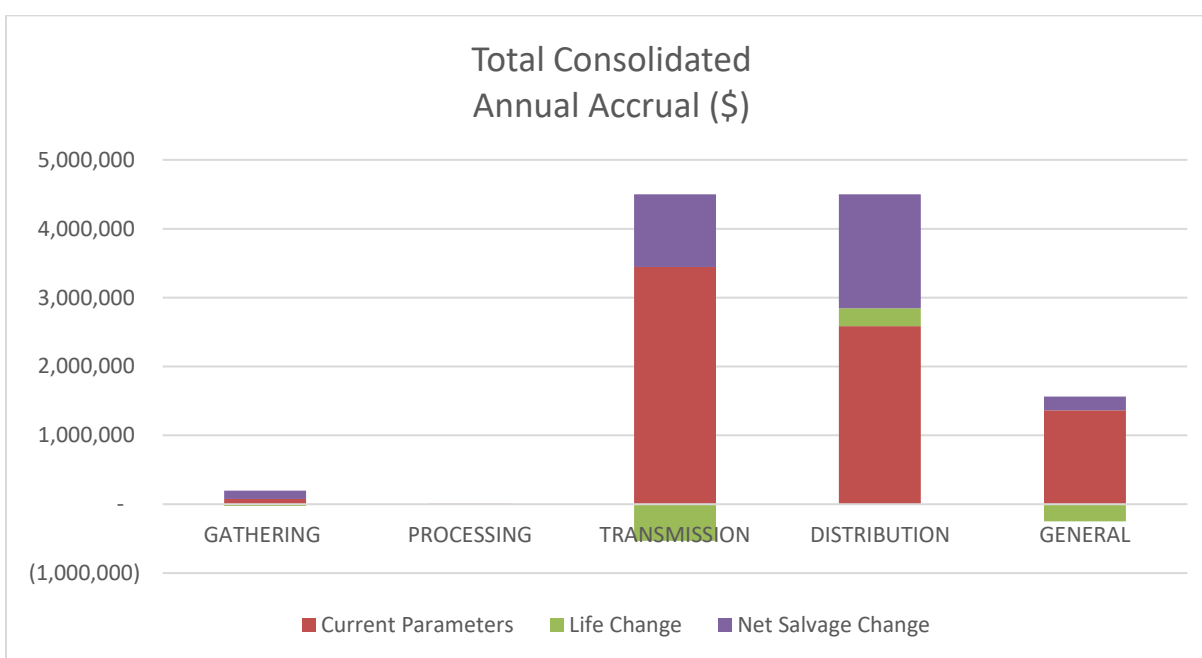
FORT ST. JOHN & DAWSON CREEK
SUMMARY OF ORIGINAL COST, ACCRUAL PERCENTAGES AND AMOUNTS

PLANT GROUP (1)	ORIGINAL COST \$'s	ANNUAL ACCRUAL	
	(2)	% 's (3)	\$'s (4)
GATHERING	-		-
PROCESSING	-		-
TRANSMISSION	21,737,122	2.01	436,584
DISTRIBUTION	79,747,528	2.76	2,198,518
GENERAL	6,272,250	5.50	345,130
TOTAL PLANT IN SERVICE	107,756,900	2.77	2,980,232

Finally, the application of the current depreciation parameters, applied to the 2016 depreciable balances, would result in an approximate \$7.6M annual expense accrual. The recommended life parameter changes results in an annual expense accrual decrease of approximately \$.1M. The recommended net salvage parameter changes result in an annual expense accrual increase of approximately \$2.6M. These changes are further detailed by account in Tables 2 (and in each account's detailed Survivor Curve and Net Salvage Judgements) and summarized at an aggregate functional group level and then at a system level as follows:

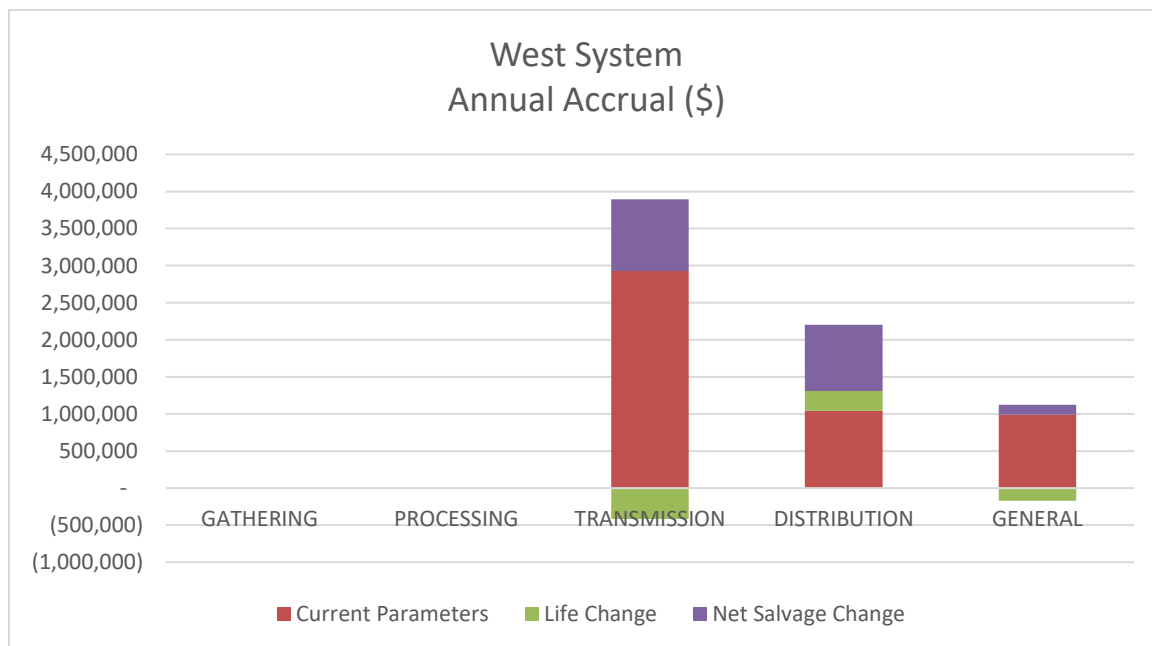
**TOTAL CONSOLIDATED
SUMMARY OF ANNUAL ACCRUAL CHANGES FROM PREVIOUS STUDY**

PLANT GROUP	CURRENT PARAMETER ACCRUAL	CHANGE DUE TO LIFE	CHANGE DUE TO NET SALVAGE	TOTAL CHANGE
(1)	\$'s (2)	\$'s (3)	\$'s (4)	\$'s (4)
GATHERING	75,854	(25,319)	121,877	172,412
PROCESSING	895	-	-	895
TRANSMISSION	3,443,170	(534,507)	1,055,900	3,964,563
DISTRIBUTION	2,583,730	261,748	1,655,887	4,501,365
GENERAL	1,364,089	(247,136)	198,186	1,315,139
TOTAL PLANT IN SERVICE	7,467,738	(545,214)	3,031,850	9,954,374



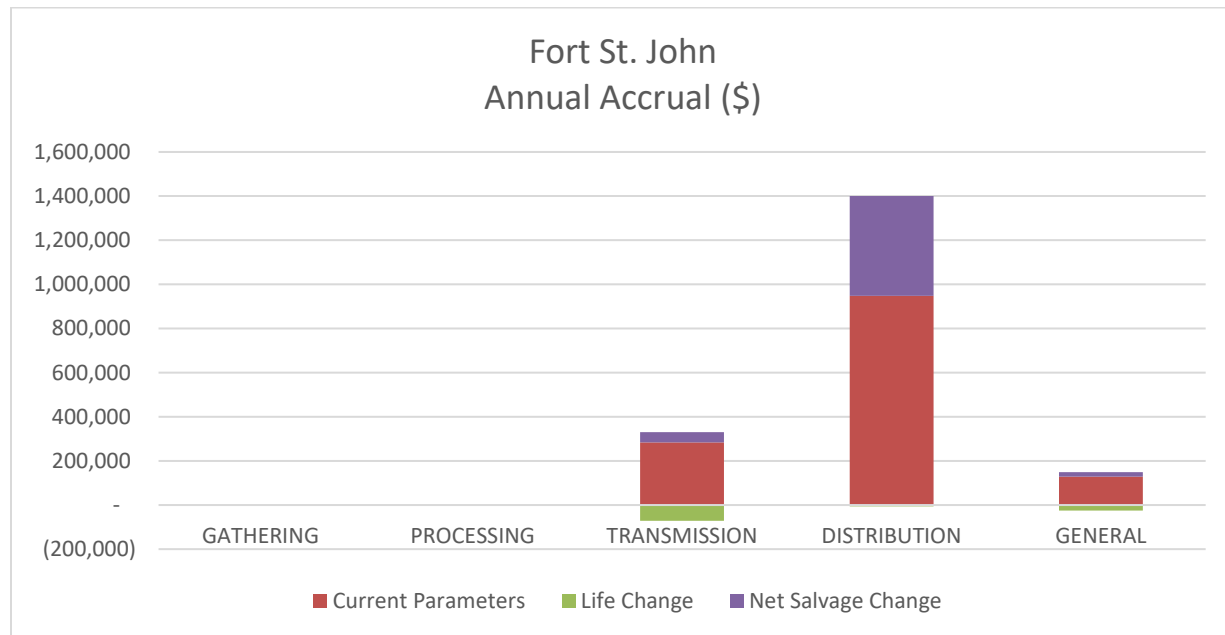
WEST SYSTEM
SUMMARY OF ANNUAL ACCRUAL CHANGES FROM PREVIOUS STUDY

PLANT GROUP	CURRENT PARAMETER ACCRUAL	CHANGE DUE TO LIFE	CHANGE DUE TO NET SALVAGE	TOTAL CHANGE
(1)	\$'s (2)	\$'s (3)	\$'s (4)	\$'s (4)
GATHERING	-	-	-	-
PROCESSING	895	-	-	895
TRANSMISSION	2,928,435	(414,576)	967,036	3,480,895
DISTRIBUTION	1,043,087	264,917	893,707	2,201,711
GENERAL	990,462	(168,823)	134,005	955,644
TOTAL PLANT IN SERVICE	4,962,879	(318,482)	1,994,748	6,639,145



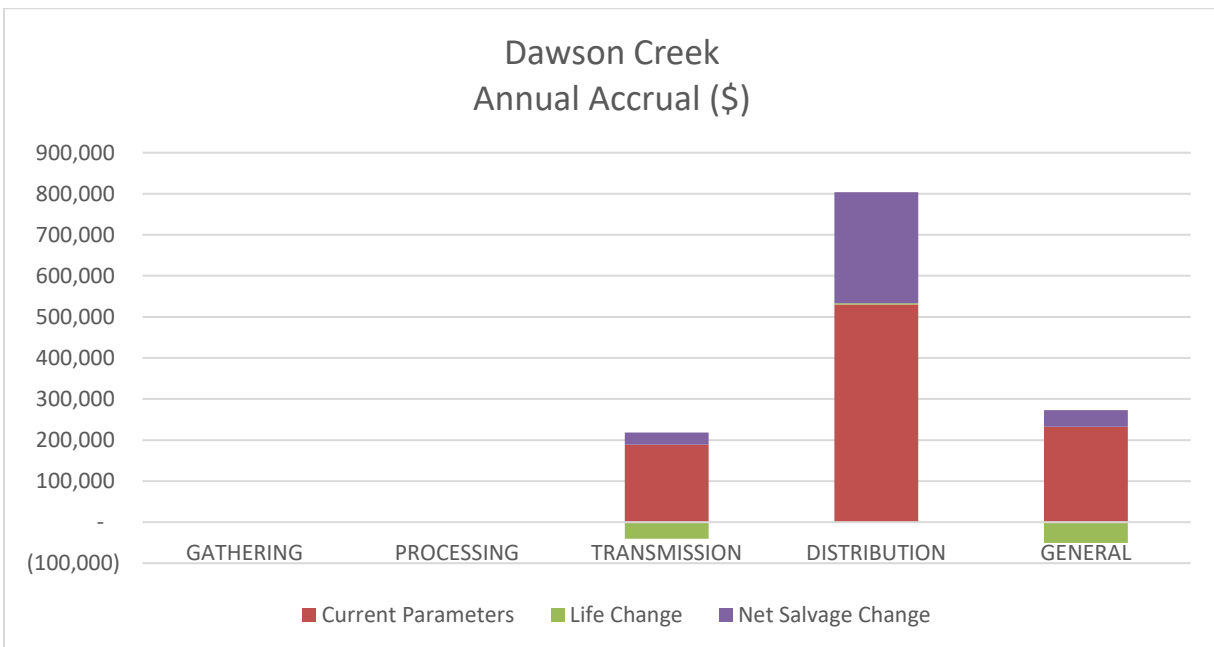
FORT ST. JOHN
SUMMARY OF ANNUAL ACCRUAL CHANGES FROM PREVIOUS STUDY

PLANT GROUP	CURRENT PARAMETER ACCRUAL	CHANGE DUE TO LIFE	CHANGE DUE TO NET SALVAGE	TOTAL CHANGE
(1)	\$'s (2)	\$'s (3)	\$'s (4)	\$'s (4)
GATHERING	-	-	-	-
PROCESSING	-	-	-	-
TRANSMISSION	283,959	(72,071)	46,028	257,916
DISTRIBUTION	947,377	(6,351)	453,599	1,394,625
GENERAL	127,961	(25,432)	20,696	123,225
TOTAL PLANT IN SERVICE	1,359,297	(103,854)	520,323	1,775,766



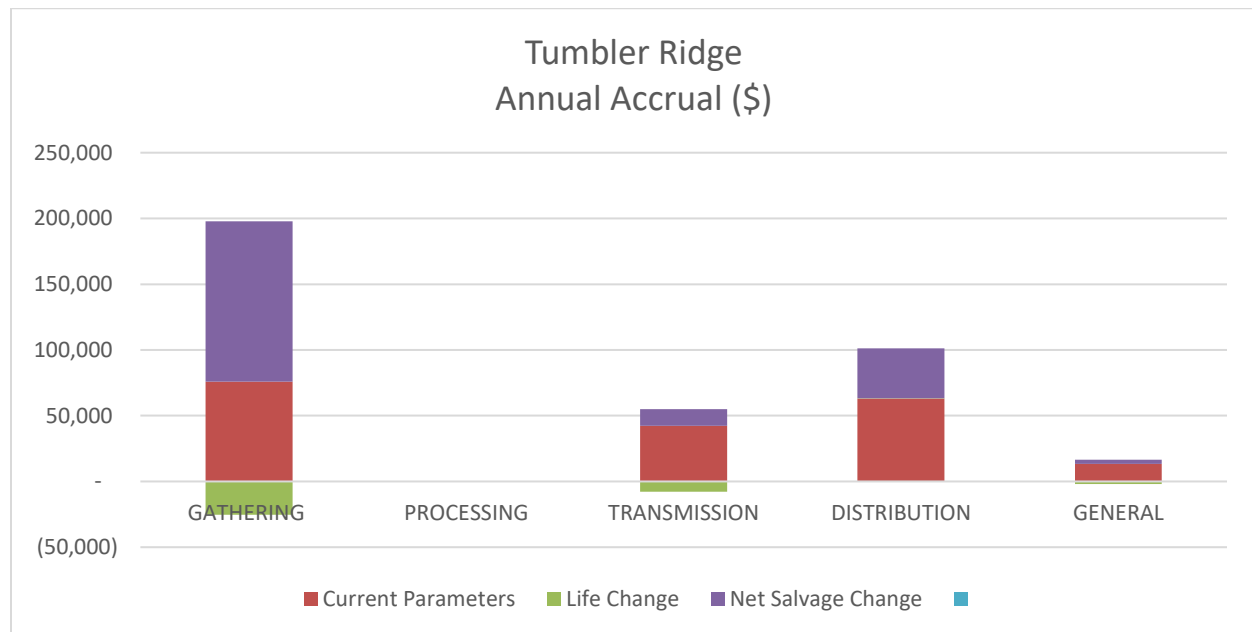
DAWSON CREEK
SUMMARY OF ANNUAL ACCRUAL CHANGES FROM PREVIOUS STUDY

PLANT GROUP	CURRENT PARAMETER ACCRUAL	CHANGE DUE TO LIFE	CHANGE DUE TO NET SALVAGE	TOTAL CHANGE
(1)	\$'s (2)	\$'s (3)	\$'s (4)	\$'s (4)
GATHERING	-	-	-	-
PROCESSING	-	-	-	-
TRANSMISSION	188,540	(40,045)	30,173	178,668
DISTRIBUTION	530,225	3,002	270,666	803,893
GENERAL	232,261	(50,816)	40,460	221,905
TOTAL PLANT IN SERVICE	951,026	(87,859)	341,299	1,204,466



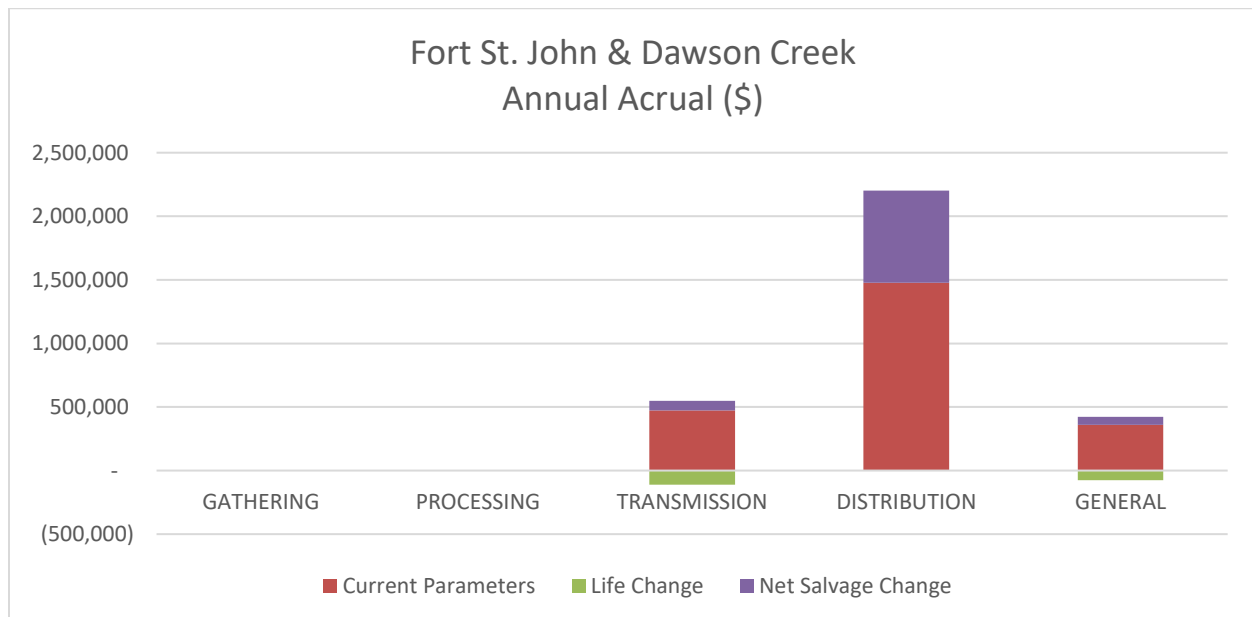
**TUMBLER RIDGE
SUMMARY OF ANNUAL ACCRUAL CHANGES FROM PREVIOUS STUDY**

PLANT GROUP	CURRENT PARAMETER ACCRUAL	CHANGE DUE TO LIFE	CHANGE DUE TO NET SALVAGE	TOTAL CHANGE
(1)	\$'s (2)	\$'s (3)	\$'s (4)	\$'s (4)
GATHERING	75,854	(25,319)	121,877	172,412
PROCESSING	-	-	-	-
TRANSMISSION	42,236	(7,815)	12,663	47,084
DISTRIBUTION	63,041	180	37,915	101,136
GENERAL	13,405	(2,065)	3,025	14,365
TOTAL PLANT IN SERVICE	194,536	(35,019)	175,480	334,997



**FORT ST. JOHN & DAWSON CREEK
SUMMARY OF ANNUAL ACCRUAL CHANGES FROM PREVIOUS STUDY**

PLANT GROUP	CURRENT PARAMETER ACCRUAL	CHANGE DUE TO LIFE	CHANGE DUE TO NET SALVAGE	TOTAL CHANGE
(1)	\$'s (2)	\$'s (3)	\$'s (4)	\$'s (4)
GATHERING	-	-	-	-
PROCESSING	-	-	-	-
TRANSMISSION	472,499	(112,116)	76,201	436,584
DISTRIBUTION	1,477,602	(3,349)	724,265	2,198,518
GENERAL	360,222	(76,248)	61,156	345,130
TOTAL PLANT IN SERVICE	2,310,323	(191,713)	861,622	2,980,232



PART I. INTRODUCTION

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for Pacific Northern Gas Ltd. to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of Pacific Northern Gas Ltd.'s gathering, processing, transmission, distribution and general plant assets as of December 31, 2016. The rates and amounts are based on the straight line remaining life method of depreciation. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to the natural gas plant in service.

The service life and net salvage estimates resulting from the study were based on: informed professional judgment which incorporated analyses of historical plant retirement data as recorded through December 31, 2016; a review of company practice and outlook as they relate to plant operation and retirement; review of the company's upcoming capital and retirement projects; and consideration of current practice in the natural gas industry, including knowledge of service lives and net salvage estimates used for other natural gas utilities.

PLAN OF REPORT

Part I. Introduction, contains statements with respect to the plan of the report, and the basis of the study. Part II. Development of Depreciation Parameters, presents descriptions of the methods used and factors considered in the service life and net salvage studies. Part III. Calculation of Annual and Accrued Depreciation presents the methods and procedures used in the calculation of depreciation. Part IV. Results of Study, presents summaries by depreciable group of annual and accrued depreciation. Part V presents the results of the Retirement Rate and Service Life Statistics and Part VI presents Net Salvage Analysis. Detailed tabulations of annual and accrued depreciation are presented in Part VII of this report. An overview of Iowa curves and the Retirement Rate Analysis are set forth in Appendix A of the report. An overview of the net salvage analysis is presented in Appendix B of this report.

BASIS OF THE STUDY

Depreciation - Life

For most accounts, the annual and accrued depreciation were calculated by the straight-line method using the average life group (“ALG”) procedure. For certain General Plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages, and estimates of service lives and salvage.

The straight-line method, average life group procedure is a commonly used depreciation calculation procedure that has been widely accepted in jurisdictions throughout North America. Concentric recommends its continued use. Amortization accounting is used for certain General Plant accounts because of the disproportionate plant accounting effort required in these accounts. Many regulated utilities in North America have received approval to adopt amortization accounting for these accounts.

Depreciation – Net Salvage

This study recommends the incorporation of cost of removal (net negative salvage) in PNG’s depreciation rates. The incorporation of negative net salvage has resulted in an approximate increase of \$3.0M or 30 percent of PNG’s total forecast \$10.0M depreciation expense. Concentric Advisors recognizes the magnitude of including net negative salvage in depreciation rates. However, Concentric Advisors views that delaying the introduction of negative net salvage will increase the inter-generational inequity from customers that pay for the eventual removal costs from those that benefitted from those removed assets. The inclusion of an allowance for net salvage provides for the proper matching of expenses to revenues and ensures for accurate intergenerational equity. In other words, customers of PNG that benefit from the usage of their assets should also pay proportionately for those asset’s eventual costs of demolishing, dismantling, tearing down or otherwise removing including the cost of transportation and handling incidental thereto. Allocating net salvage costs during the life of the related plant is more appropriate and equitable and is in accordance with authoritative texts and most Uniform Systems of Accounting including those published in Alberta, Ontario, the National Energy Board of Canada and the Federal Energy Regulatory Commission. The recovery of the net salvage in the depreciation rates is

widely accepted throughout North America, including Fortis BC Energy. Delaying collection until such costs are incurred results in a charge to customers for plant from which they did not receive service and, as a result of the delay in recovery, also results in higher revenue requirements related to net salvage. The longer the delay in recognizing net negative salvage, the higher future depreciation rate will be as PNG's depreciation rates are based on its net book value amortized over a remaining life basis. Each year of delay will increase the differential between booked net book value and calculated net book¹ value. As such, the resultant depreciation rates will increase proportionately.

The inclusion of net salvage percentages is widely accepted in regulatory jurisdictions throughout North America. Depreciation is not simply the allocation of original cost to expense. In the most widely used definition of depreciation for regulated utilities, the Federal Energy Regulatory Commission (FERC) Uniform System of Accounts defines depreciation as “the loss in service value not restored by current maintenance incurred in connection with the consumption or prospective retirement of property in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance.” The operative words in this definition are “*service value*”. The FERC Uniform System of Accounts goes on to define service value as “the difference between the original cost and the net salvage value of the utility plant”. The service value rendered by an asset, i.e. depreciation, must reflect both its original cost and its net salvage. The FERC further defines “net salvage value” to mean the salvage value of property retired less the cost of removal, with “cost of removal” being defined as the cost of demolishing, dismantling, tearing down or otherwise removing electric plant, including the cost of transportation and handling incidental thereto.²

Allocating net salvage costs during the life of the related plant is more appropriate and equitable and is in accordance with authoritative texts³ and most Uniform Systems of

¹ Calculated net book value (or Calculated Accumulated Depreciation) is the theoretical value for the accumulated depreciation reserve which is assumed to be applicable, and thus calculated, to the original date of installation.

² All referenced definitions are as per Chapter 1 – Federal Energy Regulatory Commission, Department of Energy, and Part 101 – Uniform System of Accounts Prescribed for Public Utilities and Licensees subject to the provisions of the Federal Power Act, Definitions Section.

³ Such as Depreciation Systems, Frank K. Wolf and W. Chester Fitch, Published, Iowa State University Press,

Accounting including those published in Alberta, Ontario, the National Energy Board of Canada and the Federal Energy Regulatory Commission. Delaying collection until such costs are incurred results in a charge to customers for plant from which they did not receive service and, as a result of the delay in recovery, also results in higher revenue requirements related to net salvage. Additionally, the FERC Uniform System of Accounts requires that depreciation be recognized through accrual accounting. That is, the service value of an asset must be accrued during the life of the asset. Since net salvage is a part of the service value, it must be accrued during the life of the related asset in order to comply with the FERC Uniform System of Accounts. As such, regulatory decisions that require the expensing of costs of removal or that mandate the inclusion of costs of removal of retired plant as part of future capital costs of replacement plant need to understand that the decisions are in contrast to the FERC published and long-followed net salvage concepts from regulatory jurisdictions throughout North America. The revenue requirements that result from any type of “*expensing as incurred*” option are greater than the revenue requirements that result from accruing for net salvage during the life of the related asset for a regulated utility that includes a rate of return in its revenue requirement. Although a comparison of the current revenue requirements related to a net salvage accrual and the current revenue requirements related to expensing of net salvage may indicate that the accrual is higher at a single point in time, over time the revenue requirements and the present value of those revenue requirements will be less if the net salvage cost is accrued over the life of the asset. The reason for the lower revenue requirements with the accrual of net salvage is the impact of the accruals on rate base. That is, as net salvage accruals are recorded to the depreciation reserve, the accumulated depreciation balance in the reserve increases and reduces subsequent determinations of rate base in future periods

Many jurisdictions across Canada recognize the regulatory benefit and fairness to the inclusion of the recovery of the net salvage requirements over the period of time that assets are providing regulatory service. Regulatory decisions allowing the inclusion of net salvage

1994; and Introduction to Public Utility Accounting, American Gas Association/Edison Electric Institute, 1997.

percentages have been rendered by the following Canadian regulatory bodies for rates that are currently in place:

- The British Columbia Utilities Commission
- The Alberta Utilities Commission
- The Manitoba Public Utilities Board
- The Ontario Public Utilities Board
- The Regie de l'Energie du Quebec
- The Nova Scotia Utility and Review Board
- The Newfoundland and Labrador Board of Commissioners of Public Utilities
- Northwest Territories Public Utilities Board
- The National Energy Board of Canada

However, it is noted that not all utilities request recovery of net salvage within depreciation rates. The policy decision to recover net salvage within depreciation is made by the specific utility after consideration is given to all relevant factors, including:

- The accounting jurisdiction and principles being followed for financial disclosure purposes (US GAAP versus IFRS or modified IFRS);
- The potential for re-use of assets or facilities;
- The requirement for the utility to report an Asset Retirement Obligation;
- Review of the current funds for site removal and restoration;
- Materiality of the net salvage estimates; and
- Nature of retirement activity (interim or final retirement).

As such, it is not possible to conclude that all utilities within any jurisdiction either include or exclude net salvage recovery.

The BCUC has recently allowed the inclusion of costs of removal (net negative salvage) in the depreciation rates of FortisBC Energy, Inc. (formally Terasen Gas). In a 2011 Application before the BCUC in respect of 2012/2013 Revenue Requirements and Rates, FortisBC Energy Inc. Utilities ("FEU") requested a change to its practice of collecting salvage costs from ratepayers. FEU identified four possible methods to recover negative salvage

values from ratepayers: (i) the traditional approach (ie. as presented in this Application); (ii) a “pay-as-you-go” approach; (iii) Asset Retirement Obligation (ARO) style accounting; and (iv) a Hybrid approach (i.e. a combination of the traditional approach and ARO style accounting). FEU sought approval to adopt the traditional approach during the test period for all retirement obligations that are not AROs as defined by GAAP.

Under its 2011 Application to the BCUC, FEU sought approval for inclusion into its depreciation rate calculations, a provision for net salvage calculated in accordance with the “traditional” approach. The net salvage percentages were estimated in a Depreciation Study filed with the application. This application was a change from the approach used in a prior 2008 negotiated settlement which incorporated a pay-as-you-go approach which was considered to be more consistent with the BCUC 2005 BC Hydro Decision. However, in its 2011 Application FEU submitted the following arguments in support of its proposal to return to the tradition method of recovering net salvage through inclusion in the depreciation rate calculations:

- that the 3 years of history in using a pay-as-you-go method showed a large level of volatility;
- using a pay-as-you-go approach in the circumstance of actual retirement costs being forecast to increase as the assets near the end of their average useful lives, results in tomorrow’s ratepayers paying to retire assets used today;
- The traditional negative salvage approach is a common, widely used practice amongst comparable utilities across the country and is also the method of accounting for salvage costs generally accepted for use in the United States within the Federal Energy Regulatory Commission’s (FERC) Uniform System of Accounts.

After consideration of the above arguments, the BCUC ruled as follows:

The Commission Panel accepts the FEU's proposed application of the traditional method of providing negative salvage in rates during the test period. Using a “pay as you go system” to recover salvage costs could see ratepayers of tomorrow paying higher prices to retire assets which were used to the benefit of today’s ratepayers. Further the Commission Panel also does not believe a phased in approach is appropriate. In our view, such treatment will only further defer costs of today for payment by future ratepayers and, given current fuel prices, such treatment does not appear warranted. While net negative salvage rates are an

estimate, the Commission Panel accepts that the rates are based on the recommendations of an independent expert. The Panel also accepts that net negative salvage is a widely used utility practice in Canada and is within the recommended accounting practices of FERC.⁴

The above BCUC decision regarding the FEU Application clearly indicates that the BCUC understood the issues with a pay-as-you-go approach, and was willing to approve the inclusion of the net salvage estimates within the depreciation rate calculations, notwithstanding its prior BC Hydro decision.

Since the changes in the Financial Reporting Standards in the early 2000s, many depreciation studies completed by Larry Kennedy have developed separate provisions relating to the recovery of original cost of investment and for the recovery of costs of removal. In particular, this approach has been followed in applications completed for the following regulated utilities:

- FortisBC Energy Inc. related to a 2010 depreciation study approved by the BCUC in 2012, following a 2011 hearing;
- All regulated electric utilities in the province of Alberta (as specifically prescribed by the minimum filing requirements for Alberta electric utilities⁵);
- All regulated gas utilities in the Province of Alberta;
- Enbridge Consumers Gas in a 2012 Application to the Ontario Energy Board; and
- Gaz Metro in a 2010 Application to the Regie de l'Energie du Quebec.

The issue of recovery of net salvage requirements has received attention in virtually all recent depreciation applications in most jurisdictions across Canada. In particular, the issue was recently reviewed in the following jurisdictions:

⁴ BCUC Order G-44-12 resulting from an Application by The FortisBC Energy Utilities in respect of 2012/2013 Revenue Requirements and Rates, pages 83-84.

⁵ As prescribed by the Alberta Energy and Utilities Board (EUB) Bulletin 2006-25 issued May 8, 2006 for implementation on January 1, 2009.

- As indicated previously in this evidence, in applications in British Columbia by FortisBC Energy Inc. and separately for FortisBC Inc., the BCUC recently approved the reinstatement of net negative salvage costs. The BCUC approval was based on using the same calculation methods, as used in this current Yukon Electrical Company Limited (“YECL”) application, for FortisBC Energy Inc. and suggested that FortisBC Inc. should consider the inclusion of net salvage in future applications.
- In Alberta, the Office of the Utility Consumers Advocate (the “UCA”) has been extremely active in attempting to limit the amount of net salvage costs that are recovered through depreciation. While the UCA has, on a number of occasions, questioned the level of net salvage percentages, the UCA does not dispute the concept of recovery of net negative salvage. As such, the issue of net salvage in Alberta generally is an issue of the amount of recovery, rather than a dispute regarding the recoverability of the estimated costs of removal.
- In Ontario, Enbridge Gas Distribution and Union Gas have both recently filed applications that include very large provisions for the recovery of net salvage. Both applications included a depreciation study that calculated and applied the net salvage estimates in the same manner as used by Larry Kennedy in the current YECL application. The 2011 application by Union Gas did not result in any intervenor evidence regarding the inclusion of costs of removal in the revenue requirement and the Ontario Energy Board (OEB) approved a revenue requirement incorporating a cost of removal provision. Enbridge Gas Distribution filed a 2012 depreciation study that also included the recovery of costs of removal in the depreciation rate calculations. The Enbridge study was settled via a negotiated settlement however, the settlement filed with and ultimately approved by the OEB included large provisions for net negative salvage. It is also noted that approval of the recovery of net salvage within depreciation rates has a long standing history before the OEB.
- In Quebec, Gaz Metro filed a depreciation study in 2011 that included a provision for net salvage. The application was approved after some debate with regard to

the ability of the company to reconcile regulatory and GAAP compliant financial statements. The procedure for development of a separate set of depreciation accrual rates (as described in previous sections of this evidence) was used by Gaz Metro to provide assurance to the regulator that the financial disclosure books and the regulatory sub-ledgers could be reconciled.

- Utilities in Nova Scotia, New Brunswick, and Newfoundland (Newfoundland Power) have all filed depreciation studies including provisions for net salvage. Generally, in these applications, the concept of the inclusion of the net salvage in the depreciation rates has not been the subject of opposing evidence and has been consistently approved by the regulators in those jurisdictions.
- The National Energy Board of Canada has commissioned a wide sweeping regulatory process - the Land Matter Consultative Initiative (LMCI) to consider the issues of site restoration and net salvage. This LMCI process has been on-going for a couple of years, with an oral hearing completed in 2012. The NEB has just released Decision MH-001-2012, which mandates NEB pipelines to include a recovery of pipeline abandonment costs in the revenue requirements of the company.

The appropriateness and accuracy of included net salvage costs into PNG's rates should be reviewed during each depreciation study to ensure they reflect that the most up to date information has been incorporated into net salvage rate development.

Service Life and Net Salvage Estimates

The service life and salvage estimates used in the depreciation and amortization calculations were based on informed professional judgment which incorporated a review of management's plans, policies and outlook, a general knowledge of the natural gas industry, and comparisons of the service life and net salvage estimates from our studies of other natural gas utilities. The use of survivor curves to reflect the expected dispersion of retirement provides a consistent method of estimating depreciation for natural gas plant. Iowa type survivor curves were used to depict the estimated survivor curves for the plant accounts not subject to amortization accounting.

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

The procedure for estimating net salvage consisted to a large extent on the approved net salvage parameters for PNG peers, interviews with PNG's Management and Operational groups, and on the experience and judgement of Concentric.

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

PART II. DEVELOPMENT OF DEPRECIATIONS PARAMETERS

PART II. DEVELOPMENT OF DEPRECIATION PARAMETERS

Depreciation

Depreciation, in public utility regulation, is the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among causes to be given consideration are wear and tear, deterioration, action of the elements, inadequacy, and obsolescence, changes in the art, changes in demand, and the requirements of public authorities. When considering the action of the elements, the average service life calculations have considered the large catastrophic events that have occurred and impacted the life estimates of utilities across North America. The average service life of utilities has been influenced by events including forest fires, earthquakes, tornadoes, ice storms, wind storms, large scale flooding, fires, intentional actions of third parties, and other natural forces of nature.

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

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

ESTIMATION OF SURVIVOR CURVES

Survivor Curves

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

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. The Iowa curves “...were sorted into three groups according to whether the mode was to the left, approximately coincident with, or to the right of the average-life ordinate. The curves in each of these three groups were then sub-classified in accordance with the height of the mode, taking also into consideration the distance of the mode to the left or right of the average life.”⁶ The Iowa curves are described as L-type (i.e. left moded), R-type (i.e. right moded), and S-type (i.e. symmetrical). Further development resulted in the introduction of O-type (i.e. origin moded curves) where the greatest frequency of retirement occurs at the origin, or immediately after age 0. Individual type curves are further depicted with numerical subscripts which represent the relative heights of the modes of the frequency curves within each family.

The program that is used by Concentric for statistical smooth curve fitting utilizes an internal “goodness of fit” criterion which is the Residual Measure. This Residual Measure is based on a least squares solution of the differences between the stub curve (or original data points) and smooth survivor curve which also requires a balancing of the differences above and below the stub curve.

The criterion of “goodness of fit” is the mean square of the differences between the points on the stub and fitted smooth survivor curves. The residual measure, or standard error of estimate, shown in the output format is the square root of this mean square. As such, the lower the Residual Measure the better the statistical fit between the analyzed Iowa curve and the observed data points. Concentric follows a widely used practice of fitting Iowa

⁶ Statistical Analyses of Industrial Property Retirements, Robley Winfrey, Bulletin 125, Engineering Research Institute, Iowa State University, page 65

curves up to one percent of the maximum exposures. This practice standard is utilized to minimize the influence of typically small retirements applied to similarly small exposures which may unduly affect the Iowa curve fitting process. However, Concentric will recognize the observed data points beyond the one percent of maximum exposures if it is determined that the additional data is a valid consideration for life recommendation.

A discussion of the general concept of survivor curves and retirement rate method is presented in Appendix A of this report. An overview of the net salvage analysis is presented in Appendix B of this report.

Survivor Curve and Net Salvage Judgments

The service life and salvage estimates used in the depreciation and amortization calculations were based on informed professional judgment which incorporated a review of management's plans, policies and outlook, a general knowledge of the natural gas industry, and comparisons of the service life and net salvage estimates from our studies of other natural gas utilities. The use of survivor curves to reflect the expected dispersion of retirement provides a consistent method of estimating depreciation for natural gas plant. Iowa type survivor curves were used to depict the estimated survivor curves for the plant accounts not subject to amortization accounting.

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

The procedure for estimating net salvage consisted to a large extent on the approved net salvage parameters for PNG peers, interviews with PNG's Management and Operational groups, and on the experience and judgement of Concentric.

The following discussion, dealing with the Company's accounts by function, which comprise the investment analyzed, presents an overview of the factors considered by Concentric in the determination of the average service life and net salvage estimates.

Gathering Plant

Account 411.00 – Gathering - Land Rights – The investment in Gathering Land Rights is approximately \$275 representing less than 0.1 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 75-R4. Concentric views that an Iowa 75-R4 is a reasonable expectation for the equipment in this account and is consistent with the other PNG Land Right accounts. Interviews with PNG's Operations and Management staff have indicated that the Iowa 75-R4 is reasonable for the equipment in this account. They also would not expect a significant change to the observed average service life characteristics based on an operational perspective. Based on the above the Iowa 75-R4 is recommended to represent the expectations for this account.

No salvage has been recorded to this account and is not expected due to the intangible aspect of land rights. As such 0 percent is the net salvage recommendation for this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
75-R4	0%			\$ 7
		75-R4		\$ -
			0%	\$ -
Total Recommended				\$ 7

Account 412.00 – Gathering – Compressor Structures and Improvements – The investment in Gathering Compressor Structures and Improvements is approximately \$34,000 representing less than 0.1 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 30-R3. A peer comparison of a similar Canadian gas utility similarly has a Transmission Compressor Structures Iowa 30-R4 as its life parameter. Interviews with PNG's Operations and Management staff have indicated that the current Iowa 30-R3 is reasonable for the equipment in this account. Concentric views that an Iowa 30-R3 is a reasonable expectation for the equipment in this account and is also consistent with the life of PNG's Transmission Compressor Structures account. Based on the above the Iowa 30-R3 is recommended to represent the expectations for this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a Transmission Compressor Structures net salvage value of negative 3 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 3 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 3 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
30-R3	0%			\$ 1,510
		30-R3		\$ -
			-3%	\$ 131
Total Recommended				\$ 1,641

Account 413.00 – Gathering – Measuring and Regulating Structures – The investment in Gathering Measuring and Regulating Structures is approximately \$75,000 representing less than 0.1 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 30-R3. A peer comparison of a similar Canadian gas utility similarly has a Transmission Measuring and Regulating Structures Iowa 38-S2 as its life parameter. Concentric views that an Iowa 30-R3 is a reasonable expectation for the equipment in this account and is consistent with the life of PNG's Transmission Measuring and Regulating Structures account. Interviews with PNG's Operations and Management staff have indicated that the Iowa 30-R3 is reasonable for the equipment in this account. Based on the above the Iowa 30-R3 is recommended to represent the expectations for this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility

similarly has Transmission Measuring and Regulating Structures net salvage value of negative 15 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 15 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 15 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
30-R3	0%			\$ 260
		30-R3		\$ -
			-15%	\$ 3,115
Total Recommended				\$ 3,375

Account 417.00 – Gathering – Measuring and Regulating Equipment – The investment in Gathering Measuring and Regulating Structures is approximately \$30,000 representing less than 0.1 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 25-R2. A peer comparison of a similar Canadian gas utility similarly has Transmission Measuring and Regulating Equipment has an Iowa 36-S0.5 as its life parameter. Interviews with PNG's Operations and Management staff have indicated that the Iowa 25-R2 is reasonable for the equipment in this account. Concentric views that an Iowa 25-R2 is a reasonable expectation for the equipment in this account and is consistent with the life of PNG's Transmission Measuring and Regulating Equipment account. Based on the above the Iowa 25-R2 is recommended to represent the expectations for this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has Transmission Measuring and Regulating Equipment net salvage value of negative 7 percent as its net salvage parameter. Interviews with PNG's Operations and

Management staff have indicated that negative 7 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 7 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
25-R2	0%			\$ 1,137
		25-R2		\$ -
			-7%	\$ 176
Total Recommended				\$ 1,313

Account 418.00 – Gathering – Purification Equipment – The investment in Gathering Purification Equipment is approximately \$3.7M representing approximately 0.9 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 25-R3. The retirement rate analysis prepared in this study reviewed the plant installed over the period 1969 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year period this account has experienced \$254,986 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-11 and V-12 of this report. A fit of the observed data indicated an excellent fit to the Iowa 31-S5 with a related Residual Measure of 2.06. This compares to the current Iowa 25-R2, with a related Residual Measure of 22.28, which does not fit the observed data as well as the Iowa 31-S5. A peer comparison of a similar Canadian gas utility similarly has Pre-Treatment Equipment has an Iowa 25-R3 as its life parameter. Interviews with PNG's Operations and Management staff have indicated that the Iowa 31-S5 is reasonable for the equipment in this account. Concentric views that an Iowa 31-S5 is a reasonable life expectation. Based on the above the Iowa 31-S5 is recommended to represent the expectations for this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has Pre-Treatment Equipment net salvage value of negative 10 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 25 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 25 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
25-R3	0%			\$ 72,940
		31-S5		\$ (25,319)
			-25%	\$ 118,455
Total Recommended				\$ 166,076

Processing Plant

Account 449.00 – Processing – Other Local Storage Equipment – The investment in Processing – Other Local Storage Equipment is approximately \$3,000 representing less than 0.1 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 33-R3. Concentric views that an Iowa 33-R3 is a reasonable life expectation. Interviews with PNG's Operations and Management staff have indicated that the Iowa 33-R3 is reasonable for the equipment in this account. Based on the above the Iowa 33-R3 is recommended to represent the expectations for this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. Concentric views that 0 percent is a reasonable net salvage for the equipment in this account. Interviews with PNG's Operations and Management staff also indicated agreement with a 0 percent net salvage. Based on the above

negative 0 percent is recommended to represent the net salvage expectations for this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
33-R3	0%			\$ 71
		33-R3		\$ -
			0%	\$ -
Total Recommended				\$ 71

Transmission Plant

Account 461.00 – Transmission - Land Rights – The investment in Transmission Land Rights is approximately \$1.7M representing 0.4 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 75-R4. No retirements have been booked to this account. Interviews with the PNG's Operations and Management have indicated that an appropriate life for Distribution Land Rights should be at least equal to the longest distribution life account. Account 465.00 – Transmission Mains has a recommended Iowa 65-R4 which results in a maximum life of approximately 100 years. Concentric viewed that the comments from the Operational and Management personnel was a reasonable expectation for the equipment in this account. Concentric views that an Iowa 75-R4 is a reasonable expectation and is consistent with the Operations and Management comments as the maximum life is approximately 110 years. Based on the above the Iowa 75-R4 is recommended to continue to represent the expectations for this account.

No salvage has been recorded to this account and is not expected due to the intangible aspect of land rights. As such 0 percent is the net salvage recommendation for this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
75-R4	0%			\$ 38,549
		75-R4		\$ -
			0%	\$ -
Total Recommended				\$ 38,549

Account 462.00 – Transmission – Compressor Structures – The investment in Transmission Compressor Structures is approximately \$3.4M representing 0.9 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 30-R4. Minimal retirements have been booked to this account. A peer comparison of a similar Canadian gas utility similarly has a 30-R4 as its life parameter. Interviews with PNG's Operations and Management staff have indicated that the current Iowa 30-R4 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 30-R4 is recommended to continue to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 3 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 3 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 3 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

	Current		Recommendation		Annual
	Parameters	Net Salvage	Life	Net Salvage	Accrual
462.00	30-R4	0%			\$ 73,476
			30-R4		\$ -
				-3%	\$ 25,571
	Total Recommended				\$ 99,047

Account 463.00 – Transmission – Measuring and Regulating Station Structures – The investment in Transmission Measuring and Regulating Station Structures is approximately \$1.5M representing 0.4 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 30-R3. The retirement rate analysis prepared in this study reviewed the plant installed over the period 1969 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year period this account has experienced \$149,108 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-22 and V-23 of this report. A fit of the observed data indicated a reasonable fit up to age 31.5 to the Iowa 39-R4 with a related Residual Measure of 23.23. This compares to the current Iowa 30-R3, with a related Residual Measure of 48.67, which does not fit the observed data as well as the Iowa 39-R4. A peer comparison of similar Canadian gas utilities has a ranged from 38 to 55 years. Interviews with PNG's Operations and Management staff have indicated that the historically indicated Iowa 39-R4 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 39-R4 is recommended to continue to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 15 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 15 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable

expectation for the equipment in this account. As such, a net salvage of negative 15 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
30-R3	0%			\$ 25,971
		39-R4		\$ (10,077)
			-15%	\$ 16,129
Total Recommended				\$ 32,023

Account 465.00 – Transmission – Mains – The investment in Transmission Mains is approximately \$170.1M representing 42.5 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 60-R3. Although minimal retirements have been booked to this account a retirement rate analysis was prepared in this study which reviewed the plant installed over the period 1969 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year period this account has experienced \$2,608,128 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-25 and V-26 of this report. A fit of the observed data indicated a reasonable fit to the Iowa 65-R4 with a related Residual Measure of 1.85. This compares to the current Iowa 60-R3, with a related Residual Measure of 5.59, which does not fit the observed data as well as the Iowa 65-R4. A peer comparison of similar Canadian gas utilities has a range from 60 to 65 years. Interviews with PNG's Operations and Management staff have indicated that the historically indicated Iowa 65-R4 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel, combined with the peer comparison, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 65-R4 is recommended to continue to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility

similarly has a net salvage value of negative 20 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated negative 20 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 20 percent is recommended to represent the expectations for the equipment in this account.

The application of the previous study depreciation rates to PNG's 2016 balances results in an annual accrual of \$2,143,628. The application of the previous study depreciation parameters (i.e. survivor curve and net salvage) to PNG's 2016 vintage balances results in a further annual accrual increase of \$59,560 which is due to capitalization changes (i.e. additions, adjustments, and retirements) from the previous study. The application of the recommended life (i.e. 65-R4) and net salvage (i.e. -20%) changes results in an additional net increase of \$694,361 to the annual accrual. These changes are summarized as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
60-R3	0%			\$ 2,203,188
		65-R4		\$ (207,549)
			-20%	\$ 901,910
Total Recommended				\$ 2,897,549

Account 466.00 – Transmission – Compressor Equipment – The investment in Transmission Compressor Equipment is approximately \$25.2M representing 6.3 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 30-R2.5. Although minimal retirements have been booked to this account a retirement rate analysis was prepared in this study which reviewed the plant installed over the period 1969 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year period this account has experienced \$1,257,686 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-28 and V-29 of this report. A fit of the observed data indicated a conservative reasonable fit to the Iowa 35-R3 with a related Residual Measure of 33.74. This compares to the current Iowa

30-R2.5, with a related Residual Measure of 44.36, which does not fit the observed data as well as the Iowa 35-R3. Interviews with PNG's Operations and Management staff have indicated that the Iowa 35-R3 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel, combined with the peer comparison, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 35-R3 is recommended to continue to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 2 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 2 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 2 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
30-R2.5	0%			\$ 446,978
		35-R3		\$ (113,399)
			-2%	\$ 50,865
Total Recommended				\$ 384,444

Account 467.00 – Transmission – Measuring and Regulating Equipment – The investment in Transmission Measuring and Regulating Equipment is approximately \$18.0M representing 4.5 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 25-R2. The retirement rate analysis prepared in this study reviewed the plant installed over the period 1967 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year period this account has

experienced \$1,438,841 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-31 and V-32 of this report. A fit of the observed data indicated a reasonable fit to the Iowa 35-S2.5 with a related Residual Measure of 19.33. This compares to the current Iowa 25-R2, with a related Residual Measure of 49.54, which does not fit the observed data as well as the Iowa 35-S2.5. A peer comparison of similar Canadian gas utilities has a range from 36 to 50 years. Interviews with PNG's Operations and Management staff have indicated that the historically indicated Iowa 35-S2.5 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel, combined with the results of the peer comparison, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 35-S2.5 is recommended to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 7 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 7 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 7 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
25-R2	0%			\$ 577,844
		35-S2.5		\$ (203,482)
			-7%	\$ 61,425
Total Recommended				\$ 435,787

Account 468.00 – Transmission – Communication Structures and Equipment – The investment in Transmission Communication Structures and Equipment is approximately \$3.4M representing .9 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 15-R2. Minimal retirements have been booked to this account. A peer comparison of a similar Canadian gas utility similarly has a 19-R3 as its life parameter. Interviews with PNG's Operations and Management staff have indicated that the current Iowa 15-R2 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 15-R2 is recommended to continue to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of 0 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that 0 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of 0 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
15-R2	0%			\$ 64,389
		15-R2		\$ -
			0%	\$ -
Total Recommended				\$ 64,389

Distribution Plant

Account 471.00 – Distribution – Land Rights – The investment in Distribution Land Rights is approximately \$0.3M representing 0.1 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 75-R4. No retirements have been booked to this account. Interviews with the PNG's Operations and Management have indicated that an appropriate life for Distribution Land Rights should be at least equal to the longest distribution life account. Account 475.00 – Distribution Mains has a recommended Iowa 65-R4 which results in a maximum life of approximately 100 years. Concentric viewed that the comments from the Operational and Management personnel was a reasonable expectation for the equipment in this account. Concentric views that an Iowa 75-R4 is a reasonable expectation and is consistent with the Operations and Management comments as the maximum life is approximately 110 years. Based on the above the Iowa 75-R4 is recommended to continue to represent the expectations for this account.

No salvage has been recorded to this account and is not expected due to the intangible aspect of land rights. As such 0 percent is the net salvage recommendation for this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
75-R4	0%			\$ 4,968
		75-R4		\$ -
			0%	\$ -
Total Recommended				\$ 4,968

Account 472.00 – Distribution – Structures and Improvements – The investment in Distribution Structures and Improvements is approximately \$2.7M representing .7 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 30-R3. The retirement rate analysis prepared in this study reviewed the plant installed over the period 1972 through 2015 and retirement experience over the period of 1972 through 2016. Over this 44-year period this account has experienced \$184,833 of retirements as provided on pages V-40 and V-41 of this report. A fit of the observed data

indicated that the Iowa 30-R3 continues to be a reasonable fit. A peer comparison of similar Canadian gas utilities has a range from 35 to 55 years. Interviews with PNG's Operations and Management staff have indicated that the current Iowa 30-R3 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 30-R3 is recommended to continue to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 10 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 10 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 10 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

	Current		Recommendation		Annual
	Parameters	Net Salvage	Life	Net Salvage	Accrual
472.00	30-R3	0%			\$ 90,327
			30-R3		\$ -
				-10%	\$ 18,125
	Total Recommended				\$ 108,452

Account 473.00 – Distribution – Services – The investment in Distribution Services is approximately \$51.4M representing 12.9 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 50-R2.5. The retirement rate analysis prepared in this study reviewed the plant installed over the period 1969 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year

period this account has experienced \$914,237 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-43 and V-44 of this report. A fit of the observed data indicated a reasonable fit to the Iowa 50-R4 with a related Residual Measure of 4.92. This compares to the current Iowa 50-R2.5, with a related Residual Measure of 9.96, which does not fit the observed data as well as the Iowa 50-R4. A peer comparison of similar Canadian gas utilities has a range from 45 to 57 years. Interviews with PNG's Operations and Management staff have indicated that the historically indicated Iowa 50-R4 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel, combined with the results of the peer comparison, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 50-R4 is recommended to continue to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 60 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 60 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 60 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
50-R2.5	0%			\$ 846,828
		50-R4		\$ 48,982
			-60%	\$ 1,081,711
Total Recommended				\$ 1,977,521

Account 474.00 – Distribution – House Regulators and Equipment – The investment in Distribution House Regulators and Equipment is approximately \$10.3M representing 2.6 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 30-R2. Although minimal retirements have been booked to this account a retirement rate analysis was prepared in this study which reviewed the plant installed over the period 1969 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year period this account has experienced \$223,433 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-46 and V-47 of this report. A fit of the observed data indicated a conservative reasonable fit to the Iowa 40-R4 with a related Residual Measure of 10.53. This compares to the current Iowa 30-R2, with a related Residual Measure of 30.87, which does not fit the observed data as well as the Iowa 40-R4. A peer comparison of similar Canadian gas utilities has a range from 20 to 51 years. Interviews with PNG's Operations and Management staff have indicated that the historically indicated Iowa 40-R4 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel, combined with the results of the peer comparison, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 40-R4 is recommended to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 20 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 20 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 20 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
30-R2	0%			\$ 279,718
		40-R4		\$ (90,255)
			-20%	\$ 122,876
Total Recommended				\$ 312,339

Account 475.00 – Distribution – Mains – The investment in Distribution Mains is approximately \$75.1M representing 18.8 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 60-R3. Although minimal retirements have been booked to this account a retirement rate analysis was prepared in this study which reviewed the plant installed over the period 1969 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year period this account has experienced \$89,327 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-49 and V-50 of this report. A fit of the observed data indicated a reasonable fit to the Iowa 65-R4 with a related Residual Measure of 3.24. This compares to the current Iowa 60-R3, with a related Residual Measure of 7.10, which does not fit the observed data as well as the Iowa 65-R4. A peer comparison of similar Canadian gas utilities has a range from 62 to 80 years. Interviews with PNG's Operations and Management staff have indicated that the Iowa 65-R4 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel, combined with the results of the peer comparison, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 65-R4 is recommended to continue to represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 25 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 25 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable

expectation for the equipment in this account. As such, a net salvage of negative 25 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
60-R3	0%			\$ 1,051,333
		65-R4		\$ (94,361)
			-25%	\$ 440,147
Total Recommended				\$ 1,397,119

Account 477.00 – Distribution – Measuring and Regulating Equipment – The investment in Distribution Measuring and Regulating Equipment is approximately \$2.3M representing .6 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 20-R3. Minimal retirements have been processed against this account. A peer comparison of similar Canadian gas utilities has a range from 15 to 50 years. Interviews with PNG's Operations and Management staff have indicated that the 35 year average service life recommended for their similar Transmission Measuring and Regulating Account 467.00 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 35-R4 is recommended represent the expectations for the equipment in this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of negative 10 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 7 percent recommended for their similar Transmission Measuring and Regulating Account 467.00 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable

expectation for the equipment in this account. As such, a net salvage of negative 7 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

	Current		Recommendation		Annual
	Parameters	Net Salvage	Life	Net Salvage	Accrual
477.00	20-R3	0%			\$ 52,884
			35-R4		\$ (32,136)
				-7%	\$ 10,304
	Total Recommended				\$ 31,052

Account 478.00 – Distribution - Meters – The investment in Distribution Meters is approximately \$6.4M representing 1.6 percent of the total depreciable plant studied. The majority of PNG’s meters are residential with some commercial and industrial. The currently approved life parameter for this account is an Iowa 25-R2. The retirement rate analysis prepared in this study reviewed the plant installed over the period 1975 through 2016 and retirement experience over the period of 2010 through 2016. Over this 7-year period this account has experienced \$2,695,955 of retirements as summarized on the observed life table as provided on pages V-54 and V-55 of this report. A fit of the observed data indicated a very good fit to the Iowa 28-R5 with a related Residual Measure of 4.93. This compares to the current Iowa 25-R2, with a related Residual Measure of 16.60, which does not fit the observed data as well as the Iowa 28-R5

Canadian Measurement Standards requires an initial seal period for regular-size residential meters of 10 years. At the end of the seal life, PNG tests a sample. If the sample passes, the existing meters stay in service. Most meters will pass the first test period. The second seal period is 8 years. PNG retires their meters after this 8 year extension thus resulting in a maximum residential meter life of 18 years. This account also includes commercial and industrial meters which are more expensive. PNG indicates a maximum life of commercial and industrial meters to be 25 years. Based on this Concentric views that a more appropriate life should be an Iowa 20-R4 curve. This recognizes the maximum 18 year

life of residential meters and an expected 25 year life for their commercial and industrial meters. As such, the Iowa 20-R4 curve is recommended for this account.

The previous depreciation study did not include an allowance for net salvage. The first year of recorded net salvage activity for this account is 2014. The net salvage for the years 2014 to 2016 has been 1 percent for each year with a cumulative 3 year value of 1 percent. A peer comparison of a similar Canadian gas utility similarly has a net salvage value of 0 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that the historically indicated 1 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 1 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

	Current		Recommendation		Annual
	Parameters	Net Salvage	Life	Net Salvage	Accrual
478.00	25-R2	0%			\$ 256,663
			20-R4		\$ 429,518
				1%	\$ (17,276)
	Total Recommended				\$ 668,905

General Plant

Account 481.00 – General Plant – Land Rights – The investment in General Plant Land Rights is approximately \$1,700 representing less than 0.1 percent of the total depreciable plant studied. The current approved life parameter for this account is an Iowa 75-R4. No retirements have been booked to this account. Interviews with the PNG's Operations and Management have indicated that an appropriate life for General Plant Land Rights should be at least equal to the longest General Plant account. Account 482.00 – General Plant Structures and Improvements has a recommended Iowa 30-R3 which results in a maximum life of approximately 50 years. Concentric viewed that the comments from the Operational

and Management personnel was a reasonable expectation for the equipment in this account. Concentric views that an Iowa 75-R4 is a reasonable expectation and is consistent with the PNG's other Land Rights accounts. Based on the above the Iowa 75-R4 is recommended to continue to represent the expectations for this account.

No salvage has been recorded to this account and is not expected due to the intangible aspect of land rights. As such 0 percent is the net salvage recommendation for this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
75-R4	0%			\$ 29
		75-R4		\$ -
			0%	\$ -
Total Recommended				\$ 29

Account 482.00 – General Plant – Structures and Improvements – The investment in General Plant – Structures and Improvements is approximately \$8.7M representing 2.2 percent of the total depreciable plant studied. The currently approved life parameter for this account is an Iowa 25-R2. The retirement rate analysis prepared in this study reviewed the plant installed over the period 1969 through 2016 and retirement experience over the period of 1969 through 2016. Over this 48-year period this account has experienced \$1,146,264 of retirements over a wide range of ages as summarized on the observed life table as provided on pages V-58 and V-59 of this report. A fit of the observed data indicated a conservative reasonable fit to the Iowa 30-R3 with a related Residual Measure of 29.07. This compares to the current Iowa 25-R2, with a related Residual Measure of 39.73, which does not fit the observed data as well as the Iowa 30-R3. A peer comparison of Canadian utilities produced a range from 20-75 years. Interviews with PNG's Operations and Management staff have indicated that the Iowa 30-R3 is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel, the peer comparison results, and on the professional judgement of

Concentric was the most reasonable expectation for the equipment in this account. As such, the Iowa 30-R3 is recommended for this account.

The previous depreciation study did not include an allowance for net salvage and none has been recorded to this account. A peer comparison of a similar Canadian gas utility has a net salvage range from 0 percent to negative 10 percent as its net salvage parameter. Interviews with PNG's Operations and Management staff have indicated that negative 0 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of 0 percent is recommended to represent the expectations for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
25-R2	0%			\$ 268,133
		30-R3		\$ (55,995)
			0%	\$ -
Total Recommended				\$ 212,138

Account 484.00 – General Plant – Transportation Equipment – The equipment in General Plant – Transportation Equipment is approximately \$3.7M representing .9 percent of the total depreciable plant studied. The currently approved life parameter for this account is an Iowa 7-L1.5. A peer comparison of Canadian utilities produced a range from 6-10 years. Concentric viewed that the most current experience of 7 years would best represent the historical indications for this account due to the relative short life of this equipment. The retirement rate analysis prepared in this study reviewed the plant installed over the period of 1995 through 2016 and retirement experience over the period of 2010 through 2016. Over this 7-year period this account has experienced \$3,171,311 of retirements as summarized on the observed life table as provided on page V-61 of this report. A fit of the

observed data indicated an excellent fit to an Iowa 8-L3 curve with a related Residual Measure of 11.16. This compares to the current Iowa 7-L1.5 curve with a related Residual Measure of 17.98, which does not fit the observed data as well as the Iowa 8-L3 curve. Interviews with the PNG's Operations and Management have indicated that although PNG has a 7 year retirement policy, the timing of purchasing and disposition is more indicative of the historical 8 year observed life. Concentric viewed that the historical results combined with the peer comparison and the comments from the Operational and Management personnel was the most reasonable expectation for the equipment in this account. As such, the Iowa 8-L3 curve is recommended for this account based on the fit to historic data and the indications from Management and Operations and on the professional judgment of Concentric.

The previous depreciation study included a net salvage of 20 percent. The first year of recorded net salvage activity for this account is 2010. For the period 2010 to 2016, the net salvage has ranged from 7 percent to the most current vintage of 22 percent with a cumulative value of 16 percent. A three-year moving average analysis from 2010 forward produced a range from 11 percent to 17 percent. The five-year average indicates 17 percent. Interviews with the PNG's Operations and Management have indicated that 15 percent is a more reasonable expectation for the equipment in this account. Based on historical indications and the comments from the Operations and Management personnel, Concentric views that the historical data indications of 15 percent is a reasonable net salvage expectation for the equipment in this account. As such, Concentric recommends 15 percent net salvage.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

	Current		Recommendation		Annual
	Parameters	Net Salvage	Life	Net Salvage	Accrual
484.00	7-L1.5	20%			\$ 361,501
			8-L3		\$ (124,261)
				15%	\$ 142,540
	Total Recommended				\$ 379,780

Account 485.00 – General Plant – Heavy Work Equipment – The equipment in General Plant – Heavy Work Equipment is approximately \$5.7M representing 1.4 percent of the total depreciable plant studied. The currently approved life parameter for this account is an Iowa 15-R2. The retirement rate analysis prepared in this study reviewed the plant installed over the period of 1976 through 2016 and retirement experience over the period of 2010 through 2016. Over this 7-year period this account has experienced \$658,037 of retirements as summarized on the observed life table as provided on page V-63 of this report. A fit of the observed data indicated a reasonable fit to an Iowa 18-R3 curve with a related Residual Measure of 34.54. This compares to the current Iowa 15-R2 curve with a related Residual Measure of 40.50, which does not fit the observed data as well as the Iowa 8-L3 curve. A peer comparison of Canadian utilities produced a range from 8-20 years. Interviews with the PNG's Operations and Management have indicated that the historical indications of an Iowa 18-R3 were reasonable expectations. Concentric viewed that the comments from the Operational and Management personnel was a reasonable expectation for the equipment in this account. As such, the Iowa 18-R3 curve is recommended for this account based on the indications from Management and Operations and on the professional judgment of Concentric.

The previous depreciation study included a net salvage of 15 percent. The first year of recorded net salvage activity for this account is 2012. For the period 2012 to 2016, the net salvage has ranged from 7 percent to 24 percent with a cumulative value of 10 percent. Interviews with the PNG's Operations and Management have indicated that the historically indicated value of 10 percent is a reasonable expectation for the equipment in this account. Based on historical indications and the comments from the Operations and Management personnel, Concentric views that 10 percent is a reasonable net salvage expectation for the equipment in this account.

The effect on the annual accrual of the above recommended changes to the current depreciation parameters (i.e. Average Service Life-Iowa Curve, and Net Salvage) are as follows:

Current		Recommendation		Annual
Parameters	Net Salvage	Life	Net Salvage	Accrual
15-R2	15%			\$ 195,227
		18-R3		\$ 44,413
			10%	\$ (55,646)
Total Recommended				\$ 183,994

PART III. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

PART III. CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

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

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

Amortization accounting is proposed for a number of accounts. The accounts and their amortization periods are as follows:

<u>ACCOUNT</u>	<u>TITLE</u>	AMORTIZATION PERIOD <u>YEARS</u>
443.00	Processing Plant - Gas Holders – Storage	40
469.00	Transmission - Other	40
479.00	Distribution – Other	35
483.00	Office Furniture and Equipment	15
486.00	Tools and Work Equipment	20
487.00	Computer Equipment	5
488.00	Communication Structures and Equipment	14
489.00	Other General Equipment	20

For the purposes of calculating annual amortization amounts as of December 31, 2016, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

MONITORING OF BOOK ACCUMULATED DEPRECIATION

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

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

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

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

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

Or

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

PART IV. RESULTS OF STUDY

PART IV. RESULTS OF STUDY

QUALIFICATION OF RESULTS

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

DESCRIPTION OF DETAILED TABULATIONS

The service life estimates were based on judgment that incorporated statistical analysis of retirement data, discussions with management and consideration of estimates made for other natural gas utilities. The results of the statistical analysis of service life are presented in Part V beginning on V-2 of this report.

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

The tables of the calculated annual depreciation applicable to depreciable assets as of December 31, 2016 are presented in account sequence starting on page VII-2 of the supporting documents. The following Tables 1 indicate the estimated average survivor

curves used in the calculations and set forth, for each installation year, the original cost, calculated accrued depreciation, and the calculated annual accrual. The following Tables 2 are the summaries of the service life and net salvage estimates and their effect of calculated annual accruals.

PACIFIC NORTHERN GAS LTD.

TOTAL SYSTEM

TABLE 1 SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

TOTAL LIFE AND NET SALVAGE		ESTIMATED	NET	SURVIVING	BOOKED	FUTURE	ANNUAL ACCRUAL		COMPOSITE
ACCOUNT	DESCRIPTION	SURVIVOR	SALVAGE	ORIGINAL COST	ACCRUED	ACCUALS	AMOUNT	RATE	REMAINING
(1)	(2)	CURVE	PERCENT	AS OF 12/31/2016	DEPRECIATION	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
(3)		(4)		(5)	(6)				
GATHERING PLANT									
411.00	LAND RIGHTS	75-R4	-	275	-	275	7	2.55	39.3
412.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R3	(3)	34,443	22,526	12,950	1,641	4.76	7.9
413.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	(15)	75,160	74,217	12,217	3,375	4.49	3.6
417.00	MEASURING AND REGULATING EQUIPMENT	25-R2	(7)	29,701	16,287	15,493	1,313	4.42	11.8
418.00	PURIFICATION EQUIPMENT	31-S5	(25)	3,749,595	2,637,682	2,049,312	166,076	4.43	12.3
TOTAL GATHERING PLANT				3,889,174	2,750,712	2,090,247	172,412	4.43	
PROCESSING PLANT									
443.00	GAS HOLDERS - STORAGE	40-SQ	-	30,000	13,113	16,887	824	2.75	20.5
449.00	OTHER LOCAL STORAGE EQUIPMENT	33-R3	-	3,200	2,111	1,089	71	2.22	15.3
TOTAL PROCESSING PLANT				33,200	15,224	17,976	895	2.70	
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	1,696,046	93,821	1,602,225	38,549	2.27	41.6
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	(3)	3,365,788	2,657,623	809,139	99,047	2.94	8.2
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	1,491,198	1,127,683	587,196	32,023	2.15	18.3
465.00	MAINS	65-R4	(20)	170,129,175	81,294,078	122,860,932	2,897,549	1.70	42.4
466.00	COMPRESSOR EQUIPMENT	35-R3	(2)	25,201,337	19,841,105	5,864,259	384,444	1.53	15.3
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	17,966,528	7,947,174	11,277,011	435,787	2.43	25.9
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	3,403,490	2,911,318	492,172	64,389	1.89	7.6
469.00	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	505,344	8,227	497,116	12,775	2.53	38.9
TOTAL TRANSMISSION PLANT				223,758,907	115,881,029	143,990,050	3,964,563	1.77	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	257,861	21,861	236,000	4,968	1.93	47.5
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	2,705,198	938,004	2,037,714	108,452	4.01	18.8
473.00	SERVICES	50-R4	(60)	51,438,650	21,342,205	60,959,634	1,977,521	3.84	30.8
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	10,323,675	5,780,284	6,608,126	312,339	3.03	21.2
475.00	MAINS	65-R4	(25)	75,059,907	28,910,408	64,914,476	1,397,119	1.86	46.5
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	2,333,055	1,769,902	726,466	31,052	1.33	23.4
478.00	METERS	20-R4	1	6,426,221	2,424,780	3,937,179	668,905	10.41	5.9
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	50,131	33,925	16,206	1,009	2.01	16.1
TOTAL DISTRIBUTION PLANT				148,594,698	61,221,369	139,435,801	4,501,365	3.03	
GENERAL PLANT									
481.00	LAND RIGHTS	75-R4	-	1,729	234	1,494	29	1.68	51.5
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	8,692,046	5,040,943	3,651,103	212,138	2.44	17.2
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	675,720	244,526	431,193	79,230	11.73	5.4
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	3,692,148	1,226,618	1,911,708	379,780	10.29	5.0
485.00	HEAVY WORK EQUIPMENT	18-R3	10	5,674,985	2,686,968	2,420,520	183,994	3.24	13.2
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	3,989,678	1,582,662	2,407,018	271,714	6.81	8.9
487.00	COMPUTER EQUIPMENT	5-SQ	-	607,385	296,122	311,264	147,007	24.20	2.1
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	481,777	244,967	236,809	41,226	8.56	5.7
489.00	OTHER GENERAL EQUIPMENT	20-R2.5	-	2,000	1,728	272	21	1.05	13.0
TOTAL GENERAL PLANT				23,817,468	11,324,768	11,371,381	1,315,139	5.52	
TOTAL GAS PLANT STUDIED				400,093,446	191,193,102	296,905,455	9,954,374	2.49	
PLANT NOT STUDIED									
410.00	LAND			3,089	-				
460.00	LAND			115,141	-				
470.00	LAND			47,943	-				
480.00	LAND			394,403	-				
490.00	COMPUTER SOFTWARE			1,438,184	1,162,785				
TOTAL PLANT NOT STUDIED				1,998,761	1,162,785				
TOTAL PLANT				402,092,207	192,355,887				

PACIFIC NORTHERN GAS LTD.
WEST SYSTEM
TABLE 1A SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	TOTAL LIFE AND NET SALVAGE		SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
		ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT				AMOUNT	RATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
PROCESSING PLANT									
443.00	GAS HOLDERS - STORAGE	40-SQ	-	30,000	13,113	16,887	824	2.75	20.5
449.00	OTHER LOCAL STORAGE EQUIPMENT	33-R3	-	3,200	2,111	1,089	71	2.22	15.3
TOTAL PROCESSING PLANT				33,200	15,224	17,976	895	2.70	
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	1,236,760	35,215	1,201,545	32,881	2.66	36.5
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	(3)	2,900,743	2,392,601	595,165	81,730	2.82	7.3
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	1,281,843	1,050,295	423,825	25,904	2.02	16.4
465.00	MAINS	65-R4	(20)	155,681,495	75,931,928	110,885,866	2,662,306	1.71	41.7
466.00	COMPRESSOR EQUIPMENT	35-R3	(2)	25,196,925	19,837,962	5,862,902	384,331	1.53	15.3
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	9,809,396	5,010,680	5,485,374	218,781	2.23	25.1
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	3,248,146	2,781,162	466,984	62,635	1.93	7.5
469.00	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	486,894	1,210	485,683	12,327	2.53	39.4
TOTAL TRANSMISSION PLANT				199,842,201	107,041,053	125,407,344	3,480,895	1.74	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	34,278	-	34,278	815	2.38	42.1
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	333,334	147,635	219,032	13,810	4.14	15.9
473.00	SERVICES	50-R4	(60)	25,828,532	14,737,981	26,587,670	1,007,709	3.90	26.4
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	4,296,732	2,625,008	2,531,070	133,221	3.10	19.0
475.00	MAINS	65-R4	(25)	31,534,898	15,808,798	23,609,824	600,209	1.90	39.3
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	276,550	271,335	24,573	1,977	0.71	12.4
478.00	METERS	20-R4	1	3,545,782	1,622,826	1,887,498	443,527	12.51	4.3
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	30,515	23,643	6,872	443	1.45	15.5
TOTAL DISTRIBUTION PLANT				65,880,621	35,237,227	54,900,817	2,201,711	3.34	
GENERAL PLANT									
481.00	LAND RIGHTS	75-R4	-	350	-	350	8	2.29	43.8
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	6,186,382	3,820,164	2,366,218	152,274	2.46	15.5
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	545,399	195,763	349,635	68,237	12.51	5.1
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	2,324,539	795,028	1,180,831	237,987	10.24	5.0
485.00	HEAVY WORK EQUIPMENT	18-R3	10	4,049,344	2,053,964	1,590,446	121,731	3.01	13.1
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	2,813,302	1,070,056	1,743,246	206,177	7.33	8.5
487.00	COMPUTER EQUIPMENT	5-SQ	-	564,461	288,274	276,187	136,505	24.18	2.0
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	387,810	219,902	167,908	32,704	8.43	5.1
489.00	OTHER GENERAL EQUIPMENT	20-R2.5	-	2,000	1,728	272	21	1.05	13.0
TOTAL GENERAL PLANT				16,873,587	8,444,878	7,675,093	955,644	5.66	
TOTAL GAS PLANT STUDIED				282,629,608	150,738,382	188,001,230	6,639,145	2.35	
PLANT NOT STUDIED									
410.00	LAND			-					
460.00	LAND			104,160					
470.00	LAND			552					
480.00	LAND			295,004					
490.00	COMPUTER SOFTWARE			1,190,803	930,852				
TOTAL PLANT NOT STUDIED				1,590,519	930,852				
TOTAL PLANT				284,220,127	151,669,234				



PACIFIC NORTHERN GAS LTD.
FORT SAINT JOHN

TABLE 1B SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCURED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

		TOTAL LIFE AND NET SALVAGE							COMPOSITE
ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCURED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	ACCUAL RATE	REMAINING LIFE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	284,620	58,606	226,014	3,181	1.12	71.1
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	(3)	465,045	265,022	213,974	17,317	3.72	12.4
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	83,484	50,113	45,893	2,408	2.88	19.1
465.00	MAINS	65-R4	(20)	6,878,819	2,964,857	5,289,726	98,195	1.43	53.9
466.00	COMPRESSOR EQUIPMENT								
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	5,365,795	2,313,113	3,428,288	135,432	2.52	25.3
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	20,124	-	20,124	1,383	6.87	14.6
469.00	OTHER TRANSMISSION EQUIPMENT								
TOTAL TRANSMISSION PLANT				13,097,887	5,651,711	9,224,019	257,916	1.97	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	156,677	21,861	134,816	2,459	1.57	54.8
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	1,158,054	399,713	874,147	45,404	3.92	19.3
473.00	SERVICES	50-R4	(60)	17,367,781	4,485,159	23,303,291	624,113	3.59	37.3
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	2,221,852	1,169,677	1,496,545	57,198	2.57	26.2
475.00	MAINS	65-R4	(25)	29,925,140	9,289,747	28,116,678	517,614	1.73	54.3
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	1,226,388	806,061	506,173	19,178	1.56	26.4
478.00	METERS	20-R4	1	1,886,965	543,598	1,324,497	128,093	6.79	10.3
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	19,617	10,282	9,334	566	2.89	16.5
TOTAL DISTRIBUTION PLANT				53,962,473	16,726,099	55,765,481	1,394,625	2.58	
GENERAL PLANT									
481.00	LAND RIGHTS	75-R4	-	1,379	234	1,144	21	1.52	54.5
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	948,924	661,048	287,876	21,044	2.22	13.7
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	29,513	7,188	22,325	1,920	6.51	11.6
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	543,958	166,059	296,305	58,782	10.81	5.0
485.00	HEAVY WORK EQUIPMENT	18-R3	10	299,518	161,923	107,643	8,897	2.97	12.1
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	479,331	223,111	256,221	27,617	5.76	9.3
487.00	COMPUTER EQUIPMENT	5-SQ	-	9,390	2,700	6,690	2,232	23.77	3.0
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	35,661	8,570	27,091	2,712	7.60	10.0
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				2,347,674	1,230,833	1,005,295	123,225	5.25	
TOTAL GAS PLANT STUDIED				69,408,034	23,608,644	65,994,795	1,775,766	2.56	
PLANT NOT STUDIED									
410.00	LAND			-	-				
460.00	LAND			6,395	-				
470.00	LAND			22,043	-				
480.00	LAND			76,503	-				
490.00	COMPUTER SOFTWARE			192,805	185,632				
TOTAL PLANT NOT STUDIED				297,746	185,632				
TOTAL PLANT				69,705,780	23,794,276				

**PACIFIC NORTHERN GAS LTD.
DAWSON CREEK
TABLE 1C SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCURED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016**

		TOTAL LIFE AND NET SALVAGE							
ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCURED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	RATE	COMPOSITE REMAINING LIFE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	174,666	-	174,666	2,487	1.42	70.2
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS								
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	125,872	27,275	117,478	3,711	2.95	31.7
465.00	MAINS	65-R4	(20)	5,827,847	1,334,951	5,658,464	103,202	1.77	54.8
466.00	COMPRESSOR EQUIPMENT								
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	2,362,606	546,000	1,981,988	68,820	2.91	28.8
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	129,794	129,794	-	-	-	-
469.00	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	18,450	7,017	11,433	448	2.43	25.5
TOTAL TRANSMISSION PLANT				8,639,235	2,045,038	7,944,029	178,668	2.07	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	64,895	-	64,895	1,646	2.54	39.4
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	873,028	301,637	658,694	35,677	4.09	18.5
473.00	SERVICES	50-R4	(60)	7,527,244	1,803,204	10,240,385	310,135	4.12	33.0
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	3,518,978	1,747,059	2,475,715	112,275	3.19	22.1
475.00	MAINS	65-R4	(25)	12,499,900	3,245,787	12,379,088	254,899	2.04	48.6
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	509,098	463,782	80,952	5,283	1.04	15.3
478.00	METERS	20-R4	1	791,912	181,476	602,517	83,978	10.60	7.2
479.00	OTHER DISTRIBUTION EQUIPMENT								
TOTAL DISTRIBUTION PLANT				25,785,055	7,742,946	26,502,246	803,893	3.12	
GENERAL PLANT									
481.00	LAND RIGHTS								
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	1,154,428	159,777	994,651	37,645	3.26	26.4
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	76,782	32,130	44,652	7,038	9.17	6.3
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	783,574	251,791	414,247	78,621	10.03	5.3
485.00	HEAVY WORK EQUIPMENT	18-R3	10	1,208,623	387,512	700,249	51,789	4.28	13.5
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	613,799	260,018	353,782	33,488	5.46	10.6
487.00	COMPUTER EQUIPMENT	5-SQ	-	30,859	5,147	25,712	7,676	24.87	3.3
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	56,512	15,431	41,080	5,648	9.99	7.3
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				3,924,576	1,111,805	2,574,373	221,905	5.65	
TOTAL GAS PLANT STUDIED				38,348,866	10,899,789	37,020,648	1,204,466	3.14	
PLANT NOT STUDIED									
410.00	LAND			-	-				
460.00	LAND			4,586	-				
470.00	LAND			25,348	-				
480.00	LAND			-	-				
490.00	COMPUTER SOFTWARE			42,841	35,668				
TOTAL PLANT NOT STUDIED				72,775	35,668				
TOTAL PLANT				38,421,641	10,935,457				

PACIFIC NORTHERN GAS LTD.

TUMBLER RIDGE

TABLE 1D SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

		TOTAL LIFE AND NET SALVAGE							COMPOSITE REMAINING LIFE
ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	RATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GATHERING PLANT									
411.00	LAND RIGHTS	75-R4	-	275	-	275	7	2.55	39.3
412.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R3	(3)	34,443	22,526	12,950	1,641	4.76	7.9
413.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	(15)	75,160	74,217	12,217	3,375	4.49	3.6
417.00	MEASURING AND REGULATING EQUIPMENT	25-R2	(7)	29,701	16,287	15,493	1,313	4.42	11.8
418.00	PURIFICATION EQUIPMENT	31-S5	(25)	3,749,595	2,637,682	2,049,312	166,076	4.43	12.3
TOTAL GATHERING PLANT				3,889,174	2,750,712	2,090,247	172,412	4.43	
TRANSMISSION PLANT									
461.00	LAND RIGHTS								
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS								
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS								
465.00	MAINS	65-R4	(20)	1,741,015	1,062,341	1,026,876	33,846	1.94	30.3
466.00	COMPRESSOR EQUIPMENT	35-R3	(2)	4,412	3,143	1,357	113	2.56	12.0
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	428,731	77,381	381,361	12,754	2.97	29.9
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	5,426	362	5,064	371	6.84	13.6
469.00	OTHER TRANSMISSION EQUIPMENT								
TOTAL TRANSMISSION PLANT				2,179,584	1,143,228	1,414,658	47,084	2.16	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	2,011	-	2,011	48	2.39	41.9
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	340,781	89,018	285,841	13,561	3.98	21.1
473.00	SERVICES	50-R4	(60)	715,093	315,861	828,288	35,564	4.97	23.3
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	286,113	238,540	104,796	9,645	3.37	10.9
475.00	MAINS	65-R4	(25)	1,099,969	566,075	808,886	24,397	2.22	33.2
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	321,020	228,723	114,768	4,614	1.44	24.9
478.00	METERS	20-R4	1	201,562	76,879	122,667	13,307	6.60	9.2
479.00	OTHER DISTRIBUTION EQUIPMENT								
TOTAL DISTRIBUTION PLANT				2,966,549	1,515,097	2,267,257	101,136	3.41	
GENERAL PLANT									
481.00	LAND RIGHTS								
482.00	STRUCTURES AND EQUIPMENT	30-R5	-	402,312	399,954	2,358	1,175	0.29	2.0
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	24,026	9,445	14,581	2,035	8.47	7.2
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	40,077	13,741	20,325	4,390	10.95	4.6
485.00	HEAVY WORK EQUIPMENT	18-R3	10	117,501	83,569	22,182	1,577	1.34	14.1
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	83,246	29,477	53,769	4,432	5.32	12.1
487.00	COMPUTER EQUIPMENT	5-SQ	-	2,675	-	2,675	594	22.21	4.5
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	1,795	1,065	730	162	9.03	4.5
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				671,631	537,251	116,620	14,365	2.14	
TOTAL GAS PLANT STUDIED				9,706,938	5,946,287	5,888,782	334,997	3.45	
PLANT NOT STUDIED									
410.00	LAND			3,089	-				
460.00	LAND			-	-				
470.00	LAND			-	-				
480.00	LAND			22,896	-				
490.00	COMPUTER SOFTWARE			11,735	10,632				
TOTAL PLANT NOT STUDIED				37,721	10,632				
TOTAL PLANT				9,744,659	5,956,919				

PACIFIC NORTHERN GAS LTD.
FORT SAINT JOHN AND DAWSON CREEK
TABLE 1E SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

		TOTAL LIFE AND NET SALVAGE				BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	AMOUNT			RATE		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (8)/(5)	(10)	
TRANSMISSION PLANT										
461.00	LAND RIGHTS	75-R4	-	459,287	58,606	400,680	5,668	1.23	70.8	
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	(3)	465,045	265,022	213,974	17,317	3.72	12.4	
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	209,355	77,388	163,371	6,119	2.92	26.7	
465.00	MAINS	65-R4	(20)	12,706,666	4,299,809	10,948,190	201,397	1.58	54.3	
466.00	COMPRESSOR EQUIPMENT			-	-	-	-			
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	7,728,401	2,859,113	5,410,276	204,252	2.64	26.4	
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	149,918	129,794	20,124	1,383	0.92	2.0	
469.00	OTHER TRANSMISSION EQUIPMENT			18,450	7,017	11,433	448	2.43	25.5	
TOTAL TRANSMISSION PLANT				21,737,122	7,696,749	17,168,048	436,584	2.01		
DISTRIBUTION PLANT										
471.00	LAND RIGHTS	75-R4	-	221,572	21,861	199,711	4,105	1.85	50.3	
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	2,031,083	701,350	1,532,841	81,081	3.99	19.0	
473.00	SERVICES	50-R4	(60)	24,895,025	6,288,363	33,543,676	934,248	3.75	36.0	
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	5,740,830	2,916,736	3,972,260	169,473	2.95	23.7	
475.00	MAINS	65-R4	(25)	42,425,040	12,535,535	40,495,766	772,513	1.82	52.6	
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	1,735,485	1,269,843	587,125	24,461	1.41	23.1	
478.00	METERS	20-R4	1	2,678,877	725,075	1,927,014	212,071	7.92	9.4	
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	19,617	10,282	9,334	566	2.89	16.5	
TOTAL DISTRIBUTION PLANT				79,747,528	24,469,045	82,267,727	2,198,518	2.76		
GENERAL PLANT										
481.00	LAND RIGHTS	75-R4	-	1,379	234	1,144	21	1.52	54.5	
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	2,103,352	820,825	1,282,527	58,689	2.79	20.7	
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	106,295	39,318	66,977	8,958	8.43	7.8	
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	1,327,532	417,850	710,552	137,403	10.35	5.2	
485.00	HEAVY WORK EQUIPMENT	18-R3	10	1,508,140	549,435	807,892	60,686	4.02	13.2	
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	1,093,131	483,128	610,003	61,105	5.59	10.0	
487.00	COMPUTER EQUIPMENT	5-SQ	-	40,249	7,848	32,402	9,908	24.62	3.2	
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	92,173	24,001	68,171	8,360	9.07	8.3	
489.00	OTHER GENERAL EQUIPMENT			-	-	-	-			
TOTAL GENERAL PLANT				6,272,250	2,342,639	3,579,668	345,130	5.50		
TOTAL GAS PLANT STUDIED				107,756,900	34,508,433	103,015,443	2,980,232	2.77		
PLANT NOT STUDIED										
410.00	LAND			-	-					
460.00	LAND			10,981	-					
470.00	LAND			47,391	-					
480.00	LAND			76,503	-					
490.00	COMPUTER SOFTWARE			235,647	221,301					
TOTAL PLANT NOT STUDIED				370,522	221,301					
TOTAL PLANT				108,127,422	34,729,733					

PACIFIC NORTHERN GAS LTD.
WEST SYSTEM
TABLE 1A-LIFE SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	LIFE		SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
		ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT				AMOUNT	RATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
PROCESSING PLANT									
443.00	GAS HOLDERS - STORAGE	40-SQ	-	30,000	13,113	16,887	824	2.75	20.5
449.00	OTHER LOCAL STORAGE EQUIPMENT	33-R3	-	3,200	2,111	1,089	71	2.22	15.3
TOTAL PROCESSING PLANT				33,200	15,224	17,976	895	2.70	
TRANSMISSION PLANT									
461.00	461.00 4: LAND RIGHTS	75-R4	-	1,236,760	35,215	1,201,545	32,881	2.66	36.5
462.00	462.00 4: COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	-	2,900,743	2,392,601	508,142	57,291	1.98	7.3
463.00	463.00 4: MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	-	1,281,843	1,050,295	231,548	11,113	0.87	16.4
465.00	465.00 4: MAINS	65-R4	-	155,681,495	75,931,928	79,749,567	1,822,185	1.17	41.7
466.00	466.00 4: COMPRESSOR EQUIPMENT	35-R3	-	25,196,925	19,837,962	5,358,963	333,473	1.32	15.3
467.00	467.00 4: MEASURING AND REGULATING EQUIPMENT	35-S2.5	-	9,809,396	5,010,680	4,798,716	181,954	1.85	25.1
468.00	468.00 4: COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	3,248,146	2,781,162	466,984	62,635	1.93	7.5
469.00	469.00 4: OTHER TRANSMISSION EQUIPMENT	40-SQ	-	486,894	1,210	485,683	12,327	2.53	39.4
TOTAL TRANSMISSION PLANT				199,842,201	107,041,053	92,801,148	2,513,859	1.26	
DISTRIBUTION PLANT									
471.00	471.00 4: LAND RIGHTS	75-R4	-	34,278	-	34,278	815	2.38	42.1
472.00	472.00 4: STRUCTURES AND IMPROVEMENTS	30-R3	-	333,334	147,635	185,699	10,834	3.25	15.9
473.00	473.00 4: SERVICES	50-R4	-	25,828,532	14,737,981	11,090,551	379,852	1.47	26.4
474.00	474.00 4: HOUSE REGULATOR AND METER INSTALLS	40-R4	-	4,296,732	2,625,008	1,671,724	76,484	1.78	19.0
475.00	475.00 4: MAINS	65-R4	-	31,534,898	15,808,798	15,726,100	383,033	1.21	39.3
477.00	477.00 4: MEASURING AND REGULATING EQUIPMENT	35-R4	-	276,550	271,335	5,214	236	0.09	12.4
478.00	478.00 4: METERS	20-R4	1	3,545,782	1,622,826	1,887,498	443,527	12.51	4.3
479.00	479.00 4: OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	30,515	23,643	6,872	443	1.45	15.5
TOTAL DISTRIBUTION PLANT				65,880,621	35,237,227	30,607,936	1,295,224	1.97	
GENERAL PLANT									
481.00	481.00 4: LAND RIGHTS	75-R4	-	350	-	350	8	2.29	43.8
482.00	482.00 4: STRUCTURES AND EQUIPMENT	30-R3	-	6,186,382	3,820,164	2,366,218	152,274	2.46	15.5
483.00	483.00 4: OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	545,399	195,763	349,635	68,237	12.51	5.1
484.00	484.00 4: TRANSPORTATION EQUIPMENT	8-L3	15	2,324,539	795,028	1,180,831	237,987	10.24	5.0
485.00	485.00 4: HEAVY WORK EQUIPMENT	18-R3	10	4,049,344	2,053,964	1,590,446	121,731	3.01	13.1
486.00	486.00 4: TOOLS AND WORK EQUIPMENT	20-SQ	-	2,813,302	1,070,056	1,743,246	206,177	7.33	8.5
487.00	487.00 4: COMPUTER EQUIPMENT	5-SQ	-	564,461	288,274	276,187	136,505	24.18	2.0
488.00	488.00 4: COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	387,810	219,902	167,908	32,704	8.43	5.1
489.00	OTHER GENERAL EQUIPMENT	20-R2.5	-	2,000	1,728	272	21	1.05	13.0
TOTAL GENERAL PLANT				16,873,587	8,444,878	7,675,093	955,644	5.66	
TOTAL GAS PLANT STUDIED				282,629,608	150,738,382	131,102,153	4,765,622	1.69	
PLANT NOT STUDIED									
410.00	LAND			-					
460.00	LAND			104,160					
470.00	LAND			552					
480.00	LAND			295,004					
490.00	COMPUTER SOFTWARE			1,190,803	930,852				
TOTAL PLANT NOT STUDIED				1,590,519	930,852				
TOTAL PLANT				284,220,127	151,669,234				

PACIFIC NORTHERN GAS LTD.
FORT SAINT JOHN
TABLE 1B-LIFE SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	RATE	COMPOSITE REMAINING LIFE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	284,620	58,606	226,014	3,181	1.12	71.1
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	-	465,045	265,022	200,023	16,185	3.48	12.4
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	-	83,484	50,113	33,370	1,751	2.10	19.1
465.00	MAINS	65-R4	-	6,878,819	2,964,857	3,913,962	71,058	1.03	53.9
466.00	COMPRESSOR EQUIPMENT								
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	-	5,365,795	2,313,113	3,052,683	118,330	2.21	25.3
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	20,124	-	20,124	1,383	6.87	14.6
469.00	OTHER TRANSMISSION EQUIPMENT								
TOTAL TRANSMISSION PLANT				13,097,887	5,651,711	7,446,176	211,888	1.62	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	156,677	21,861	134,816	2,459	1.57	54.8
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	-	1,158,054	399,713	758,341	39,127	3.38	19.3
473.00	SERVICES	50-R4	-	17,367,781	4,485,159	12,882,623	339,029	1.95	37.3
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	-	2,221,852	1,169,677	1,052,174	38,783	1.75	26.2
475.00	MAINS	65-R4	-	29,925,140	9,289,747	20,635,393	375,288	1.25	54.3
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	-	1,226,388	806,061	420,326	15,439	1.26	26.4
478.00	METERS	20-R4	1	1,886,965	543,598	1,324,497	128,093	6.79	10.3
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	19,617	10,282	9,334	566	2.89	16.5
TOTAL DISTRIBUTION PLANT				53,962,473	16,726,099	37,217,504	938,784	1.74	
GENERAL PLANT									
481.00	LAND RIGHTS	75-R4	-	1,379	234	1,144	21	1.52	54.5
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	948,924	661,048	287,876	21,044	2.22	13.7
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	29,513	7,188	22,325	1,920	6.51	11.6
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	543,958	166,059	296,305	58,782	10.81	5.0
485.00	HEAVY WORK EQUIPMENT	18-R3	10	299,518	161,923	107,643	8,897	2.97	12.1
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	479,331	223,111	256,221	27,617	5.76	9.3
487.00	COMPUTER EQUIPMENT	5-SQ	-	9,390	2,700	6,690	2,232	23.77	3.0
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	35,661	8,570	27,091	2,712	7.60	10.0
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				2,347,674	1,230,833	1,005,295	123,225	5.25	
TOTAL GAS PLANT STUDIED				69,408,034	23,608,644	45,668,975	1,273,897	1.84	
PLANT NOT STUDIED									
410.00	LAND			-	-				
460.00	LAND			6,395	-				
470.00	LAND			22,043	-				
480.00	LAND			76,503	-				
490.00	COMPUTER SOFTWARE			192,805	185,632				
TOTAL PLANT NOT STUDIED				297,746	185,632				
TOTAL PLANT				69,705,780	23,794,276				

PACIFIC NORTHERN GAS LTD.
DAWSON CREEK
TABLE 1C SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	LIFE		SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
		ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT				AMOUNT	RATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	174,666	-	174,666	2,487	1.42	70.2
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS								
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	-	125,872	27,275	98,597	3,030	2.41	31.7
465.00	MAINS	65-R4	-	5,827,847	1,334,951	4,492,895	80,118	1.37	54.8
466.00	COMPRESSOR EQUIPMENT								
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	-	2,362,606	546,000	1,816,605	62,412	2.64	28.8
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	129,794	129,794	-	-	-	-
469.00	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	18,450	7,017	11,433	448	2.43	25.5
TOTAL TRANSMISSION PLANT				8,639,235	2,045,038	6,594,196	148,495	1.72	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	64,895	-	64,895	1,646	2.54	39.4
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	-	873,028	301,637	571,391	28,815	3.30	18.5
473.00	SERVICES	50-R4	-	7,527,244	1,803,204	5,724,039	161,374	2.14	33.0
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	-	3,518,978	1,747,059	1,771,920	71,107	2.02	22.1
475.00	MAINS	65-R4	-	12,499,900	3,245,787	9,254,113	182,891	1.46	48.6
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	-	509,098	463,782	45,316	1,820	0.36	15.3
478.00	METERS	20-R4	1	791,912	181,476	602,517	83,978	10.60	7.2
479.00	OTHER DISTRIBUTION EQUIPMENT								
TOTAL DISTRIBUTION PLANT				25,785,055	7,742,946	18,034,191	531,631	2.06	
GENERAL PLANT									
481.00	LAND RIGHTS								
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	1,154,428	159,777	994,651	37,645	3.26	26.4
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	76,782	32,130	44,652	7,038	9.17	6.3
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	783,574	251,791	414,247	78,621	10.03	5.3
485.00	HEAVY WORK EQUIPMENT	18-R3	10	1,208,623	387,512	700,249	51,789	4.28	13.5
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	613,799	260,018	353,782	33,488	5.46	10.6
487.00	COMPUTER EQUIPMENT	5-SQ	-	30,859	5,147	25,712	7,676	24.87	3.3
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	56,512	15,431	41,080	5,648	9.99	7.3
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				3,924,576	1,111,805	2,574,373	221,905	5.65	
TOTAL GAS PLANT STUDIED				38,348,866	10,899,789	27,202,760	902,031	2.35	
PLANT NOT STUDIED									
410.00	LAND			-	-				
460.00	LAND			4,586	-				
470.00	LAND			25,348	-				
480.00	LAND			-	-				
490.00	COMPUTER SOFTWARE			42,841	35,668				
TOTAL PLANT NOT STUDIED				72,775	35,668				
TOTAL PLANT				38,421,641	10,935,457				

PACIFIC NORTHERN GAS LTD.
TUMBLER RIDGE
TABLE 1D-LIFE SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	LIFE NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCURED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	RATE	COMPOSITE REMAINING LIFE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GATHERING PLANT									
411.00	LAND RIGHTS	75-R4	-	275	-	275	7	2.55	39.3
412.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R3	-	34,443	22,526	11,917	1,510	4.38	7.9
413.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	-	75,160	74,217	943	260	0.35	3.6
417.00	MEASURING AND REGULATING EQUIPMENT	25-R2	-	29,701	16,287	13,414	1,137	3.83	11.8
418.00	PURIFICATION EQUIPMENT	31-S5	-	3,749,595	2,637,682	1,111,913	47,621	1.27	12.3
TOTAL GATHERING PLANT				3,889,174	2,750,712	1,138,462	50,535	1.30	
TRANSMISSION PLANT									
461.00	LAND RIGHTS								
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS								
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS								
465.00	MAINS	65-R4	-	1,741,015	1,062,341	678,673	22,278	1.28	30.3
466.00	COMPRESSOR EQUIPMENT	35-R3	-	4,412	3,143	1,269	106	2.40	12.0
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	-	428,731	77,381	351,350	11,666	2.72	29.9
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	5,426	362	5,064	371	6.84	13.6
469.00	OTHER TRANSMISSION EQUIPMENT								
TOTAL TRANSMISSION PLANT				2,179,584	1,143,228	1,036,356	34,421	1.58	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	2,011	-	2,011	48	2.39	41.9
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	-	340,781	89,018	251,763	11,551	3.39	21.1
473.00	SERVICES	50-R4	-	715,093	315,861	399,232	15,555	2.18	23.3
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	-	286,113	238,540	47,573	3,089	1.08	10.9
475.00	MAINS	65-R4	-	1,099,969	566,075	533,894	15,760	1.43	33.2
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	-	321,020	228,723	92,296	3,253	1.01	24.9
478.00	METERS	20-R4	1	201,562	76,879	122,667	13,307	6.60	9.2
479.00	OTHER DISTRIBUTION EQUIPMENT								
TOTAL DISTRIBUTION PLANT				2,966,549	1,515,097	1,449,436	62,563	2.11	
GENERAL PLANT									
481.00	LAND RIGHTS								
482.00	STRUCTURES AND EQUIPMENT	30-R5	-	402,312	399,954	2,358	1,175	0.29	2.0
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	24,026	9,445	14,581	2,035	8.47	7.2
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	40,077	13,741	20,325	4,390	10.95	4.6
485.00	HEAVY WORK EQUIPMENT	18-R3	10	117,501	83,569	22,182	1,577	1.34	14.1
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	83,246	29,477	53,769	4,432	5.32	12.1
487.00	COMPUTER EQUIPMENT	5-SQ	-	2,675	-	2,675	594	22.21	4.5
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	1,795	1,065	730	162	9.03	4.5
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				671,631	537,251	116,620	14,365	2.14	
TOTAL GAS PLANT STUDIED				9,706,938	5,946,287	3,740,874	161,884	1.67	
PLANT NOT STUDIED									
410.00	LAND			3,089	-				
460.00	LAND			-	-				
470.00	LAND			-	-				
480.00	LAND			22,896	-				
490.00	COMPUTER SOFTWARE			11,735	10,632				
TOTAL PLANT NOT STUDIED				37,721	10,632				
TOTAL PLANT				9,744,659	5,956,919				

PACIFIC NORTHERN GAS LTD.
FORT SAINT JOHN & DAWSON CREEK
TABLE 1E-LIFE SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	COMPOSITE REMAINING LIFE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (8)/(5)
TRANSMISSION PLANT								
461.00	LAND RIGHTS	75-R4	-	459,287	58,606	400,680	5,668	1.23
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	-	465,045	265,022	200,023	16,185	3.48
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	-	209,355	77,388	131,967	4,781	2.28
465.00	MAINS	65-R4	-	12,706,666	4,299,809	8,406,857	151,176	1.19
466.00	COMPRESSOR EQUIPMENT			-	-	-	-	
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	-	7,728,401	2,859,113	4,869,288	180,742	2.34
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	149,918	129,794	20,124	1,383	0.92
469.00	OTHER TRANSMISSION EQUIPMENT			18,450	7,017	11,433	448	2.43
TOTAL TRANSMISSION PLANT				21,737,122	7,696,749	14,040,372	360,383	1.66
DISTRIBUTION PLANT								
471.00	LAND RIGHTS	75-R4	-	221,572	21,861	199,711	4,105	1.85
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	-	2,031,083	701,350	1,329,732	67,942	3.35
473.00	SERVICES	50-R4	-	24,895,025	6,288,363	18,606,662	500,403	2.01
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	-	5,740,830	2,916,736	2,824,094	109,890	1.91
475.00	MAINS	65-R4	-	42,425,040	12,535,535	29,889,506	558,179	1.32
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	-	1,735,485	1,269,843	465,642	17,259	0.99
478.00	METERS	20-R4	1	2,678,877	725,075	1,927,014	212,071	7.92
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	19,617	10,282	9,334	566	2.89
TOTAL DISTRIBUTION PLANT				79,747,528	24,469,045	55,251,695	1,470,415	1.84
GENERAL PLANT								
481.00	LAND RIGHTS	75-R4	-	1,379	234	1,144	21	1.52
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	2,103,352	820,825	1,282,527	58,689	2.79
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	106,295	39,318	66,977	8,958	8.43
484.00	TRANSPORTATION EQUIPMENT	8-L3	15	1,327,532	417,850	710,552	137,403	10.35
485.00	HEAVY WORK EQUIPMENT	18-R3	10	1,508,140	549,435	807,892	60,686	4.02
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	1,093,131	483,128	610,003	61,105	5.59
487.00	COMPUTER EQUIPMENT	5-SQ	-	40,249	7,848	32,402	9,908	24.62
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	92,173	24,001	68,171	8,360	9.07
489.00	OTHER GENERAL EQUIPMENT							
TOTAL GENERAL PLANT				6,272,250	2,342,639	3,579,668	345,130	5.50
TOTAL GAS PLANT STUDIED				107,756,900	34,508,433	72,871,735	2,175,928	2.02
PLANT NOT STUDIED								
410.00	LAND			-	-			
460.00	LAND			10,981	-			
470.00	LAND			47,391	-			
480.00	LAND			76,503	-			
490.00	COMPUTER SOFTWARE			235,647	221,301			
TOTAL PLANT NOT STUDIED				370,522	221,301			
TOTAL PLANT				108,127,422	34,729,733			

PACIFIC NORTHERN GAS LTD.
WEST SYSTEM

TABLE 1A-COR SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	COST OF REMOVAL		SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
		ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT				AMOUNT	RATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
PROCESSING PLANT									
443.00	GAS HOLDERS - STORAGE	40-SQ	-	30,000	-	-	-	-	20.5
449.00	OTHER LOCAL STORAGE EQUIPMENT	33-R3	-	3,200	-	-	-	-	15.3
TOTAL PROCESSING PLANT				33,200	0	0	0	-	
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	1,236,760	-	-	-	-	36.5
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	(3)	2,900,743	-	87,023	24,439	0.84	7.3
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	1,281,843	-	192,277	14,791	1.15	16.4
465.00	MAINS	65-R4	(20)	155,681,495	-	31,136,299	840,121	0.54	41.7
466.00	COMPRESSOR EQUIPMENT	35-R3	(2)	25,196,925	-	503,939	50,858	0.21	15.3
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	9,809,396	-	686,658	36,827	0.38	25.1
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	3,248,146	-	-	-	-	7.5
469.00	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	486,894	-	-	-	-	39.4
TOTAL TRANSMISSION PLANT				199,842,201	0	32,606,196	967,036	0.48	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	34,278	-	-	-	-	42.1
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	333,334	-	33,333	2,976	0.89	15.9
473.00	SERVICES	50-R4	(60)	25,828,532	-	15,497,119	627,857	2.43	26.4
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	4,296,732	-	859,346	56,737	1.32	19.0
475.00	MAINS	65-R4	(25)	31,534,898	-	7,883,724	217,176	0.69	39.3
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	276,550	-	19,359	1,741	0.62	12.4
478.00	METERS	20-R4	-	3,545,782	-	-	-	-	4.3
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	30,515	-	-	-	-	15.5
TOTAL DISTRIBUTION PLANT				65,880,621	0	24,292,881	906,487	1.38	
GENERAL PLANT									
481.00	LAND RIGHTS	75-R4	-	350	-	-	-	-	43.8
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	6,186,382	-	-	-	-	15.5
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	545,399	-	-	-	-	5.1
484.00	TRANSPORTATION EQUIPMENT	8-L3	-	2,324,539	-	-	-	-	5.0
485.00	HEAVY WORK EQUIPMENT	18-R3	-	4,049,344	-	-	-	-	13.1
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	2,813,302	-	-	-	-	8.5
487.00	COMPUTER EQUIPMENT	5-SQ	-	564,461	-	-	-	-	2.0
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	387,810	-	-	-	-	5.1
489.00	OTHER GENERAL EQUIPMENT	20-R2.5	-	2,000	-	-	-	-	13.0
TOTAL GENERAL PLANT				16,873,587	0	0	0	-	
TOTAL GAS PLANT STUDIED				282,629,608	0	56,899,077	1,873,523	0.66	
PLANT NOT STUDIED									
410.00	LAND			-					
460.00	LAND			104,160					
470.00	LAND			552					
480.00	LAND			295,004					
490.00	COMPUTER SOFTWARE			1,190,803	-				
TOTAL PLANT NOT STUDIED				1,590,519	-				
TOTAL PLANT				284,220,127	-				

PACIFIC NORTHERN GAS LTD.
FORT SAINT JOHN
TABLE 1B-COR SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

		COST OF REMOVAL							
ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	AMOUNT	RATE	(10)
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	284,620	-	-	-	-	71.1
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	(3)	465,045	-	13,951	1,132	0.24	12.4
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	83,484	-	12,523	657	0.78	19.1
465.00	MAINS	65-R4	(20)	6,878,819	-	1,375,764	27,137	0.40	53.9
466.00	COMPRESSOR EQUIPMENT								
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	5,365,795	-	375,605	17,102	0.31	25.3
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	20,124	-	-	-	-	14.6
469.00	OTHER TRANSMISSION EQUIPMENT								
TOTAL TRANSMISSION PLANT				13,097,887	0	1,777,843	46,028	0.35	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	156,677	-	-	-	-	54.8
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	1,158,054	-	115,806	6,277	0.54	19.3
473.00	SERVICES	50-R4	(60)	17,367,781	-	10,420,668	285,084	1.64	37.3
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	2,221,852	-	444,371	18,415	0.82	26.2
475.00	MAINS	65-R4	(25)	29,925,140	-	7,481,285	142,326	0.48	54.3
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	1,226,388	-	85,847	3,739	0.30	26.4
478.00	METERS	20-R4	-	1,886,965	-	-	-	-	10.3
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	19,617	-	-	-	-	16.5
TOTAL DISTRIBUTION PLANT				53,962,473	0	18,547,977	455,841	0.84	
GENERAL PLANT									
481.00	LAND RIGHTS	75-R4	-	1,379	-	-	-	-	54.5
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	948,924	-	-	-	-	13.7
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	29,513	-	-	-	-	11.6
484.00	TRANSPORTATION EQUIPMENT	8-L3	-	543,958	-	-	-	-	5.0
485.00	HEAVY WORK EQUIPMENT	18-R3	-	299,518	-	-	-	-	12.1
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	479,331	-	-	-	-	9.3
487.00	COMPUTER EQUIPMENT	5-SQ	-	9,390	-	-	-	-	3.0
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	35,661	-	-	-	-	10.0
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				2,347,674	0	0	0	-	
TOTAL GAS PLANT STUDIED				69,408,034	0	20,325,820	501,869	0.72	
PLANT NOT STUDIED									
410.00	LAND			-	-				
460.00	LAND			6,395	-				
470.00	LAND			22,043	-				
480.00	LAND			76,503	-				
490.00	COMPUTER SOFTWARE			192,805	185,632				
TOTAL PLANT NOT STUDIED				297,746	185,632				
TOTAL PLANT				69,705,780	185,632				

PACIFIC NORTHERN GAS LTD.
DAWSON CREEK
TABLE-1C COR SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	COST OF REMOVAL		SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
		ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT				AMOUNT	RATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	174,666	-	-	-	-	70.2
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS								
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	125,872	-	18,881	681	0.54	31.7
465.00	MAINS	65-R4	(20)	5,827,847	-	1,165,569	23,084	0.40	54.8
466.00	COMPRESSOR EQUIPMENT								
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	2,362,606	-	165,383	6,408	0.27	28.8
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	129,794	-	-	-	-	-
469.00	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	18,450	-	-	-	-	25.5
TOTAL TRANSMISSION PLANT				8,639,235	0	1,349,833	30,173	0.35	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	64,895	-	-	-	-	39.4
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	873,028	-	87,303	6,862	0.79	18.5
473.00	SERVICES	50-R4	(60)	7,527,244	-	4,516,346	148,761	1.98	33.0
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	3,518,978	-	703,795	41,168	1.17	22.1
475.00	MAINS	65-R4	(25)	12,499,900	-	3,124,975	72,008	0.58	48.6
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	509,098	-	35,636	3,463	0.68	15.3
478.00	METERS	20-R4	-	791,912	-	-	-	-	7.2
479.00	OTHER DISTRIBUTION EQUIPMENT								
TOTAL DISTRIBUTION PLANT				25,785,055	0	8,468,055	272,262	1.06	
GENERAL PLANT									
481.00	LAND RIGHTS								
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	1,154,428	-	-	-	-	26.4
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	76,782	-	-	-	-	6.3
484.00	TRANSPORTATION EQUIPMENT	8-L3	-	783,574	-	-	-	-	5.3
485.00	HEAVY WORK EQUIPMENT	18-R3	-	1,208,623	-	-	-	-	13.5
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	613,799	-	-	-	-	10.6
487.00	COMPUTER EQUIPMENT	5-SQ	-	30,859	-	-	-	-	3.3
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	56,512	-	-	-	-	7.3
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				3,924,576	0	0	0	-	
TOTAL GAS PLANT STUDIED				38,348,866	0	9,817,888	302,435	0.79	
PLANT NOT STUDIED									
410.00	LAND			-	-				
460.00	LAND			4,586	-				
470.00	LAND			25,348	-				
480.00	LAND			-	-				
490.00	COMPUTER SOFTWARE			42,841	35,668				
TOTAL PLANT NOT STUDIED				72,775	35,668				
TOTAL PLANT				38,421,641	35,668				

PACIFIC NORTHERN GAS LTD.
TUMBLER RIDGE
TABLE 1D-COR SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

		COST OF REMOVAL							COMPOSITE
ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL AMOUNT	RATE	REMAINING LIFE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GATHERING PLANT									
411.00	LAND RIGHTS	75-R4	-	275	-	-	-	-	39.3
412.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R3	(3)	34,443	-	1,033	131	0.38	7.9
413.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	(15)	75,160	-	11,274	3,115	4.14	3.6
417.00	MEASURING AND REGULATING EQUIPMENT	25-R2	(7)	29,701	-	2,079	176	0.59	11.8
418.00	PURIFICATION EQUIPMENT	31-S5	(25)	3,749,595	-	937,399	118,455	3.16	12.3
TOTAL GATHERING PLANT				3,889,174	0	951,785	121,877	3.13	
TRANSMISSION PLANT									
461.00	LAND RIGHTS								
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS								
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS								
465.00	MAINS	65-R4	(20)	1,741,015	-	348,203	11,568	0.66	30.3
466.00	COMPRESSOR EQUIPMENT	35-R3	(2)	4,412	-	88	7	0.16	12.0
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	428,731	-	30,011	1,088	0.25	29.9
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	5,426	-	-	-	-	13.6
469.00	OTHER TRANSMISSION EQUIPMENT								
TOTAL TRANSMISSION PLANT				2,179,584	0	378,302	12,663	0.58	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	2,011	-	-	-	-	41.9
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	340,781	-	34,078	2,010	0.59	21.1
473.00	SERVICES	50-R4	(60)	715,093	-	429,056	20,009	2.79	23.3
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	286,113	-	57,223	6,556	2.29	10.9
475.00	MAINS	65-R4	(25)	1,099,969	-	274,992	8,637	0.79	33.2
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	321,020	-	22,472	1,361	0	24.9
478.00	METERS	20-R4	-	201,562	-	-	-	-	9.2
479.00	OTHER DISTRIBUTION EQUIPMENT								
TOTAL DISTRIBUTION PLANT				2,966,549	0	817,821	38,573	1.30	
GENERAL PLANT									
481.00	LAND RIGHTS								
482.00	STRUCTURES AND EQUIPMENT	30-R5	-	402,312	-	-	-	-	2.0
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	24,026	-	-	-	-	7.2
484.00	TRANSPORTATION EQUIPMENT	8-L3	-	40,077	-	-	-	-	4.6
485.00	HEAVY WORK EQUIPMENT	18-R3	-	117,501	-	-	-	-	14.1
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	83,246	-	-	-	-	12.1
487.00	COMPUTER EQUIPMENT	5-SQ	-	2,675	-	-	-	-	4.5
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	1,795	-	-	-	-	4.5
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				671,631	0	0	0	-	
TOTAL GAS PLANT STUDIED				9,706,938	0	2,147,908	173,113	1.78	
PLANT NOT STUDIED									
410.00	LAND			3,089	-				
460.00	LAND			-	-				
470.00	LAND			-	-				
480.00	LAND			22,896	-				
490.00	COMPUTER SOFTWARE			11,735	10,632				
TOTAL PLANT NOT STUDIED				37,721	10,632				
TOTAL PLANT				9,744,659	10,632				

PACIFIC NORTHERN GAS LTD.
FORT SAINT JOHN & DAWSON CREEK
TABLE 1E-COR SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND
ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016

ACCOUNT	DESCRIPTION	COST OF REMOVAL		SURVIVING ORIGINAL COST AS OF 12/31/2016	BOOKED ACCRUED DEPRECIATION	FUTURE ACCRUALS	ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
		ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT				AMOUNT	RATE (9) = (8)/(5)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
TRANSMISSION PLANT									
461.00	LAND RIGHTS	75-R4	-	459,287	-	-	-	-	70.8
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	(3)	465,045	-	13,951	1,132	0.24	12.4
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	39-R4	(15)	209,355	-	31,404	1,338	0.64	26.7
465.00	MAINS	65-R4	(20)	12,706,666	-	2,541,333	50,221	0.40	54.3
466.00	COMPRESSOR EQUIPMENT			-	-	-	-	-	-
467.00	MEASURING AND REGULATING EQUIPMENT	35-S2.5	(7)	7,728,401	-	540,988	23,510	0.30	26.4
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	149,918	-	-	-	-	2.0
469.00	OTHER TRANSMISSION EQUIPMENT			18,450	-	-	-	-	25.5
TOTAL TRANSMISSION PLANT				21,737,122	0	3,127,676	76,201	0.35	
DISTRIBUTION PLANT									
471.00	LAND RIGHTS	75-R4	-	221,572	-	-	-	-	50.3
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	(10)	2,031,083	-	203,109	13,139	0.65	19.0
473.00	SERVICES	50-R4	(60)	24,895,025	-	14,937,014	433,845	1.74	36.0
474.00	HOUSE REGULATOR AND METER INSTALLS	40-R4	(20)	5,740,830	-	1,148,166	59,583	1.04	23.7
475.00	MAINS	65-R4	(25)	42,425,040	-	10,606,260	214,334	0.51	52.6
477.00	MEASURING AND REGULATING EQUIPMENT	35-R4	(7)	1,735,485	-	121,483	7,202	0.41	23.1
478.00	METERS	20-R4	-	2,678,877	-	-	-	-	9.4
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	19,617	-	-	-	-	16.5
TOTAL DISTRIBUTION PLANT				79,747,528	0	27,016,032	728,103	0.91	
GENERAL PLANT									
481.00	LAND RIGHTS	75-R4	-	1,379	-	-	-	-	54.5
482.00	STRUCTURES AND EQUIPMENT	30-R3	-	2,103,352	-	-	-	-	20.7
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	106,295	-	-	-	-	7.8
484.00	TRANSPORTATION EQUIPMENT	8-L3	-	1,327,532	-	-	-	-	5.2
485.00	HEAVY WORK EQUIPMENT	18-R3	-	1,508,140	-	-	-	-	13.2
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	1,093,131	-	-	-	-	10.0
487.00	COMPUTER EQUIPMENT	5-SQ	-	40,249	-	-	-	-	3.2
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	92,173	-	-	-	-	8.3
489.00	OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT				6,272,250	0	0	0	-	
TOTAL GAS PLANT STUDIED				107,756,900	0	30,143,708	804,304	0.75	
PLANT NOT STUDIED									
410.00	LAND			-	-				
460.00	LAND			10,981	-				
470.00	LAND			47,391	-				
480.00	LAND			76,503	-				
490.00	COMPUTER SOFTWARE			235,647	221,301				
TOTAL PLANT NOT STUDIED				370,522	221,301				
TOTAL PLANT				108,127,422	221,301				

PACIFIC NORTHERN GAS LTD.
TOTAL SYSTEM
TABLE 2 SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND EFFECT ON CALCULATED ANNUAL ACCRUALS
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016
TOTAL LIFE AND NET SALVAGE

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	CURRENT NET SALV. PERCENT	ANNUAL ACCRUAL	LIFE CHANGE ACCRUAL	NS CHANGE ACCRUAL	TOTAL CHANGE ACCRUAL	SURVIVOR CURVE	RECOMMENDED NET SALV. PERCENT	ANNUAL ACCRUALS
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
GATHERING PLANT										
411.00	LAND RIGHTS	75-R4	-	7	-	-	-	75-R4	-	7
412.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R3	-	1,510	-	131	131	30-R3	(3)	1,641
413.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	-	260	-	3,115	3,115	30-R3	(15)	3,375
417.00	MEASURING AND REGULATING EQUIPMENT	25-R2	-	1,137	-	176	176	25-R2	(7)	1,313
418.00	PURIFICATION EQUIPMENT	25-R3	-	72,940	(25,319)	118,455	93,136	31-S5	(25)	166,076
TOTAL GATHERING PLANT				75,854	(25,319)	121,877	96,558			172,412
PROCESSING PLANT										
443.00	GAS HOLDERS - STORAGE	40-SQ	-	824	-	-	-	40-SQ	-	824
449.00	OTHER LOCAL STORAGE EQUIPMENT	33-R3	-	71	-	-	-	33-R3	-	71
TOTAL PROCESSING PLANT				895	-	-	-			895
TRANSMISSION PLANT										
461.00	LAND RIGHTS	75-R4	-	38,549	-	-	-	75-R4	-	38,549
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	-	73,476	-	25,571	25,571	30-R4	(3)	99,047
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	-	25,971	(10,077)	16,129	6,052	39-R4	(15)	32,023
465.00	MAINS	60-R3	-	2,203,188	(207,549)	901,910	694,361	65-R4	(20)	2,897,549
466.00	COMPRESSOR EQUIPMENT	30-R2.5	-	446,978	(113,399)	50,865	(62,534)	35-R3	(2)	384,444
467.00	MEASURING AND REGULATING EQUIPMENT	25-R2	-	577,844	(203,482)	61,425	(142,057)	35-S2.5	(7)	435,787
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	64,389	-	-	-	15-R2	-	64,389
469.00	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	12,775	-	-	-	40-SQ	-	12,775
TOTAL TRANSMISSION PLANT				3,443,170	(534,507)	1,055,900	521,393			3,964,563
DISTRIBUTION PLANT										
471.00	LAND RIGHTS	75-R4	-	4,968	-	-	-	75-R4	-	4,968
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	-	90,327	-	18,125	18,125	30-R3	(10)	108,452
473.00	SERVICES	50-R2.5	-	846,828	48,982	1,081,711	1,130,693	50-R4	(60)	1,977,521
474.00	HOUSE REGULATOR AND METER INSTALLS	30-R2	-	279,718	(90,255)	122,876	32,621	40-R4	(20)	312,339
475.00	MAINS	60-R3	-	1,051,333	(94,361)	440,147	345,786	65-R4	(25)	1,397,119
477.00	MEASURING AND REGULATING EQUIPMENT	20-R3	-	52,884	(32,136)	10,304	(21,832)	35-R4	(7)	31,052
478.00	METERS	25-R2	-	256,663	429,518	(17,276)	412,242	20-R4	1	668,905
479.00	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	1,009	-	-	-	35-SQ	-	1,009
TOTAL DISTRIBUTION PLANT				2,583,730	261,748	1,655,887	1,917,635			4,501,365
GENERAL PLANT										
481.00	LAND RIGHTS	75-R4	-	29	-	-	-	75-R4	-	29
482.00	STRUCTURES AND EQUIPMENT	25-R2	-	268,133	(55,995)	-	(55,995)	30-R3	-	212,138
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	79,230	-	-	-	15-SQ	-	79,230
484.00	TRANSPORTATION EQUIPMENT	7-L1.5	20	361,501	(124,261)	142,540	18,279	8-L3	15	379,780
485.00	HEAVY WORK EQUIPMENT	15-R2	15	195,227	(66,879)	55,646	(11,233)	18-R3	10	183,994
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	271,714	-	-	-	20-SQ	-	271,714
487.00	COMPUTER EQUIPMENT	5-SQ	-	147,007	-	-	-	5-SQ	-	147,007
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	41,226	-	-	-	14-SQ	-	41,226
489.00	OTHER GENERAL EQUIPMENT	20-SQ	-	22	(1)	-	(1)	20-R2.5	-	21
TOTAL GENERAL PLANT				1,364,089	(247,136)	198,186	(48,950)			1,315,139
TOTAL GAS PLANT STUDIED				7,467,738	(545,214)	3,031,850	2,486,636			9,954,374

PACIFIC NORTHERN GAS LTD.
WEST SYSTEM
TABLE 2A SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND EFFECT ON CALCULATED ANNUAL ACCRUALS
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016
TOTAL LIFE AND NET SALVAGE

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	CURRENT NET SALV. PERCENT	ANNUAL ACCRUAL	LIFE CHANGE ACCRUAL	NS CHANGE ACCRUAL	TOTAL CHANGE ACCRUAL	SURVIVOR CURVE	RECOMMENDED NET SALV. PERCENT	ANNUAL ACCRUALS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
PROCESSING PLANT										
443.00	GAS HOLDERS - STORAGE	40-SQ	-	824	-	-	-	40-SQ	-	824
449.00	OTHER LOCAL STORAGE EQUIPMENT	33-R3	-	71	-	-	-	33-R3	-	71
TOTAL PROCESSING PLANT				895	0	0	0			895
TRANSMISSION PLANT										
461.00	461.00 4510 LAND RIGHTS	75-R4	-	32,881	-	-	-	75-R4	-	32,881
462.00	462.00 4510 COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	-	57,291	-	24,439	24,439	30-R4	(3)	81,730
463.00	463.00 4510 MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	-	18,845	(7,732)	14,791	7,059	39-R4	(15)	25,904
465.00	465.00 4510 MAINS	60-R3	-	2,013,497	(191,312)	840,121	648,809	65-R4	(20)	2,662,306
466.00	466.00 4510 COMPRESSOR EQUIPMENT	30-R2.5	-	446,836	(113,363)	50,858	(62,505)	35-R3	(2)	384,331
467.00	467.00 4510 MEASURING AND REGULATING EQUIPMENT	25-R2	-	284,123	(102,169)	36,827	(65,342)	35-S2.5	(7)	218,781
468.00	468.00 4510 COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	62,635	-	-	-	15-R2	-	62,635
469.00	469.00 4510 OTHER TRANSMISSION EQUIPMENT	40-SQ	-	12,327	-	-	-	40-SQ	-	12,327
TOTAL TRANSMISSION PLANT				2,928,435	(414,576)	967,036	552,460			3,480,895
DISTRIBUTION PLANT										
471.00	471.00 4510 LAND RIGHTS	75-R4	-	815	-	-	-	75-R4	-	815
472.00	472.00 4510 STRUCTURES AND IMPROVEMENTS	30-R3	-	10,834	-	2,976	2,976	30-R3	(10)	13,810
473.00	473.00 4510 SERVICES	50-R2.5	-	352,053	27,799	627,857	655,656	50-R4	(60)	1,007,709
474.00	474.00 4510 HOUSE REGULATOR AND METER INSTALLS	30-R2	-	114,569	(38,085)	56,737	18,652	40-R4	(20)	133,221
475.00	475.00 4510 MAINS	60-R3	-	422,754	(39,721)	217,176	177,455	65-R4	(25)	600,209
477.00	477.00 4510 MEASURING AND REGULATING EQUIPMENT	20-R3	-	870	(634)	1,741	1,107	35-R4	(7)	1,977
478.00	478.00 4510 METERS	25-R2	-	140,749	315,558	(12,780)	302,778	20-R4	1	443,527
479.00	479.00 4510 OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	443	-	-	-	35-SQ	-	443
TOTAL DISTRIBUTION PLANT				1,043,087	264,917	893,707	1,158,624			2,201,711
GENERAL PLANT										
481.00	481.00 4510 LAND RIGHTS	75-R4	-	8	-	-	-	75-R4	-	8
482.00	482.00 4510 STRUCTURES AND EQUIPMENT	25-R2	-	194,717	(42,443)	-	(42,443)	30-R3	-	152,274
483.00	483.00 4510 OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	68,237	-	-	-	15-SQ	-	68,237
484.00	484.00 4510 TRANSPORTATION EQUIPMENT	7-L1.5	20	225,109	(80,498)	93,376	12,878	8-L3	15	237,987
485.00	485.00 4510 HEAVY WORK EQUIPMENT	15-R2	15	126,983	(45,881)	40,629	(5,252)	18-R3	10	121,731
486.00	486.00 4510 TOOLS AND WORK EQUIPMENT	20-SQ	-	206,177	-	-	-	20-SQ	-	206,177
487.00	487.00 4510 COMPUTER EQUIPMENT	5-SQ	-	136,505	-	-	-	5-SQ	-	136,505
488.00	488.00 4510 COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	32,704	-	-	-	14-SQ	-	32,704
489.00	OTHER GENERAL EQUIPMENT	20-SQ	-	22	(1)	-	(1)	20-R2.5	-	21
TOTAL GENERAL PLANT				990,462	(168,823)	134,005	(34,818)			955,644
TOTAL GAS PLANT STUDIED				4,962,879	(318,482)	1,994,748	1,676,266			6,639,145

PACIFIC NORTHERN GAS LTD.
FORT SAINT JOHN
TABLE 2B SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND EFFECT ON CALCULATED ANNUAL ACCRUALS
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016
TOTAL LIFE AND NET SALVAGE

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	CURRENT NET SALV. PERCENT	ANNUAL ACCRUAL	LIFE CHANGE ACCRUAL	NS CHANGE ACCRUAL	TOTAL CHANGE ACCRUAL	SURVIVOR CURVE	RECOMMENDED NET SALV. PERCENT	ANNUAL ACCRUALS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
TRANSMISSION PLANT										
461.00	461.00 4513	LAND RIGHTS	75-R4	-	3,181	-	-	75-R4	-	3,181
462.00	462.00 4513	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	-	16,185	-	1,132	30-R4	(3)	17,317
463.00	463.00 4513	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	-	2,818	(1,067)	657	39-R4	(15)	2,408
465.00	465.00 4513	MAINS	60-R3	-	77,700	(6,642)	27,137	65-R4	(20)	98,195
466.00	466.00 4513	COMPRESSOR EQUIPMENT								
467.00	467.00 4513	MEASURING AND REGULATING EQUIPMENT	25-R2	-	182,692	(64,362)	17,102	35-S2.5	(7)	135,432
468.00	468.00 4513	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	1,383	-	-	15-R2	-	1,383
469.00	469.00 4513	OTHER TRANSMISSION EQUIPMENT								
TOTAL TRANSMISSION PLANT					283,959	(72,071)	46,028			257,916
DISTRIBUTION PLANT										
471.00	471.00 4513	LAND RIGHTS	75-R4	-	2,459	-	-	75-R4	-	2,459
472.00	472.00 4513	STRUCTURES AND IMPROVEMENTS	30-R3	-	39,127	-	6,277	30-R3	(10)	45,404
473.00	473.00 4513	SERVICES	50-R2.5	-	329,090	9,939	285,084	50-R4	(60)	624,113
474.00	474.00 4513	HOUSE REGULATOR AND METER INSTALLS	30-R2	-	55,349	(16,566)	18,415	40-R4	(20)	57,198
475.00	475.00 4513	MAINS	60-R3	-	410,553	(35,265)	142,326	65-R4	(25)	517,614
477.00	477.00 4513	MEASURING AND REGULATING EQUIPMENT	20-R3	-	35,703	(20,264)	3,739	35-R4	(7)	19,178
478.00	478.00 4513	METERS	25-R2	-	74,530	55,805	(2,242)	20-R4	1	128,093
479.00	479.00 4513	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	566	-	-	35-SQ	-	566
TOTAL DISTRIBUTION PLANT					947,377	(6,351)	453,599			1,394,625
GENERAL PLANT										
481.00	481.00 4513	LAND RIGHTS	75-R4	-	21	-	-	75-R4	-	21
482.00	482.00 4513	STRUCTURES AND EQUIPMENT	25-R2	-	26,702	(5,658)	-	30-R3	-	21,044
483.00	483.00 4513	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	1,920	-	-	15-SQ	-	1,920
484.00	484.00 4513	TRANSPORTATION EQUIPMENT	7-L1.5	20	57,636	(16,245)	17,391	8-L3	15	58,782
485.00	485.00 4513	HEAVY WORK EQUIPMENT	15-R2	15	9,121	(3,529)	3,305	18-R3	10	8,897
486.00	486.00 4513	TOOLS AND WORK EQUIPMENT	20-SQ	-	27,617	-	-	20-SQ	-	27,617
487.00	487.00 4513	COMPUTER EQUIPMENT	5-SQ	-	2,232	-	-	5-SQ	-	2,232
488.00	488.00 4513	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	2,712	-	-	14-SQ	-	2,712
489.00		OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT					127,961	(25,432)	20,696			123,225
TOTAL GAS PLANT STUDIED					1,359,297	(103,854)	520,323			1,775,766

PACIFIC NORTHERN GAS LTD.
DAWSON CREEK
TABLE 2C SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND EFFECT ON CALCULATED ANNUAL ACCRUALS
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016
TOTAL LIFE AND NET SALVAGE

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	CURRENT NET SALV. PERCENT	ANNUAL ACCRUAL	LIFE CHANGE ACCRUAL	NS CHANGE ACCRUAL	TOTAL CHANGE ACCRUAL	SURVIVOR CURVE	RECOMMENDED NET SALV. PERCENT	ANNUAL ACCRUALS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
TRANSMISSION PLANT										
461.00	LAND RIGHTS	75-R4	-	2,487	-	-	-	75-R4	-	2,487
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS									
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	-	4,308	(1,278)	681	(597)	39-R4	(15)	3,711
465.00	MAINS	60-R3	-	87,534	(7,416)	23,084	15,668	65-R4	(20)	103,202
466.00	COMPRESSOR EQUIPMENT									
467.00	MEASURING AND REGULATING EQUIPMENT	25-R2	-	93,763	(31,351)	6,408	(24,943)	35-S2.5	(7)	68,820
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	-	-	-	-	15-R2	-	-
469.00	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	448	-	-	-	40-SQ	-	448
TOTAL TRANSMISSION PLANT				188,540	(40,045)	30,173	(9,872)			178,668
DISTRIBUTION PLANT										
471.00	LAND RIGHTS	75-R4	-	1,646	-	-	-	75-R4	-	1,646
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	-	28,815	-	6,862	6,862	30-R3	(10)	35,677
473.00	SERVICES	50-R2.5	-	151,968	9,406	148,761	158,167	50-R4	(60)	310,135
474.00	HOUSE REGULATOR AND METER INSTALLS	30-R2	-	105,358	(34,251)	41,168	6,917	40-R4	(20)	112,275
475.00	MAINS	60-R3	-	200,730	(17,839)	72,008	54,169	65-R4	(25)	254,899
477.00	MEASURING AND REGULATING EQUIPMENT	20-R3	-	6,743	(4,923)	3,463	(1,460)	35-R4	(7)	5,283
478.00	METERS	25-R2	-	34,965	50,609	(1,596)	49,013	20-R4	1	83,978
479.00	OTHER DISTRIBUTION EQUIPMENT									
TOTAL DISTRIBUTION PLANT				530,225	3,002	270,666	273,668			803,893
GENERAL PLANT										
481.00	LAND RIGHTS									
482.00	STRUCTURES AND EQUIPMENT	25-R2	-	46,184	(8,539)	-	(8,539)	30-R3	-	37,645
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	7,038	-	-	-	15-SQ	-	7,038
484.00	TRANSPORTATION EQUIPMENT	7-L1.5	20	74,445	(26,299)	30,475	4,176	8-L3	15	78,621
485.00	HEAVY WORK EQUIPMENT	15-R2	15	57,782	(15,978)	9,985	(5,993)	18-R3	10	51,789
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	33,488	-	-	-	20-SQ	-	33,488
487.00	COMPUTER EQUIPMENT	5-SQ	-	7,676	-	-	-	5-SQ	-	7,676
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	5,648	-	-	-	14-SQ	-	5,648
489.00	OTHER GENERAL EQUIPMENT									
TOTAL GENERAL PLANT				232,261	(50,816)	40,460	(10,356)			221,905
TOTAL GAS PLANT STUDIED				951,026	(87,859)	341,299	253,440			1,204,466

PACIFIC NORTHERN GAS LTD.
TUMBLER RIDGE
TABLE 2D SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND EFFECT ON CALCULATED ANNUAL ACCRUALS
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016
TOTAL LIFE AND NET SALVAGE

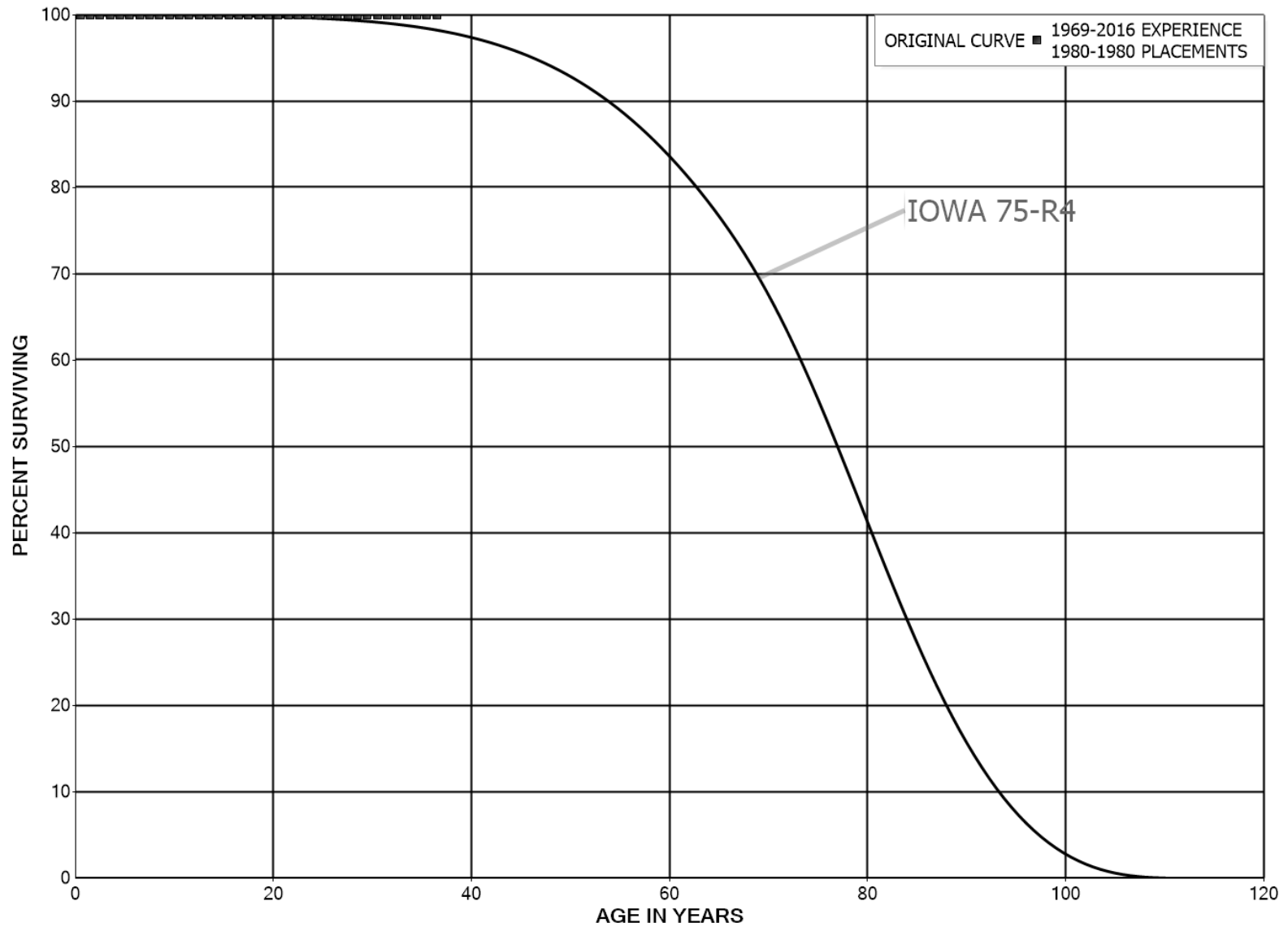
ACCOUNT	DESCRIPTION	SURVIVOR CURVE	CURRENT NET SALV. PERCENT	ANNUAL ACCRUAL	LIFE CHANGE ACCRUAL	NS CHANGE ACCRUAL	TOTAL CHANGE ACCRUAL	SURVIVOR CURVE	RECOMMENDED NET SALV. PERCENT	ANNUAL ACCRUALS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
GATHERING PLANT										
411.00	LAND RIGHTS	75-R4	-	7	-	-	-	75-R4	-	7
412.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R3	-	1,510	-	131	131	30-R3	(3)	1,641
413.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	-	260	-	3,115	3,115	30-R3	(15)	3,375
417.00	MEASURING AND REGULATING EQUIPMENT	25-R2	-	1,137	-	176	176	25-R2	(7)	1,313
418.00	PURIFICATION EQUIPMENT	25-R3	-	72,940	(25,319)	118,455	93,136	31-S5	(25)	166,076
TOTAL GATHERING PLANT				75,854	(25,319)	121,877	96,558			172,412
TRANSMISSION PLANT										
461.00	LAND RIGHTS									
462.00	COMPRESSOR STRUCTURES AND IMPROVEMENTS									
463.00	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS									
465.00	MAINS	60-R3	-	24,457	(2,179)	11,568	9,389	65-R4	(20)	33,846
466.00	COMPRESSOR EQUIPMENT	30-R2.5	-	142	(36)	7	(29)	35-R3	(2)	113
467.00	MEASURING AND REGULATING EQUIPMENT	25-R2	-	17,266	(5,600)	1,088	(4,512)	35-S2.5	(7)	12,754
468.00	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	371	-	-	-	15-R2	-	371
469.00	OTHER TRANSMISSION EQUIPMENT									
TOTAL TRANSMISSION PLANT				42,236	(7,815)	12,663	4,848			47,084
DISTRIBUTION PLANT										
471.00	LAND RIGHTS	75-R4	-	48	-	-	-	75-R4	-	48
472.00	STRUCTURES AND IMPROVEMENTS	30-R3	-	11,551	-	2,010	2,010	30-R3	(10)	13,561
473.00	SERVICES	50-R2.5	-	13,717	1,838	20,009	21,847	50-R4	(60)	35,564
474.00	HOUSE REGULATOR AND METER INSTALLS	30-R2	-	4,442	(1,353)	6,556	5,203	40-R4	(20)	9,645
475.00	MAINS	60-R3	-	17,296	(1,536)	8,637	7,101	65-R4	(25)	24,397
477.00	MEASURING AND REGULATING EQUIPMENT	20-R3	-	9,568	(6,315)	1,361	(4,954)	35-R4	(7)	4,614
478.00	METERS	25-R2	-	6,419	7,546	(658)	6,888	20-R4	1	13,307
479.00	OTHER DISTRIBUTION EQUIPMENT									
TOTAL DISTRIBUTION PLANT				63,041	180	37,915	38,095			101,136
GENERAL PLANT										
481.00	LAND RIGHTS									
482.00	STRUCTURES AND EQUIPMENT	25-R2	-	530	645	-	645	30-R5	-	1,175
483.00	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	2,035	-	-	-	15-SQ	-	2,035
484.00	TRANSPORTATION EQUIPMENT	7-L1.5	20	4,311	(1,219)	1,298	79	8-L3	15	4,390
485.00	HEAVY WORK EQUIPMENT	15-R2	15	1,341	(1,491)	1,727	236	18-R3	10	1,577
486.00	TOOLS AND WORK EQUIPMENT	20-SQ	-	4,432	-	-	-	20-SQ	-	4,432
487.00	COMPUTER EQUIPMENT	5-SQ	-	594	-	-	-	5-SQ	-	594
488.00	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	162	-	-	-	14-SQ	-	162
489.00	OTHER GENERAL EQUIPMENT									
TOTAL GENERAL PLANT				13,405	(2,065)	3,025	960			14,365
TOTAL GAS PLANT STUDIED				194,536	(35,019)	175,480	140,461			334,997

PACIFIC NORTHERN GAS LTD.
FORT SAINT JOHN & DAWSON CREEK
TABLE 2E SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND EFFECT ON CALCULATED ANNUAL ACCRUALS
BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2016
TOTAL LIFE AND NET SALVAGE

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	CURRENT NET SALV. PERCENT	ANNUAL ACCRUAL	LIFE CHANGE ACCRUAL	NS CHANGE ACCRUAL	TOTAL CHANGE ACCRUAL	SURVIVOR CURVE	RECOMMENDED NET SALV. PERCENT	ANNUAL ACCRUALS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
TRANSMISSION PLANT										
461.00	461.00 4513	LAND RIGHTS	75-R4	-	5,668	-	-	75-R4	-	5,668
462.00	462.00 4513	COMPRESSOR STRUCTURES AND IMPROVEMENTS	30-R4	-	16,185	-	1,132	30-R4	(3)	17,317
463.00	463.00 4513	MEASURING AND REGULATING STRUCTURES AND IMPROVEMENTS	30-R3	-	7,126	(2,345)	1,338	39-R4	(15)	6,119
465.00	465.00 4513	MAINS	60-R3	-	165,234	(14,058)	50,221	65-R4	(20)	201,397
466.00	466.00 4513	COMPRESSOR EQUIPMENT		-	-	-	-			-
467.00	467.00 4513	MEASURING AND REGULATING EQUIPMENT	25-R2	-	276,455	(95,713)	23,510	35-S2.5	(7)	204,252
468.00	468.00 4513	COMMUNICATION STRUCTURES AND EQUIPMENT	15-R2	-	1,383	-	-	15-R2	-	1,383
469.00	469.00 4513	OTHER TRANSMISSION EQUIPMENT	40-SQ	-	448	-	-	40-SQ	-	448
TOTAL TRANSMISSION PLANT					472,499	(112,116)	76,201			436,584
DISTRIBUTION PLANT										
471.00	471.00 4513	LAND RIGHTS	75-R4	-	4,105	-	-	75-R4	-	4,105
472.00	472.00 4513	STRUCTURES AND IMPROVEMENTS	30-R3	-	67,942	-	13,139	30-R3	(10)	81,081
473.00	473.00 4513	SERVICES	50-R2.5	-	481,058	19,345	433,845	50-R4	(60)	934,248
474.00	474.00 4513	HOUSE REGULATOR AND METER INSTALLS	30-R2	-	160,707	(50,817)	59,583	40-R4	(20)	169,473
475.00	475.00 4513	MAINS	60-R3	-	611,283	(53,104)	214,334	65-R4	(25)	772,513
477.00	477.00 4513	MEASURING AND REGULATING EQUIPMENT	20-R3	-	42,446	(25,187)	7,202	35-R4	(7)	24,461
478.00	478.00 4513	METERS	25-R2	-	109,495	106,414	(3,838)	20-R4	1	212,071
479.00	479.00 4513	OTHER DISTRIBUTION EQUIPMENT	35-SQ	-	566	-	-	35-SQ	-	566
TOTAL DISTRIBUTION PLANT					1,477,602	(3,349)	724,265			2,198,518
GENERAL PLANT										
481.00	481.00 4513	LAND RIGHTS	75-R4	-	21	-	-	75-R4	-	21
482.00	482.00 4513	STRUCTURES AND EQUIPMENT	25-R2	-	72,886	(14,197)	-	30-R3	-	58,689
483.00	483.00 4513	OFFICE FURNITURE AND EQUIPMENT	15-SQ	-	8,958	-	-	15-SQ	-	8,958
484.00	484.00 4513	TRANSPORTATION EQUIPMENT	7-L1.5	20	132,081	(42,544)	47,866	8-L3	15	137,403
485.00	485.00 4513	HEAVY WORK EQUIPMENT	15-R2	15	66,903	(19,507)	13,290	18-R3	10	60,686
486.00	486.00 4513	TOOLS AND WORK EQUIPMENT	20-SQ	-	61,105	-	-	20-SQ	-	61,105
487.00	487.00 4513	COMPUTER EQUIPMENT	5-SQ	-	9,908	-	-	5-SQ	-	9,908
488.00	488.00 4513	COMMUNICATION STRUCTURES AND EQUIPMENT	14-SQ	-	8,360	-	-	14-SQ	-	8,360
489.00		OTHER GENERAL EQUIPMENT								
TOTAL GENERAL PLANT					360,222	(76,248)	61,156			345,130
TOTAL GAS PLANT STUDIED					2,310,323	(191,713)	861,622			2,980,232

PART V. SERVICE LIFE STATISTICS

PACIFIC NORTHERN GAS LTD.
ACCOUNT 411.00 - GATHERING PLANT - LAND RIGHTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 411.00 - GATHERING PLANT - LAND RIGHTS

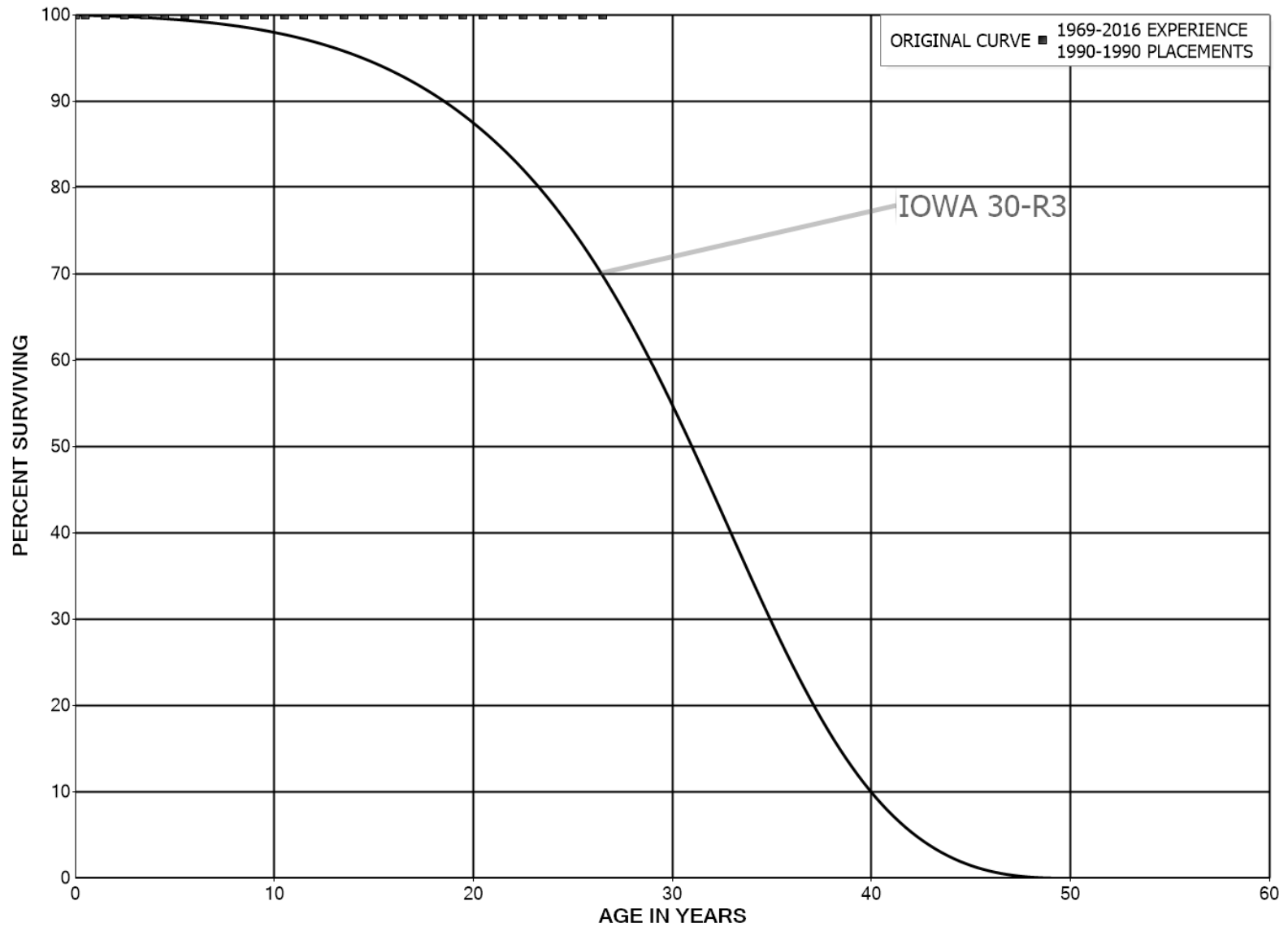
ORIGINAL LIFE TABLE

PLACEMENT BAND 1980-1980

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	275		0.0000	1.0000	100.00
0.5	275		0.0000	1.0000	100.00
1.5	275		0.0000	1.0000	100.00
2.5	275		0.0000	1.0000	100.00
3.5	275		0.0000	1.0000	100.00
4.5	275		0.0000	1.0000	100.00
5.5	275		0.0000	1.0000	100.00
6.5	275		0.0000	1.0000	100.00
7.5	275		0.0000	1.0000	100.00
8.5	275		0.0000	1.0000	100.00
9.5	275		0.0000	1.0000	100.00
10.5	275		0.0000	1.0000	100.00
11.5	275		0.0000	1.0000	100.00
12.5	275		0.0000	1.0000	100.00
13.5	275		0.0000	1.0000	100.00
14.5	275		0.0000	1.0000	100.00
15.5	275		0.0000	1.0000	100.00
16.5	275		0.0000	1.0000	100.00
17.5	275		0.0000	1.0000	100.00
18.5	275		0.0000	1.0000	100.00
19.5	275		0.0000	1.0000	100.00
20.5	275		0.0000	1.0000	100.00
21.5	275		0.0000	1.0000	100.00
22.5	275		0.0000	1.0000	100.00
23.5	275		0.0000	1.0000	100.00
24.5	275		0.0000	1.0000	100.00
25.5	275		0.0000	1.0000	100.00
26.5	275		0.0000	1.0000	100.00
27.5	275		0.0000	1.0000	100.00
28.5	275		0.0000	1.0000	100.00
29.5	275		0.0000	1.0000	100.00
30.5	275		0.0000	1.0000	100.00
31.5	275		0.0000	1.0000	100.00
32.5	275		0.0000	1.0000	100.00
33.5	275		0.0000	1.0000	100.00
34.5	275		0.0000	1.0000	100.00
35.5	275		0.0000	1.0000	100.00
36.5					100.00

PACIFIC NORTHERN GAS LTD.
ACCOUNT 412.00 - GATHERING PLANT - COMPRESSOR STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 412.00 - GATHERING PLANT - COMPRESSOR STRUCTURES AND IMPROVEMENTS

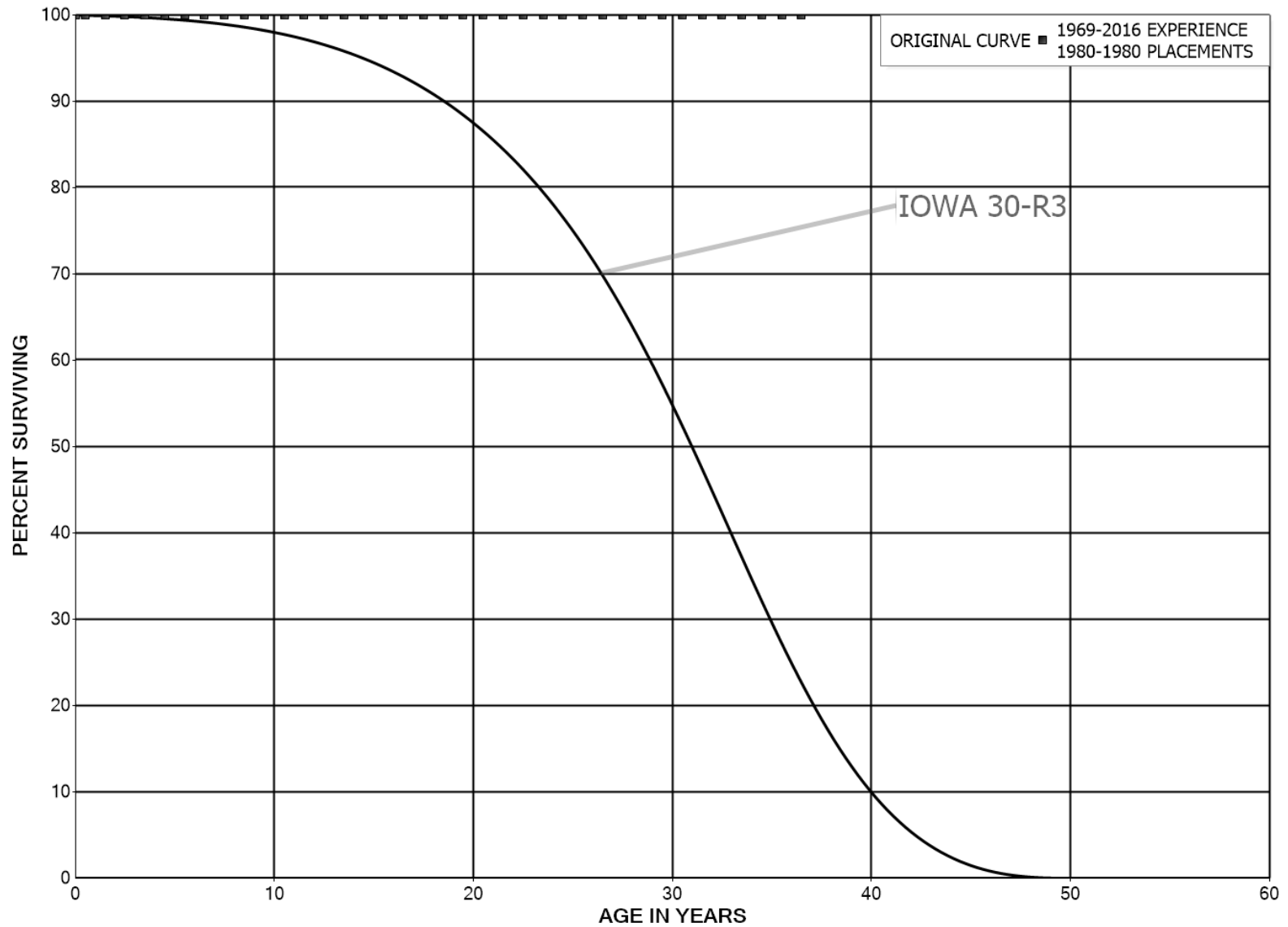
ORIGINAL LIFE TABLE

PLACEMENT BAND 1990-1990

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	34,443		0.0000	1.0000	100.00
0.5	34,443		0.0000	1.0000	100.00
1.5	34,443		0.0000	1.0000	100.00
2.5	34,443		0.0000	1.0000	100.00
3.5	34,443		0.0000	1.0000	100.00
4.5	34,443		0.0000	1.0000	100.00
5.5	34,443		0.0000	1.0000	100.00
6.5	34,443		0.0000	1.0000	100.00
7.5	34,443		0.0000	1.0000	100.00
8.5	34,443		0.0000	1.0000	100.00
9.5	34,443		0.0000	1.0000	100.00
10.5	34,443		0.0000	1.0000	100.00
11.5	34,443		0.0000	1.0000	100.00
12.5	34,443		0.0000	1.0000	100.00
13.5	34,443		0.0000	1.0000	100.00
14.5	34,443		0.0000	1.0000	100.00
15.5	34,443		0.0000	1.0000	100.00
16.5	34,443		0.0000	1.0000	100.00
17.5	34,443		0.0000	1.0000	100.00
18.5	34,443		0.0000	1.0000	100.00
19.5	34,443		0.0000	1.0000	100.00
20.5	34,443		0.0000	1.0000	100.00
21.5	34,443		0.0000	1.0000	100.00
22.5	34,443		0.0000	1.0000	100.00
23.5	34,443		0.0000	1.0000	100.00
24.5	34,443		0.0000	1.0000	100.00
25.5	34,443		0.0000	1.0000	100.00
26.5					100.00

PACIFIC NORTHERN GAS LTD.
ACCOUNT 413.00 - GATHERING PLANT - MEASURING AND REGULATING STRUCTURES
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 413.00 - GATHERING PLANT - MEASURING AND REGULATING STRUCTURES

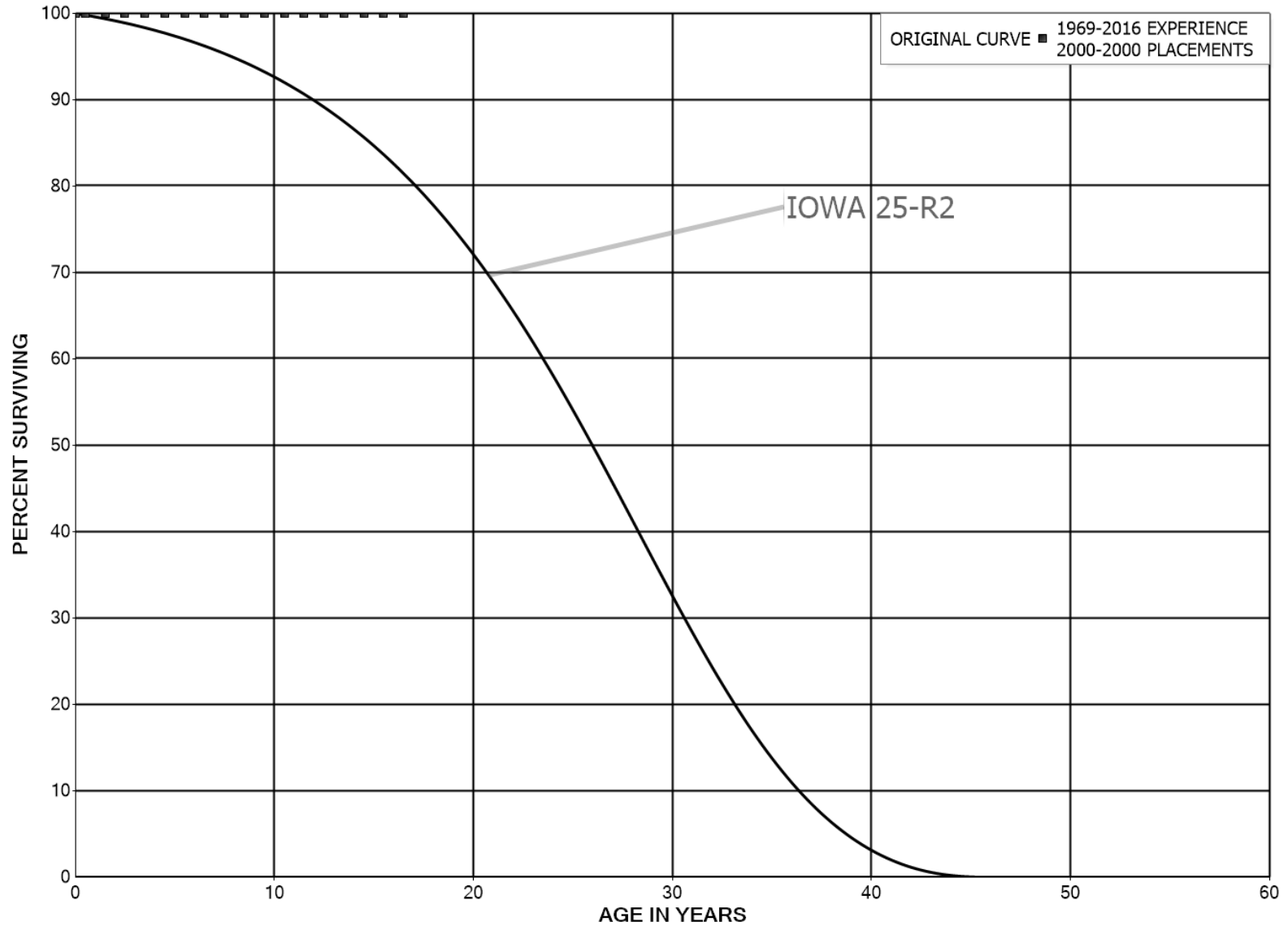
ORIGINAL LIFE TABLE

PLACEMENT BAND 1980-1980

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	75,160		0.0000	1.0000	100.00
0.5	75,160		0.0000	1.0000	100.00
1.5	75,160		0.0000	1.0000	100.00
2.5	75,160		0.0000	1.0000	100.00
3.5	75,160		0.0000	1.0000	100.00
4.5	75,160		0.0000	1.0000	100.00
5.5	75,160		0.0000	1.0000	100.00
6.5	75,160		0.0000	1.0000	100.00
7.5	75,160		0.0000	1.0000	100.00
8.5	75,160		0.0000	1.0000	100.00
9.5	75,160		0.0000	1.0000	100.00
10.5	75,160		0.0000	1.0000	100.00
11.5	75,160		0.0000	1.0000	100.00
12.5	75,160		0.0000	1.0000	100.00
13.5	75,160		0.0000	1.0000	100.00
14.5	75,160		0.0000	1.0000	100.00
15.5	75,160		0.0000	1.0000	100.00
16.5	75,160		0.0000	1.0000	100.00
17.5	75,160		0.0000	1.0000	100.00
18.5	75,160		0.0000	1.0000	100.00
19.5	75,160		0.0000	1.0000	100.00
20.5	75,160		0.0000	1.0000	100.00
21.5	75,160		0.0000	1.0000	100.00
22.5	75,160		0.0000	1.0000	100.00
23.5	75,160		0.0000	1.0000	100.00
24.5	75,160		0.0000	1.0000	100.00
25.5	75,160		0.0000	1.0000	100.00
26.5	75,160		0.0000	1.0000	100.00
27.5	75,160		0.0000	1.0000	100.00
28.5	75,160		0.0000	1.0000	100.00
29.5	75,160		0.0000	1.0000	100.00
30.5	75,160		0.0000	1.0000	100.00
31.5	75,160		0.0000	1.0000	100.00
32.5	75,160		0.0000	1.0000	100.00
33.5	75,160		0.0000	1.0000	100.00
34.5	75,160		0.0000	1.0000	100.00
35.5	75,160		0.0000	1.0000	100.00
36.5					100.00

PACIFIC NORTHERN GAS LTD.
ACCOUNT 417.00 - GATHERING PLANT - MEASURING AND REGULATING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 417.00 - GATHERING PLANT - MEASURING AND REGULATING EQUIPMENT

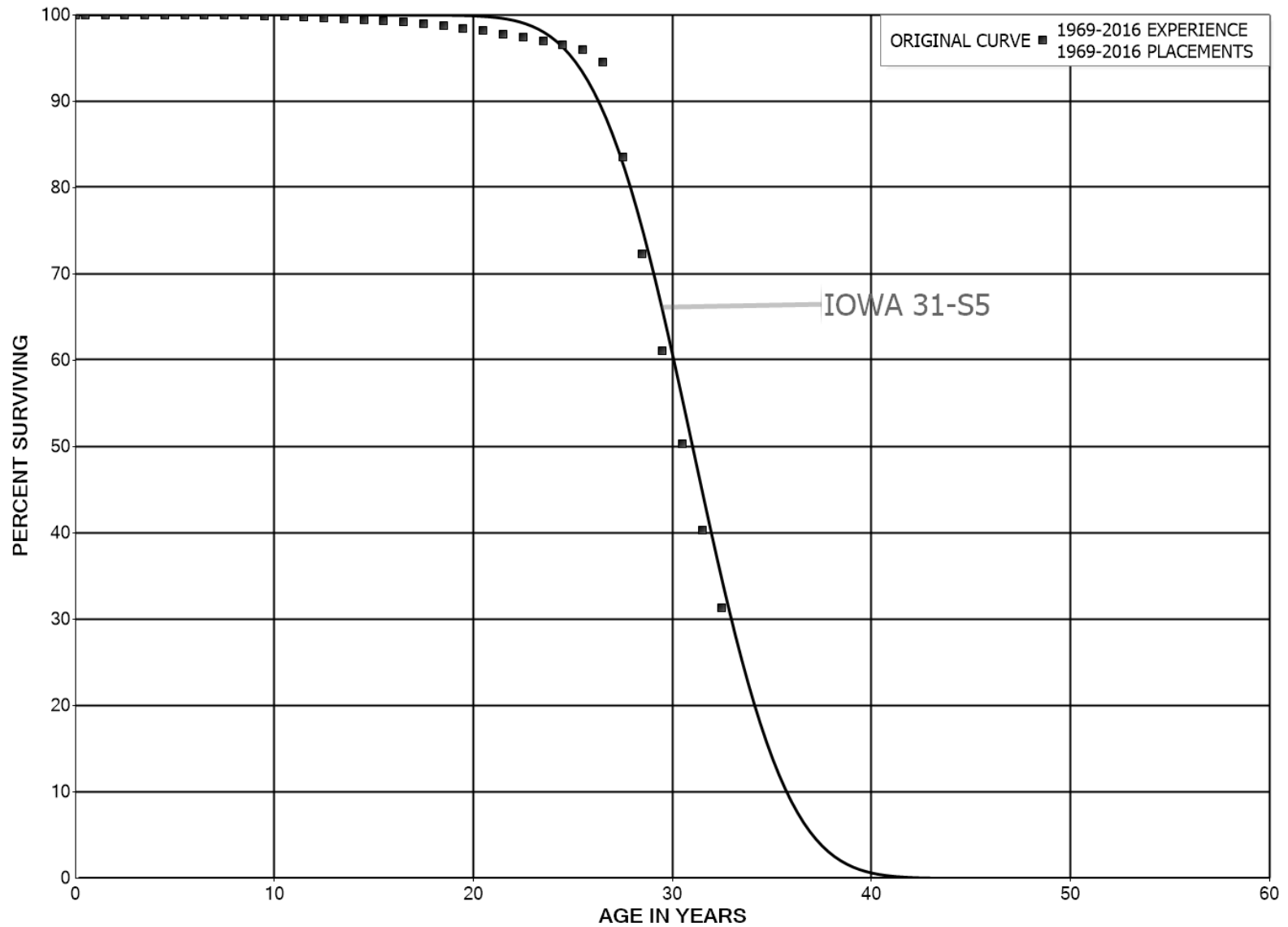
ORIGINAL LIFE TABLE

PLACEMENT BAND 2000-2000

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	29,701		0.0000	1.0000	100.00
0.5	29,701		0.0000	1.0000	100.00
1.5	29,701		0.0000	1.0000	100.00
2.5	29,701		0.0000	1.0000	100.00
3.5	29,701		0.0000	1.0000	100.00
4.5	29,701		0.0000	1.0000	100.00
5.5	29,701		0.0000	1.0000	100.00
6.5	29,701		0.0000	1.0000	100.00
7.5	29,701		0.0000	1.0000	100.00
8.5	29,701		0.0000	1.0000	100.00
9.5	29,701		0.0000	1.0000	100.00
10.5	29,701		0.0000	1.0000	100.00
11.5	29,701		0.0000	1.0000	100.00
12.5	29,701		0.0000	1.0000	100.00
13.5	29,701		0.0000	1.0000	100.00
14.5	29,701		0.0000	1.0000	100.00
15.5	29,701		0.0000	1.0000	100.00
16.5					100.00

PACIFIC NORTHERN GAS LTD.
ACCOUNT 418.00 - GATHERING PLANT - PURIFICATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 418.00 - GATHERING PLANT - PURIFICATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	4,004,510		0.0000	1.0000	100.00
0.5	3,816,047	77	0.0000	1.0000	100.00
1.5	3,815,970	195	0.0001	0.9999	100.00
2.5	3,793,038	266	0.0001	0.9999	99.99
3.5	3,792,772	357	0.0001	0.9999	99.99
4.5	3,700,866	470	0.0001	0.9999	99.98
5.5	3,502,465	609	0.0002	0.9998	99.96
6.5	3,228,570	777	0.0002	0.9998	99.95
7.5	3,071,444	978	0.0003	0.9997	99.92
8.5	2,973,067	1,216	0.0004	0.9996	99.89
9.5	2,860,775	1,493	0.0005	0.9995	99.85
10.5	2,798,843	1,812	0.0006	0.9994	99.80
11.5	2,684,696	2,175	0.0008	0.9992	99.73
12.5	2,602,336	2,587	0.0010	0.9990	99.65
13.5	2,558,644	3,051	0.0012	0.9988	99.55
14.5	2,514,121	3,570	0.0014	0.9986	99.43
15.5	2,426,048	4,150	0.0017	0.9983	99.29
16.5	2,362,786	4,798	0.0020	0.9980	99.12
17.5	2,357,988	5,524	0.0023	0.9977	98.92
18.5	2,352,464	6,333	0.0027	0.9973	98.69
19.5	2,346,131	7,231	0.0031	0.9969	98.42
20.5	2,338,900	8,221	0.0035	0.9965	98.12
21.5	2,330,679	9,288	0.0040	0.9960	97.78
22.5	2,321,391	10,408	0.0045	0.9955	97.39
23.5	2,310,983	11,533	0.0050	0.9950	96.95
24.5	2,299,450	12,596	0.0055	0.9945	96.47
25.5	2,286,854	33,509	0.0147	0.9853	95.94
26.5	121,691	14,175	0.1165	0.8835	94.53
27.5	107,516	14,509	0.1349	0.8651	83.52
28.5	93,007	14,403	0.1549	0.8451	72.25
29.5	78,604	13,859	0.1763	0.8237	61.06
30.5	64,745	12,887	0.1990	0.8010	50.30
31.5	51,858	11,560	0.2229	0.7771	40.28
32.5	40,298	9,998	0.2481	0.7519	31.30
33.5	30,300	8,340	0.2752	0.7248	23.54
34.5	21,960	6,716	0.3058	0.6942	17.06
35.5	15,244	5,219	0.3424	0.6576	11.84
36.5	10,025	3,897	0.3887	0.6113	7.79
37.5	6,128	2,761	0.4506	0.5494	4.76
38.5	3,367	1,806	0.5364	0.4636	2.62

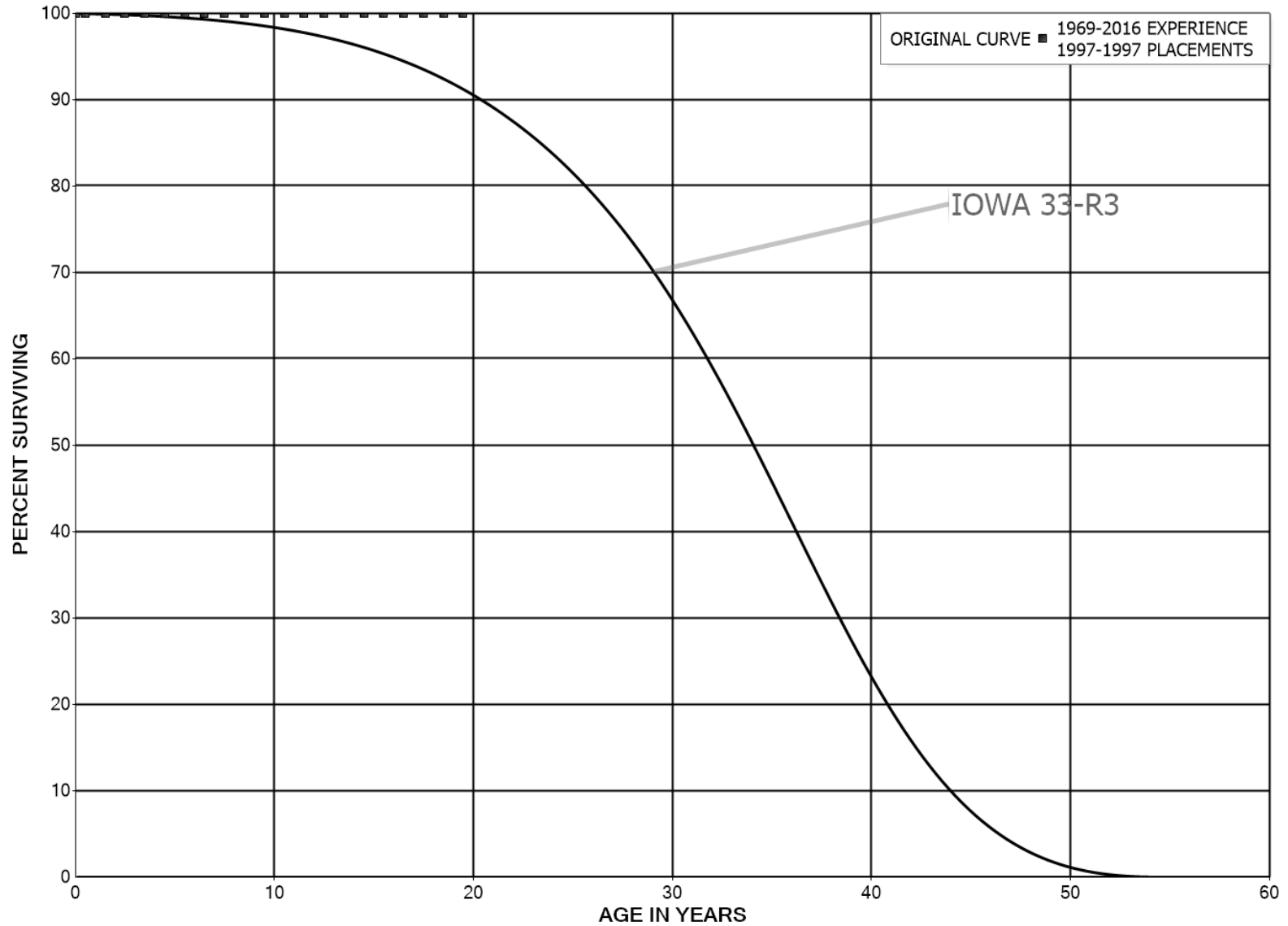
PACIFIC NORTHERN GAS LTD.

ACCOUNT 418.00 - GATHERING PLANT - PURIFICATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016			EXPERIENCE BAND 1969-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,561	1,037	0.6643	0.3357	1.21
40.5	524	474	0.9046	0.0954	0.41
41.5					0.04

PACIFIC NORTHERN GAS LTD.
ACCOUNT 449.00 - PROCESSING PLANT - OTHER LOCAL STORAGE EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 449.00 - PROCESSING PLANT - OTHER LOCAL STORAGE EQUIPMENT

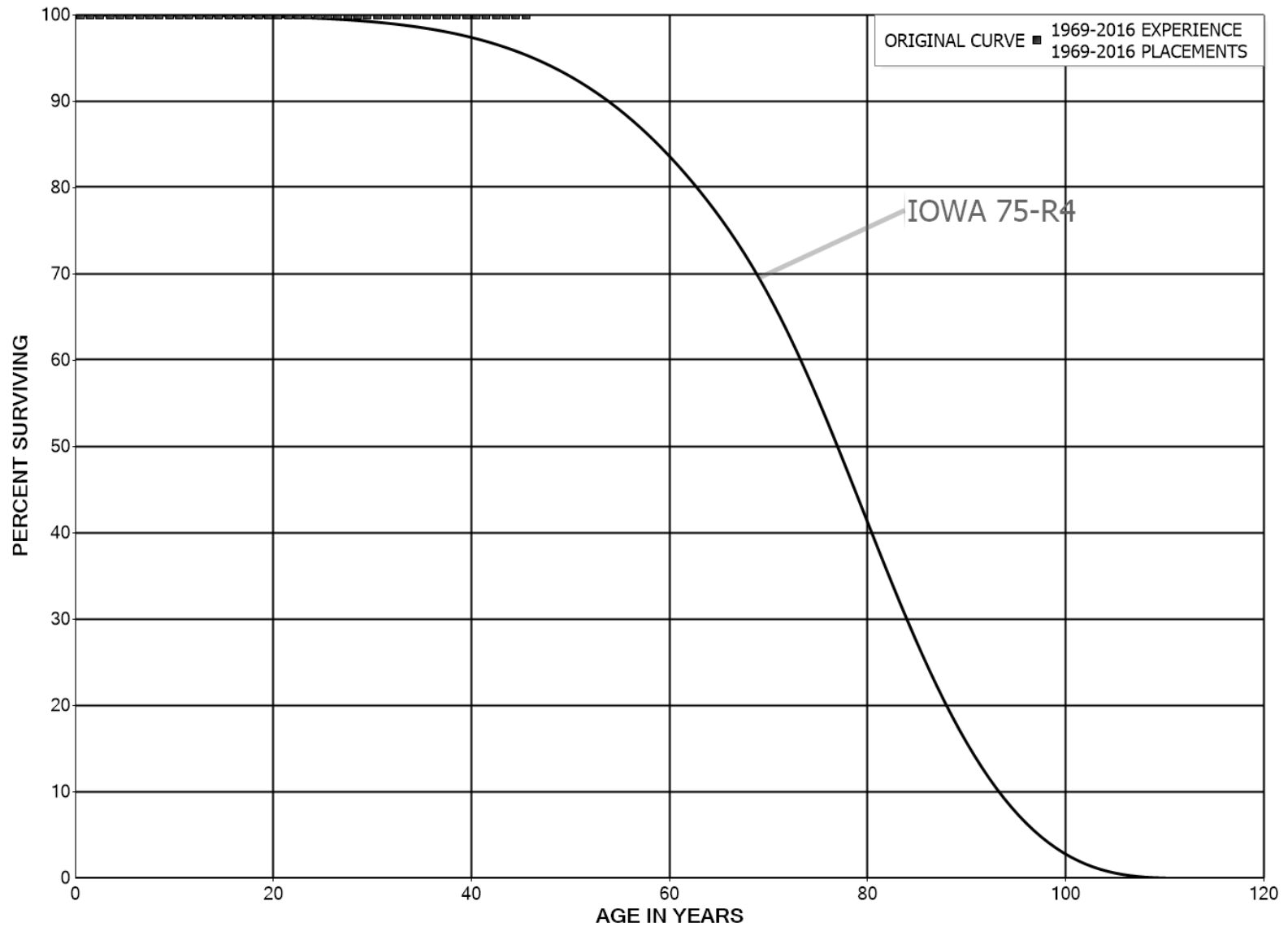
ORIGINAL LIFE TABLE

PLACEMENT BAND 1997-1997

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,200		0.0000	1.0000	100.00
0.5	3,200		0.0000	1.0000	100.00
1.5	3,200		0.0000	1.0000	100.00
2.5	3,200		0.0000	1.0000	100.00
3.5	3,200		0.0000	1.0000	100.00
4.5	3,200		0.0000	1.0000	100.00
5.5	3,200		0.0000	1.0000	100.00
6.5	3,200		0.0000	1.0000	100.00
7.5	3,200		0.0000	1.0000	100.00
8.5	3,200		0.0000	1.0000	100.00
9.5	3,200		0.0000	1.0000	100.00
10.5	3,200		0.0000	1.0000	100.00
11.5	3,200		0.0000	1.0000	100.00
12.5	3,200		0.0000	1.0000	100.00
13.5	3,200		0.0000	1.0000	100.00
14.5	3,200		0.0000	1.0000	100.00
15.5	3,200		0.0000	1.0000	100.00
16.5	3,200		0.0000	1.0000	100.00
17.5	3,200		0.0000	1.0000	100.00
18.5	3,200		0.0000	1.0000	100.00
19.5					100.00

PACIFIC NORTHERN GAS LTD.
ACCOUNT 461.00 - TRANSMISSION - LAND RIGHTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 461.00 - TRANSMISSION - LAND RIGHTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,399,087		0.0000	1.0000	100.00
0.5	1,372,010		0.0000	1.0000	100.00
1.5	1,157,865		0.0000	1.0000	100.00
2.5	1,099,978		0.0000	1.0000	100.00
3.5	1,021,243		0.0000	1.0000	100.00
4.5	1,021,243		0.0000	1.0000	100.00
5.5	1,021,243		0.0000	1.0000	100.00
6.5	1,021,243		0.0000	1.0000	100.00
7.5	1,021,243		0.0000	1.0000	100.00
8.5	1,021,243		0.0000	1.0000	100.00
9.5	1,021,243		0.0000	1.0000	100.00
10.5	1,021,243		0.0000	1.0000	100.00
11.5	1,021,243		0.0000	1.0000	100.00
12.5	1,021,243		0.0000	1.0000	100.00
13.5	1,021,243		0.0000	1.0000	100.00
14.5	1,021,243		0.0000	1.0000	100.00
15.5	1,021,243		0.0000	1.0000	100.00
16.5	1,021,243		0.0000	1.0000	100.00
17.5	1,021,243		0.0000	1.0000	100.00
18.5	1,021,243		0.0000	1.0000	100.00
19.5	1,021,243		0.0000	1.0000	100.00
20.5	950,768		0.0000	1.0000	100.00
21.5	950,768		0.0000	1.0000	100.00
22.5	905,452		0.0000	1.0000	100.00
23.5	892,225		0.0000	1.0000	100.00
24.5	891,784		0.0000	1.0000	100.00
25.5	886,544		0.0000	1.0000	100.00
26.5	822,027		0.0000	1.0000	100.00
27.5	771,957		0.0000	1.0000	100.00
28.5	759,347		0.0000	1.0000	100.00
29.5	729,656		0.0000	1.0000	100.00
30.5	689,706		0.0000	1.0000	100.00
31.5	678,966		0.0000	1.0000	100.00
32.5	666,487		0.0000	1.0000	100.00
33.5	564,965		0.0000	1.0000	100.00
34.5	515,235		0.0000	1.0000	100.00
35.5	207,207		0.0000	1.0000	100.00
36.5	207,087		0.0000	1.0000	100.00
37.5	207,087		0.0000	1.0000	100.00
38.5	205,608		0.0000	1.0000	100.00

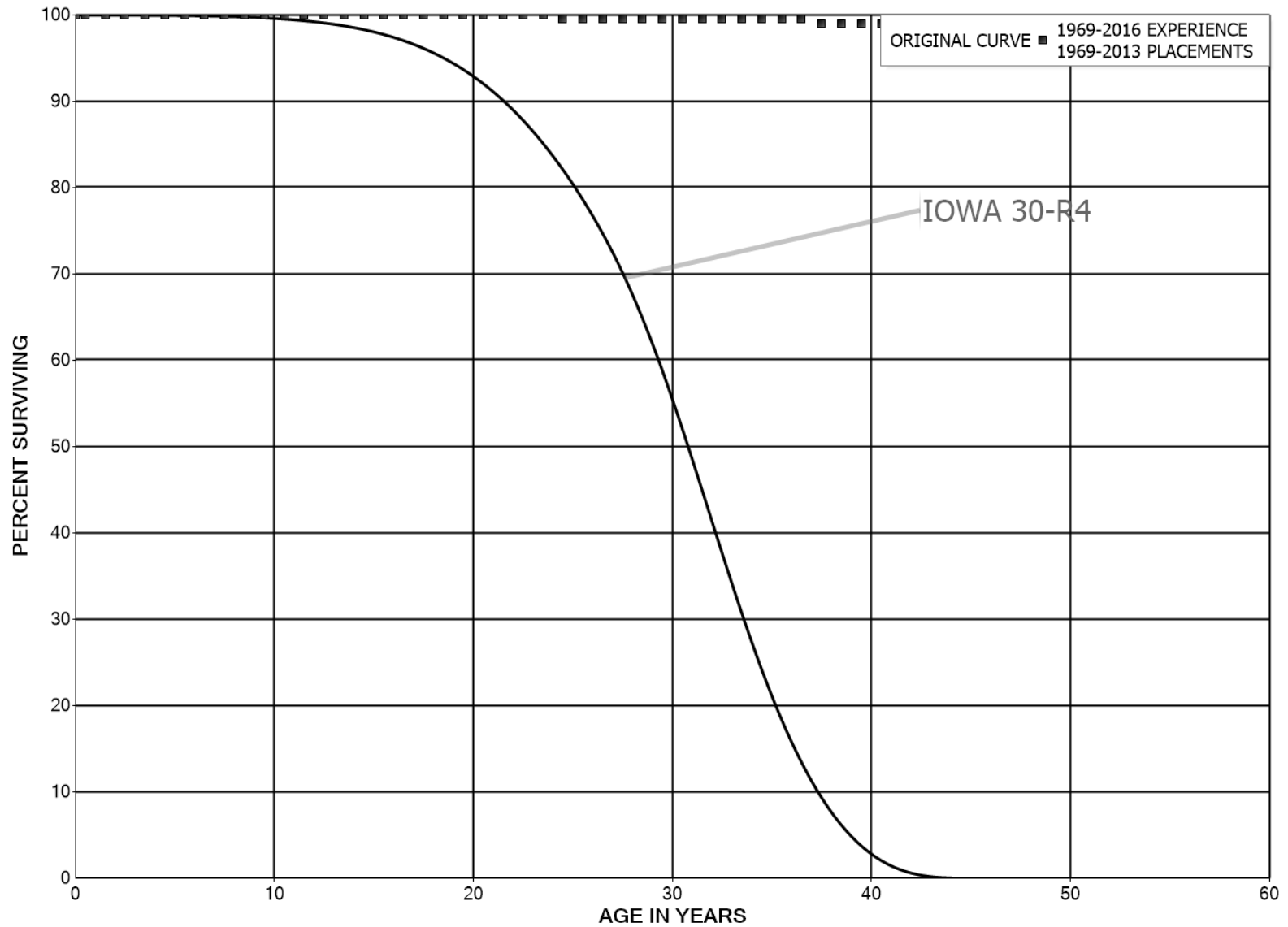
PACIFIC NORTHERN GAS LTD.

ACCOUNT 461.00 - TRANSMISSION - LAND RIGHTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016			EXPERIENCE BAND 1969-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	204,214		0.0000	1.0000	100.00
40.5	194,516		0.0000	1.0000	100.00
41.5	194,196		0.0000	1.0000	100.00
42.5	193,910		0.0000	1.0000	100.00
43.5	188,023		0.0000	1.0000	100.00
44.5	158,275		0.0000	1.0000	100.00
45.5	92,595		0.0000	1.0000	100.00
46.5					100.00

PACIFIC NORTHERN GAS LTD.
ACCOUNT 462.00 - TRANSMISSION - COMPRESSOR STRUCTURES
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 462.00 - TRANSMISSION - COMPRESSOR STRUCTURES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2013

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,377,046	2	0.0000	1.0000	100.00
0.5	3,377,044		0.0000	1.0000	100.00
1.5	3,377,044		0.0000	1.0000	100.00
2.5	3,377,044		0.0000	1.0000	100.00
3.5	3,317,982		0.0000	1.0000	100.00
4.5	3,317,982	41	0.0000	1.0000	100.00
5.5	3,299,053	19	0.0000	1.0000	100.00
6.5	3,299,034		0.0000	1.0000	100.00
7.5	3,293,219		0.0000	1.0000	100.00
8.5	3,288,318		0.0000	1.0000	100.00
9.5	3,273,030		0.0000	1.0000	100.00
10.5	3,173,848		0.0000	1.0000	100.00
11.5	3,092,080	53	0.0000	1.0000	100.00
12.5	3,081,249	35	0.0000	1.0000	100.00
13.5	3,075,826	13	0.0000	1.0000	100.00
14.5	3,075,813	65	0.0000	1.0000	99.99
15.5	3,075,748	46	0.0000	1.0000	99.99
16.5	3,055,965	212	0.0001	0.9999	99.99
17.5	2,846,659	265	0.0001	0.9999	99.98
18.5	2,428,836	117	0.0000	1.0000	99.98
19.5	2,365,085	817	0.0003	0.9997	99.97
20.5	2,337,169	194	0.0001	0.9999	99.94
21.5	2,248,217	453	0.0002	0.9998	99.93
22.5	2,156,495	301	0.0001	0.9999	99.91
23.5	2,019,989	6,777	0.0034	0.9966	99.89
24.5	1,954,673		0.0000	1.0000	99.56
25.5	1,813,068	1	0.0000	1.0000	99.56
26.5	1,788,033	16	0.0000	1.0000	99.56
27.5	1,786,454		0.0000	1.0000	99.56
28.5	1,767,506		0.0000	1.0000	99.56
29.5	1,745,355	5	0.0000	1.0000	99.56
30.5	1,734,196	6	0.0000	1.0000	99.56
31.5	1,719,426	2	0.0000	1.0000	99.56
32.5	1,604,436	27	0.0000	1.0000	99.56
33.5	1,589,399	6	0.0000	1.0000	99.55
34.5	316,822	9	0.0000	1.0000	99.55
35.5	316,813	35	0.0001	0.9999	99.55
36.5	313,047	1,741	0.0056	0.9944	99.54
37.5	311,306		0.0000	1.0000	98.99
38.5	311,306		0.0000	1.0000	98.99

PACIFIC NORTHERN GAS LTD.

ACCOUNT 462.00 - TRANSMISSION - COMPRESSOR STRUCTURES

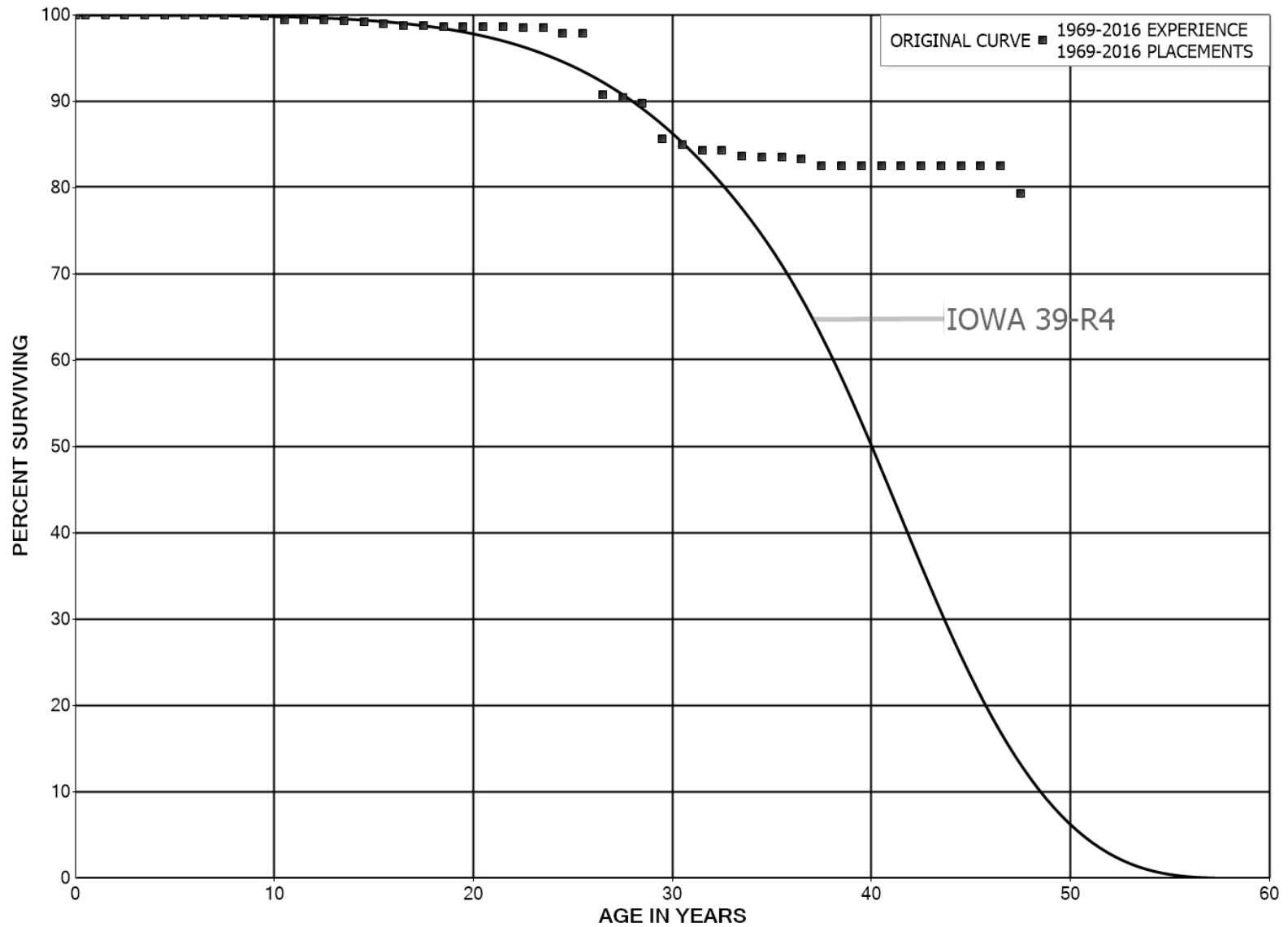
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2013

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	310,712		0.0000	1.0000	98.99
40.5	307,576		0.0000	1.0000	98.99
41.5	306,849		0.0000	1.0000	98.99
42.5	306,265		0.0000	1.0000	98.99
43.5	304,447		0.0000	1.0000	98.99
44.5	302,527		0.0000	1.0000	98.99
45.5	302,527		0.0000	1.0000	98.99
46.5	299,496		0.0000	1.0000	98.99
47.5					98.99

PACIFIC NORTHERN GAS LTD.
ACCOUNT 463.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT - STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 463.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT -
STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,640,306	9	0.0000	1.0000	100.00
0.5	1,560,488	5	0.0000	1.0000	100.00
1.5	1,560,483	4	0.0000	1.0000	100.00
2.5	1,560,479	228	0.0001	0.9999	100.00
3.5	1,560,251	243	0.0002	0.9998	99.98
4.5	1,560,008	422	0.0003	0.9997	99.97
5.5	1,559,586	333	0.0002	0.9998	99.94
6.5	1,559,253	135	0.0001	0.9999	99.92
7.5	1,559,118	68	0.0000	1.0000	99.91
8.5	1,554,400	1,255	0.0008	0.9992	99.91
9.5	1,461,778	6,024	0.0041	0.9959	99.83
10.5	1,451,415	130	0.0001	0.9999	99.42
11.5	1,394,538	750	0.0005	0.9995	99.41
12.5	1,356,758	882	0.0007	0.9993	99.35
13.5	1,295,488	984	0.0008	0.9992	99.29
14.5	1,293,020	4,061	0.0031	0.9969	99.21
15.5	1,288,959	1,837	0.0014	0.9986	98.90
16.5	1,287,122	183	0.0001	0.9999	98.76
17.5	1,278,406	1,166	0.0009	0.9991	98.75
18.5	1,277,240	154	0.0001	0.9999	98.66
19.5	1,277,086	94	0.0001	0.9999	98.64
20.5	1,193,509	391	0.0003	0.9997	98.64
21.5	1,165,056	662	0.0006	0.9994	98.60
22.5	1,143,865	448	0.0004	0.9996	98.55
23.5	1,122,800	7,330	0.0065	0.9935	98.51
24.5	1,033,071	835	0.0008	0.9992	97.87
25.5	957,423	68,957	0.0720	0.9280	97.79
26.5	862,100	3,350	0.0039	0.9961	90.74
27.5	802,048	5,808	0.0072	0.9928	90.39
28.5	569,250	26,072	0.0458	0.9542	89.74
29.5	498,815	3,930	0.0079	0.9921	85.63
30.5	456,625	3,526	0.0077	0.9923	84.95
31.5	376,249	68	0.0002	0.9998	84.30
32.5	347,271	2,843	0.0082	0.9918	84.28
33.5	333,907	170	0.0005	0.9995	83.59
34.5	186,601	174	0.0009	0.9991	83.55
35.5	158,528	409	0.0026	0.9974	83.47
36.5	135,038	1,210	0.0090	0.9910	83.26
37.5	133,828		0.0000	1.0000	82.51
38.5	127,115		0.0000	1.0000	82.51

PACIFIC NORTHERN GAS LTD.

ACCOUNT 463.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT -
STRUCTURES AND IMPROVEMENTS

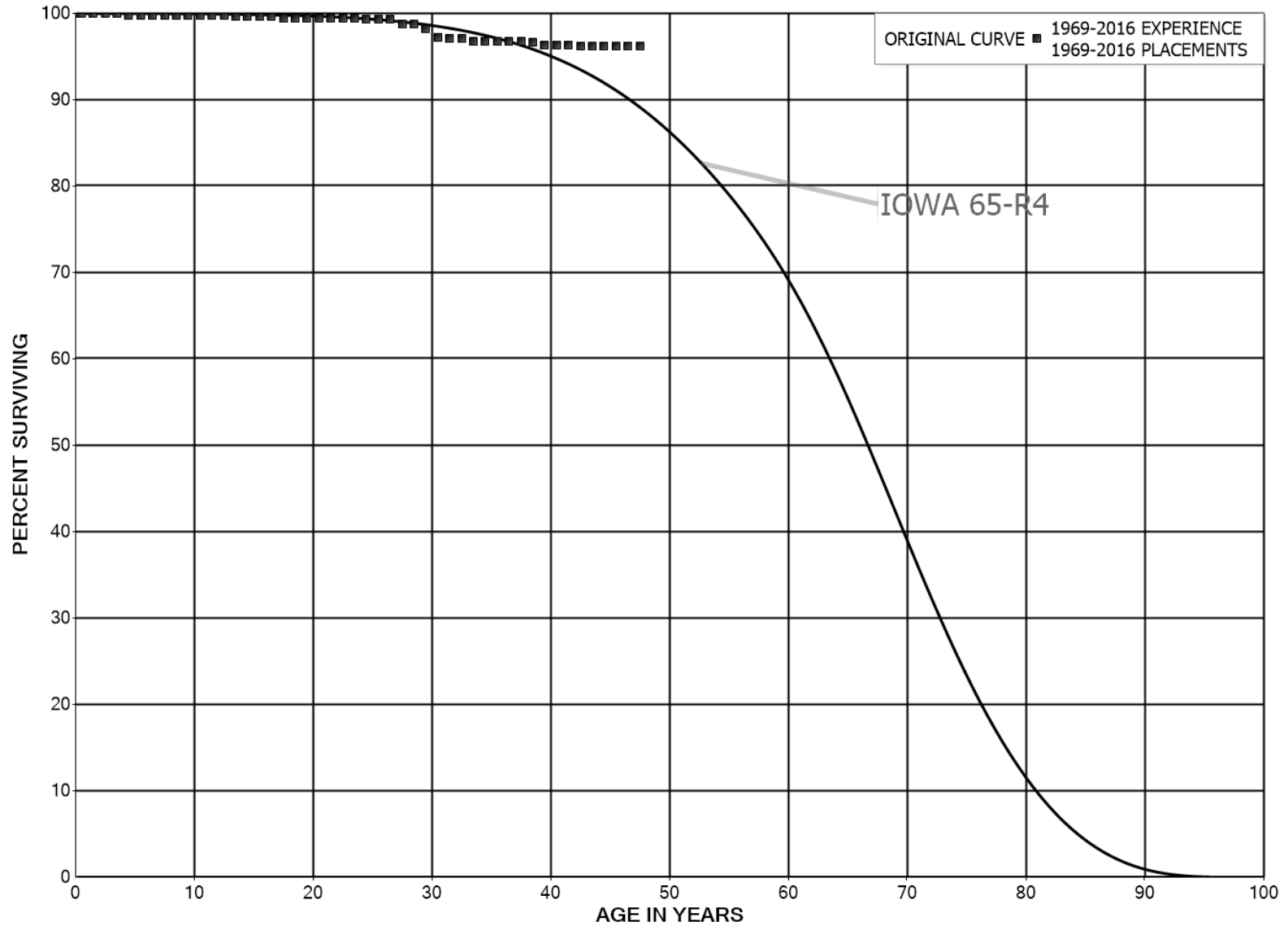
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	124,277		0.0000	1.0000	82.51
40.5	120,835		0.0000	1.0000	82.51
41.5	118,541		0.0000	1.0000	82.51
42.5	118,541		0.0000	1.0000	82.51
43.5	117,733		0.0000	1.0000	82.51
44.5	115,843		0.0000	1.0000	82.51
45.5	110,417		0.0000	1.0000	82.51
46.5	102,412	3,958	0.0386	0.9614	82.51
47.5					79.32

PACIFIC NORTHERN GAS LTD.
ACCOUNT 465.00 - TRANSMISSION - MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 465.00 - TRANSMISSION - MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	172,737,303	426	0.0000	1.0000	100.00
0.5	171,307,112	6,314	0.0000	1.0000	100.00
1.5	167,934,552	5,556	0.0000	1.0000	100.00
2.5	165,423,934	2,268	0.0000	1.0000	99.99
3.5	161,915,007	354,059	0.0022	0.9978	99.99
4.5	159,074,232	12,750	0.0001	0.9999	99.77
5.5	155,494,211	13,801	0.0001	0.9999	99.76
6.5	154,295,559	9,186	0.0001	0.9999	99.76
7.5	151,165,710	17,030	0.0001	0.9999	99.75
8.5	146,233,303	24,072	0.0002	0.9998	99.74
9.5	142,268,171	12,029	0.0001	0.9999	99.72
10.5	138,028,202	16,402	0.0001	0.9999	99.71
11.5	131,090,581	19,110	0.0001	0.9999	99.70
12.5	129,652,048	23,610	0.0002	0.9998	99.69
13.5	128,229,623	6,266	0.0000	1.0000	99.67
14.5	126,072,842	19,754	0.0002	0.9998	99.66
15.5	125,210,257	103,108	0.0008	0.9992	99.65
16.5	122,006,036	166,972	0.0014	0.9986	99.57
17.5	115,782,948	13,756	0.0001	0.9999	99.43
18.5	112,098,106	16,037	0.0001	0.9999	99.42
19.5	110,533,865	33,662	0.0003	0.9997	99.40
20.5	104,770,222	10,627	0.0001	0.9999	99.37
21.5	95,779,468	4,013	0.0000	1.0000	99.36
22.5	86,423,998	7,517	0.0001	0.9999	99.36
23.5	80,118,038	24,055	0.0003	0.9997	99.35
24.5	76,844,554	35,278	0.0005	0.9995	99.32
25.5	74,802,277	9,725	0.0001	0.9999	99.28
26.5	64,960,755	332,704	0.0051	0.9949	99.26
27.5	63,599,006	31,885	0.0005	0.9995	98.75
28.5	59,321,808	308,643	0.0052	0.9948	98.71
29.5	58,115,801	605,662	0.0104	0.9896	98.19
30.5	52,134,307	32,485	0.0006	0.9994	97.17
31.5	51,939,769	20,524	0.0004	0.9996	97.11
32.5	51,111,473	170,464	0.0033	0.9967	97.07
33.5	49,972,944	13,692	0.0003	0.9997	96.75
34.5	25,263,153	4,609	0.0002	0.9998	96.72
35.5	24,648,976	46	0.0000	1.0000	96.70
36.5	22,063,307	4,639	0.0002	0.9998	96.70
37.5	21,006,839	4,905	0.0002	0.9998	96.68
38.5	20,980,067	69,824	0.0033	0.9967	96.66

PACIFIC NORTHERN GAS LTD.

ACCOUNT 465.00 - TRANSMISSION - MAINS

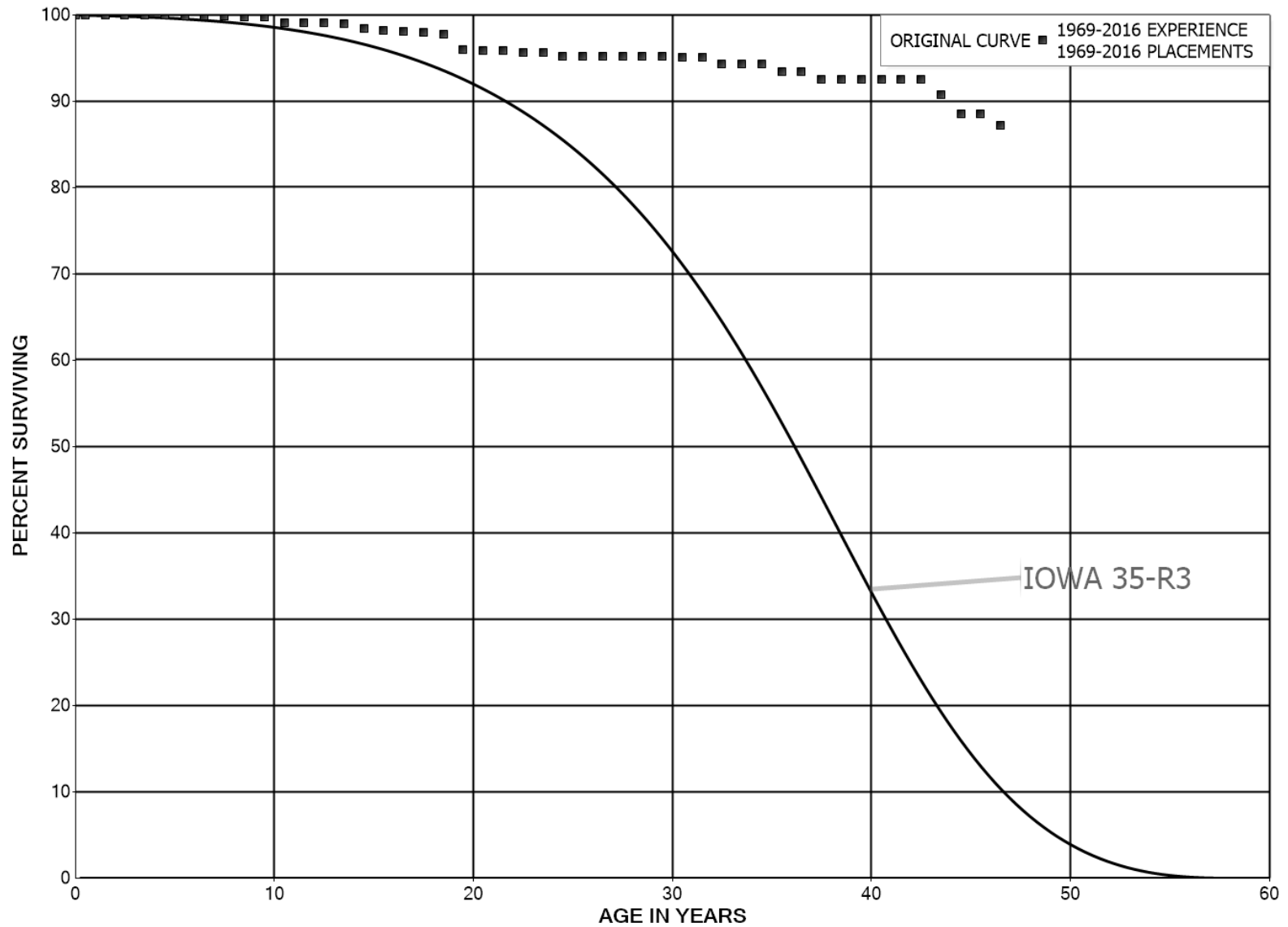
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	20,842,011		0.0000	1.0000	96.34
40.5	20,727,192	19,176	0.0009	0.9991	96.34
41.5	20,425,117	9,783	0.0005	0.9995	96.25
42.5	18,440,399	821	0.0000	1.0000	96.20
43.5	18,394,773	10,154	0.0006	0.9994	96.20
44.5	17,865,251		0.0000	1.0000	96.14
45.5	17,812,106	729	0.0000	1.0000	96.14
46.5	17,380,047		0.0000	1.0000	96.14
47.5					96.14

PACIFIC NORTHERN GAS LTD.
ACCOUNT 466.00 - TRANSMISSION - COMPRESSOR EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 466.00 - TRANSMISSION - COMPRESSOR EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	26,459,022	4,237	0.0002	0.9998	100.00
0.5	26,264,996	1,804	0.0001	0.9999	99.98
1.5	25,753,085	1,860	0.0001	0.9999	99.98
2.5	25,349,357	5,963	0.0002	0.9998	99.97
3.5	24,988,945	10,933	0.0004	0.9996	99.95
4.5	24,816,607	6,929	0.0003	0.9997	99.90
5.5	24,779,046	3,887	0.0002	0.9998	99.87
6.5	24,740,300	18,279	0.0007	0.9993	99.86
7.5	24,705,457	4,856	0.0002	0.9998	99.79
8.5	24,687,776	2,225	0.0001	0.9999	99.77
9.5	24,614,706	157,409	0.0064	0.9936	99.76
10.5	24,429,536	6,644	0.0003	0.9997	99.12
11.5	24,189,594	19,493	0.0008	0.9992	99.09
12.5	23,651,050	22,594	0.0010	0.9990	99.01
13.5	23,362,870	115,370	0.0049	0.9951	98.92
14.5	22,822,784	66,758	0.0029	0.9971	98.43
15.5	22,330,895	16,517	0.0007	0.9993	98.14
16.5	22,064,375	34,103	0.0015	0.9985	98.07
17.5	21,698,439	31,429	0.0014	0.9986	97.92
18.5	21,610,342	406,318	0.0188	0.9812	97.78
19.5	20,523,841	17,709	0.0009	0.9991	95.94
20.5	19,715,411	5,482	0.0003	0.9997	95.85
21.5	19,259,581	47,287	0.0025	0.9975	95.83
22.5	18,699,036	4,066	0.0002	0.9998	95.59
23.5	18,416,770	80,410	0.0044	0.9956	95.57
24.5	18,248,219	2,105	0.0001	0.9999	95.15
25.5	17,612,171	397	0.0000	1.0000	95.14
26.5	17,586,668	911	0.0001	0.9999	95.14
27.5	16,388,324	2,242	0.0001	0.9999	95.14
28.5	16,341,975	348	0.0000	1.0000	95.12
29.5	16,227,715	524	0.0000	1.0000	95.12
30.5	13,226,262	11,149	0.0008	0.9992	95.12
31.5	11,247,727	82,670	0.0073	0.9927	95.04
32.5	10,066,297	182	0.0000	1.0000	94.34
33.5	9,578,193	2,705	0.0003	0.9997	94.34
34.5	827,630	8,234	0.0099	0.9901	94.31
35.5	819,396	169	0.0002	0.9998	93.37
36.5	819,227	7,455	0.0091	0.9909	93.35
37.5	811,772		0.0000	1.0000	92.50
38.5	811,772		0.0000	1.0000	92.50

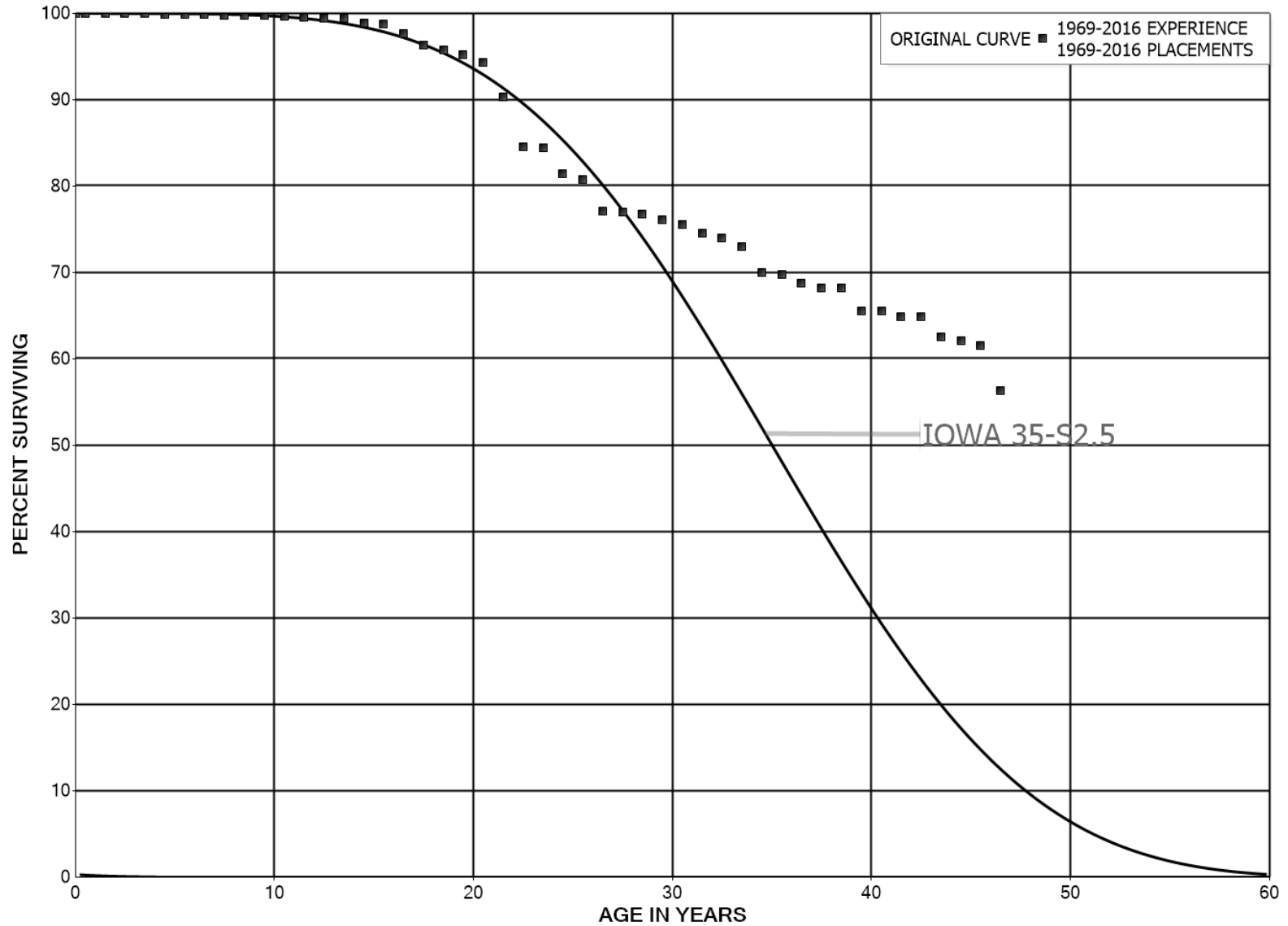
PACIFIC NORTHERN GAS LTD.

ACCOUNT 466.00 - TRANSMISSION - COMPRESSOR EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016			EXPERIENCE BAND 1969-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	811,772		0.0000	1.0000	92.50
40.5	811,772		0.0000	1.0000	92.50
41.5	805,218		0.0000	1.0000	92.50
42.5	802,301	15,000	0.0187	0.9813	92.50
43.5	782,283	19,900	0.0254	0.9746	90.77
44.5	754,468		0.0000	1.0000	88.46
45.5	746,350	11,133	0.0149	0.9851	88.46
46.5	717,052		0.0000	1.0000	87.15
47.5					87.15

PACIFIC NORTHERN GAS LTD.
ACCOUNT 467.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 467.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	19,405,370	409	0.0000	1.0000	100.00
0.5	18,279,774	5,790	0.0003	0.9997	100.00
1.5	17,677,652	3,504	0.0002	0.9998	99.97
2.5	15,497,262	2,317	0.0001	0.9999	99.95
3.5	14,236,543	7,547	0.0005	0.9995	99.93
4.5	13,217,546	7,227	0.0005	0.9995	99.88
5.5	12,568,681	4,577	0.0004	0.9996	99.82
6.5	12,069,786	2,634	0.0002	0.9998	99.79
7.5	10,783,041	5,953	0.0006	0.9994	99.77
8.5	10,321,293	3,104	0.0003	0.9997	99.71
9.5	9,668,531	6,024	0.0006	0.9994	99.68
10.5	9,505,317	16,135	0.0017	0.9983	99.62
11.5	9,271,863	4,537	0.0005	0.9995	99.45
12.5	8,788,564	4,818	0.0005	0.9995	99.40
13.5	8,641,606	41,625	0.0048	0.9952	99.35
14.5	8,563,612	15,335	0.0018	0.9982	98.87
15.5	8,364,175	93,183	0.0111	0.9889	98.69
16.5	8,143,255	112,728	0.0138	0.9862	97.59
17.5	7,561,985	42,589	0.0056	0.9944	96.24
18.5	7,097,829	39,739	0.0056	0.9944	95.70
19.5	6,653,605	58,518	0.0088	0.9912	95.16
20.5	4,595,931	197,063	0.0429	0.9571	94.33
21.5	4,204,097	270,188	0.0643	0.9357	90.28
22.5	3,567,035	6,347	0.0018	0.9982	84.48
23.5	3,274,527	114,373	0.0349	0.9651	84.33
24.5	2,529,619	22,677	0.0090	0.9910	81.38
25.5	2,406,198	110,259	0.0458	0.9542	80.65
26.5	2,118,710	3,541	0.0017	0.9983	76.96
27.5	2,084,961	3,909	0.0019	0.9981	76.83
28.5	1,407,631	13,126	0.0093	0.9907	76.69
29.5	1,229,417	9,853	0.0080	0.9920	75.97
30.5	1,129,534	14,674	0.0130	0.9870	75.36
31.5	1,021,738	8,208	0.0080	0.9920	74.38
32.5	888,293	12,118	0.0136	0.9864	73.78
33.5	868,112	35,569	0.0410	0.9590	72.78
34.5	791,532	3,046	0.0038	0.9962	69.80
35.5	564,904	8,689	0.0154	0.9846	69.53
36.5	503,150	3,562	0.0071	0.9929	68.46
37.5	497,662	496	0.0010	0.9990	67.97
38.5	484,063	19,341	0.0400	0.9600	67.91

PACIFIC NORTHERN GAS LTD.

ACCOUNT 467.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT

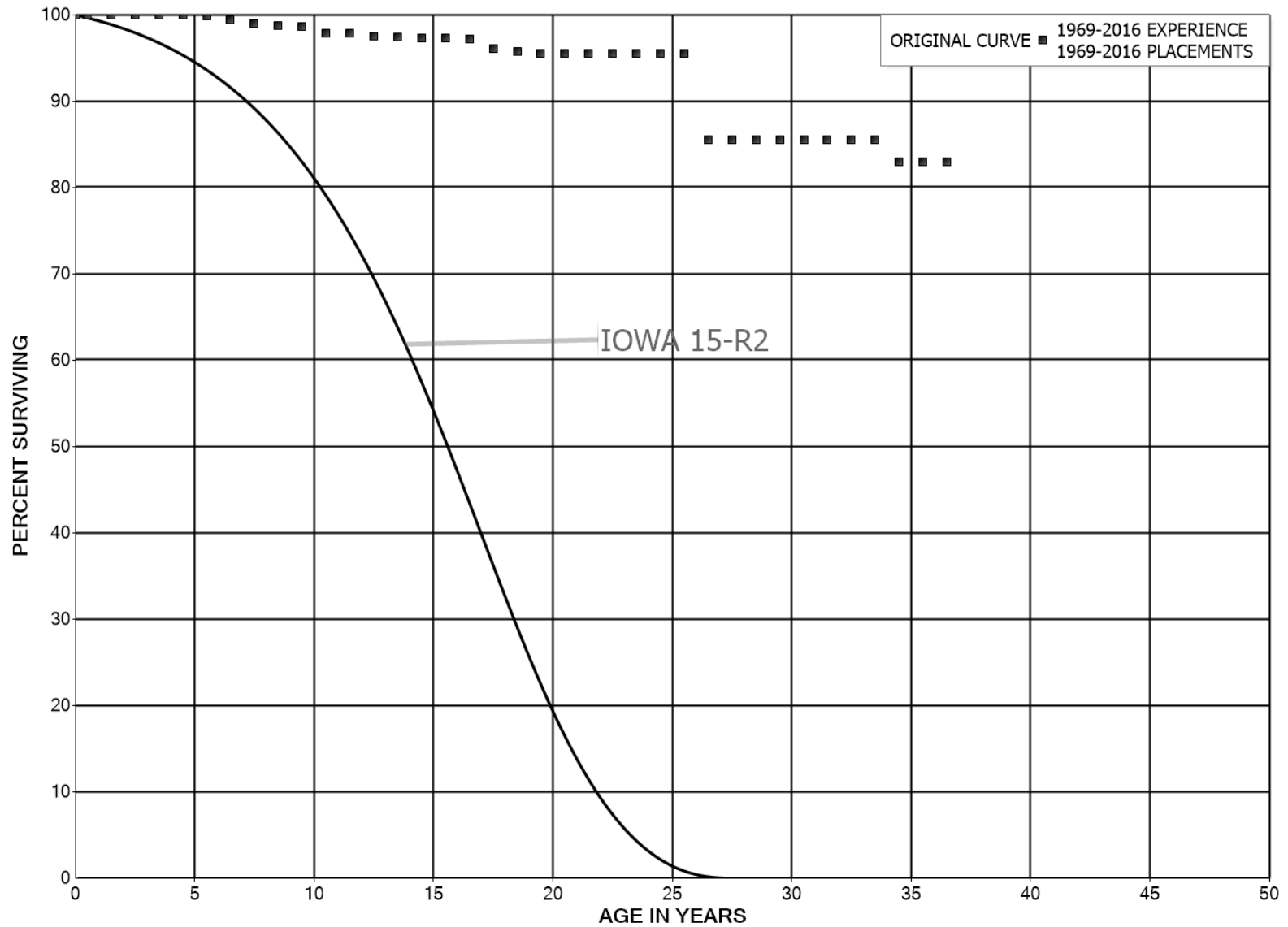
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	462,677		0.0000	1.0000	65.19
40.5	461,869	5,460	0.0118	0.9882	65.19
41.5	433,444		0.0000	1.0000	64.42
42.5	425,286	15,427	0.0363	0.9637	64.42
43.5	380,995	2,951	0.0077	0.9923	62.08
44.5	338,235	3,033	0.0090	0.9910	61.60
45.5	323,351	28,818	0.0891	0.9109	61.05
46.5	202,901	47,820	0.2357	0.7643	55.61
47.5					42.50

PACIFIC NORTHERN GAS LTD.
ACCOUNT 468.00 - TRANSMISSION - COMMUNICATION STRUCTURES AND EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 468.00 - TRANSMISSION - COMMUNICATION STRUCTURES AND EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,630,911		0.0000	1.0000	100.00
0.5	3,596,166		0.0000	1.0000	100.00
1.5	3,590,740	311	0.0001	0.9999	100.00
2.5	3,254,430	1,263	0.0004	0.9996	99.99
3.5	3,251,589	278	0.0001	0.9999	99.95
4.5	3,225,063	3,456	0.0011	0.9989	99.94
5.5	3,221,607	14,044	0.0044	0.9956	99.84
6.5	3,207,563	14,399	0.0045	0.9955	99.40
7.5	3,193,164	7,719	0.0024	0.9976	98.96
8.5	3,180,658	3,194	0.0010	0.9990	98.72
9.5	3,173,285	25,657	0.0081	0.9919	98.62
10.5	3,147,628	645	0.0002	0.9998	97.82
11.5	3,060,978	8,447	0.0028	0.9972	97.80
12.5	2,951,807	4,806	0.0016	0.9984	97.53
13.5	2,898,677	1,167	0.0004	0.9996	97.37
14.5	2,814,860	2,126	0.0008	0.9992	97.33
15.5	2,597,107	2,154	0.0008	0.9992	97.26
16.5	2,480,342	29,739	0.0120	0.9880	97.18
17.5	2,185,136	6,949	0.0032	0.9968	96.01
18.5	2,177,225	5,390	0.0025	0.9975	95.71
19.5	1,251,800		0.0000	1.0000	95.47
20.5	1,211,686		0.0000	1.0000	95.47
21.5	1,197,485		0.0000	1.0000	95.47
22.5	1,135,248		0.0000	1.0000	95.47
23.5	1,135,248		0.0000	1.0000	95.47
24.5	1,109,445		0.0000	1.0000	95.47
25.5	797,103	83,656	0.1050	0.8950	95.47
26.5	555,716		0.0000	1.0000	85.45
27.5	489,919		0.0000	1.0000	85.45
28.5	459,827		0.0000	1.0000	85.45
29.5	445,140		0.0000	1.0000	85.45
30.5	445,140		0.0000	1.0000	85.45
31.5	445,140		0.0000	1.0000	85.45
32.5	433,905		0.0000	1.0000	85.45
33.5	418,930	12,021	0.0287	0.9713	85.45
34.5	64,211		0.0000	1.0000	83.00
35.5	62,621		0.0000	1.0000	83.00
36.5	23,463		0.0000	1.0000	83.00
37.5	23,463		0.0000	1.0000	83.00
38.5	23,463		0.0000	1.0000	83.00

PACIFIC NORTHERN GAS LTD.

ACCOUNT 468.00 - TRANSMISSION - COMMUNICATION STRUCTURES AND EQUIPMENT

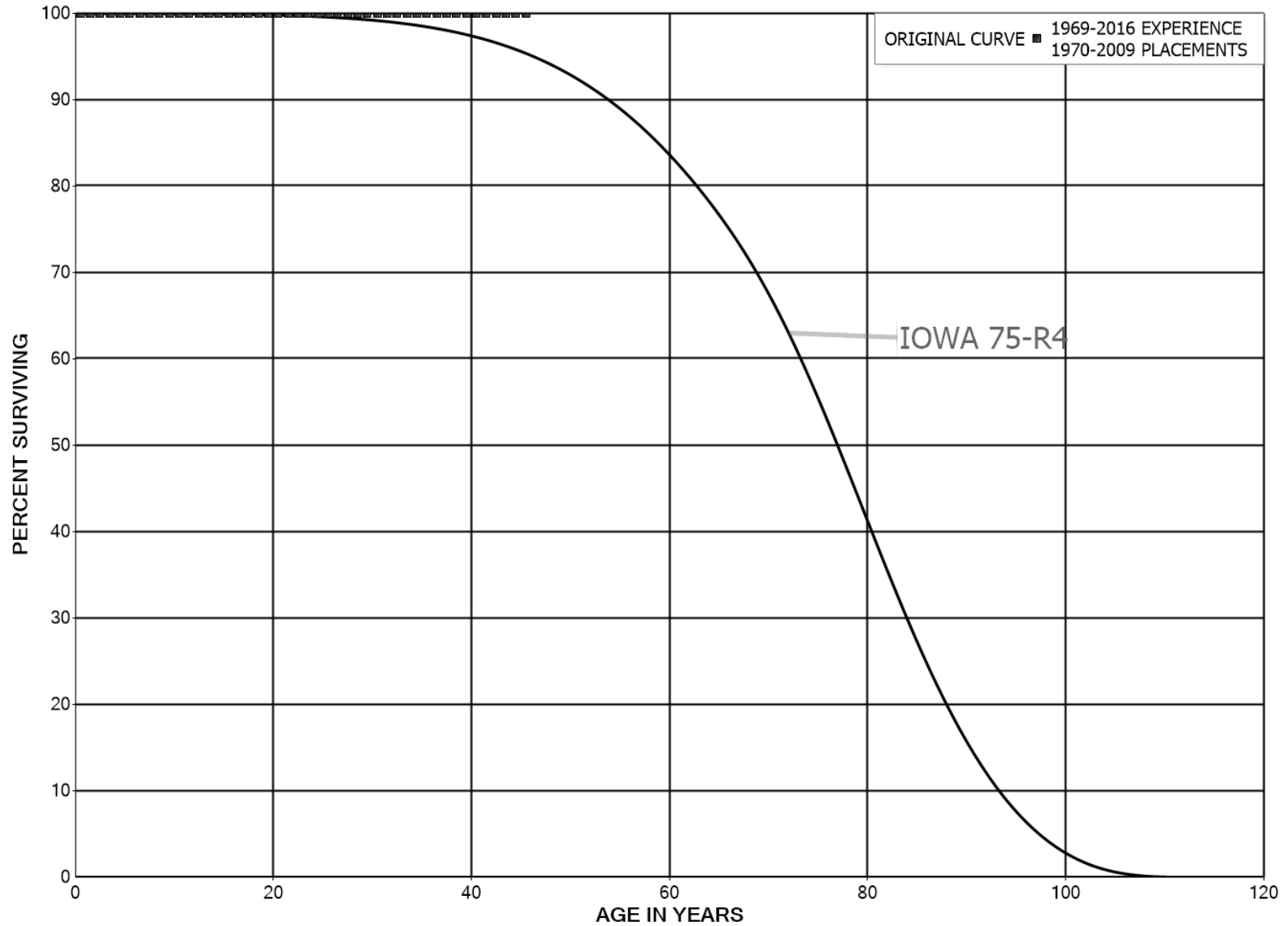
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	23,463		0.0000	1.0000	83.00
40.5	23,463		0.0000	1.0000	83.00
41.5	23,463		0.0000	1.0000	83.00
42.5	23,463		0.0000	1.0000	83.00
43.5	9,782		0.0000	1.0000	83.00
44.5	9,782		0.0000	1.0000	83.00
45.5	9,782		0.0000	1.0000	83.00
46.5	2,373		0.0000	1.0000	83.00
47.5					83.00

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PACIFIC NORTHERN GAS LTD.

ACCOUNT 471.00 - DISTRIBUTION - LAND RIGHTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1970-2009

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	257,861		0.0000	1.0000	100.00
0.5	257,861		0.0000	1.0000	100.00
1.5	257,861		0.0000	1.0000	100.00
2.5	257,861		0.0000	1.0000	100.00
3.5	257,861		0.0000	1.0000	100.00
4.5	257,861		0.0000	1.0000	100.00
5.5	257,861		0.0000	1.0000	100.00
6.5	257,861		0.0000	1.0000	100.00
7.5	255,917		0.0000	1.0000	100.00
8.5	255,917		0.0000	1.0000	100.00
9.5	255,917		0.0000	1.0000	100.00
10.5	255,917		0.0000	1.0000	100.00
11.5	255,917		0.0000	1.0000	100.00
12.5	255,917		0.0000	1.0000	100.00
13.5	255,917		0.0000	1.0000	100.00
14.5	255,917		0.0000	1.0000	100.00
15.5	255,917		0.0000	1.0000	100.00
16.5	255,917		0.0000	1.0000	100.00
17.5	255,917		0.0000	1.0000	100.00
18.5	240,794		0.0000	1.0000	100.00
19.5	238,789		0.0000	1.0000	100.00
20.5	99,240		0.0000	1.0000	100.00
21.5	99,240		0.0000	1.0000	100.00
22.5	99,240		0.0000	1.0000	100.00
23.5	99,240		0.0000	1.0000	100.00
24.5	99,240		0.0000	1.0000	100.00
25.5	97,928		0.0000	1.0000	100.00
26.5	92,658		0.0000	1.0000	100.00
27.5	91,057		0.0000	1.0000	100.00
28.5	90,222		0.0000	1.0000	100.00
29.5	85,696		0.0000	1.0000	100.00
30.5	85,427		0.0000	1.0000	100.00
31.5	84,088		0.0000	1.0000	100.00
32.5	82,533		0.0000	1.0000	100.00
33.5	73,346		0.0000	1.0000	100.00
34.5	71,822		0.0000	1.0000	100.00
35.5	71,395		0.0000	1.0000	100.00
36.5	9,309		0.0000	1.0000	100.00
37.5	9,309		0.0000	1.0000	100.00
38.5	7,446		0.0000	1.0000	100.00

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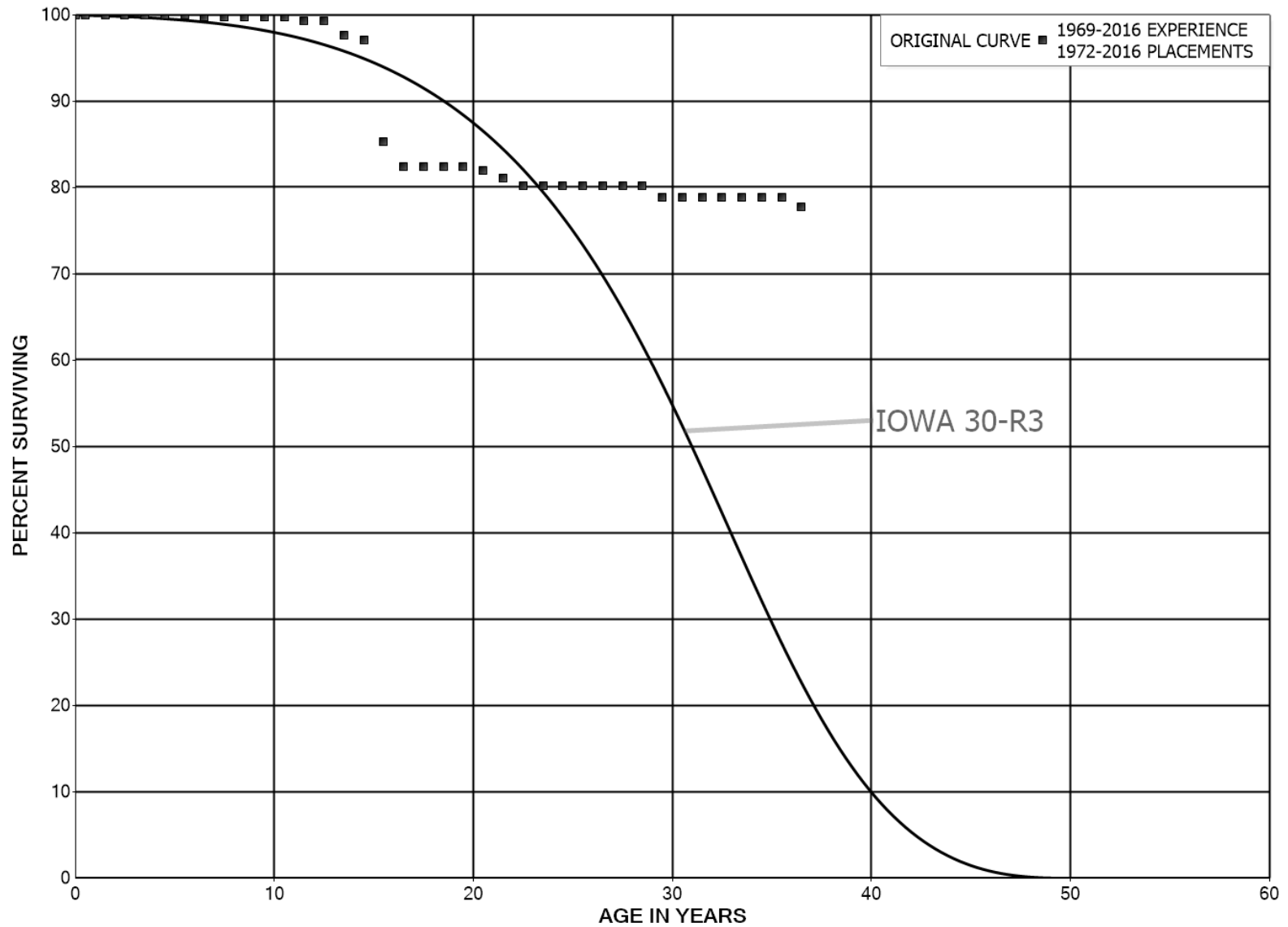
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1970-2009

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	7,145		0.0000	1.0000	100.00
40.5	7,145		0.0000	1.0000	100.00
41.5	7,145		0.0000	1.0000	100.00
42.5	4,371		0.0000	1.0000	100.00
43.5	2,667		0.0000	1.0000	100.00
44.5	2,667		0.0000	1.0000	100.00
45.5	2,547		0.0000	1.0000	100.00
46.5					100.00

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ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 472.00 - DISTRIBUTION - STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1972-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,890,030		0.0000	1.0000	100.00
0.5	2,729,276		0.0000	1.0000	100.00
1.5	2,650,119	22	0.0000	1.0000	100.00
2.5	2,586,874	2	0.0000	1.0000	100.00
3.5	2,506,002		0.0000	1.0000	100.00
4.5	2,355,669		0.0000	1.0000	100.00
5.5	2,195,975	6,972	0.0032	0.9968	100.00
6.5	2,009,870		0.0000	1.0000	99.68
7.5	1,818,050		0.0000	1.0000	99.68
8.5	1,631,740		0.0000	1.0000	99.68
9.5	1,529,202		0.0000	1.0000	99.68
10.5	1,463,405	5,287	0.0036	0.9964	99.68
11.5	1,366,605		0.0000	1.0000	99.32
12.5	1,255,596	21,846	0.0174	0.9826	99.32
13.5	1,070,735	6,356	0.0059	0.9941	97.59
14.5	897,674	108,234	0.1206	0.8794	97.01
15.5	688,804	23,458	0.0341	0.9659	85.32
16.5	338,933		0.0000	1.0000	82.41
17.5	338,933		0.0000	1.0000	82.41
18.5	333,982		0.0000	1.0000	82.41
19.5	322,467	2,000	0.0062	0.9938	82.41
20.5	262,521	2,800	0.0107	0.9893	81.90
21.5	259,721	2,856	0.0110	0.9890	81.03
22.5	256,865		0.0000	1.0000	80.14
23.5	251,871		0.0000	1.0000	80.14
24.5	251,871		0.0000	1.0000	80.14
25.5	245,803		0.0000	1.0000	80.14
26.5	204,464		0.0000	1.0000	80.14
27.5	204,464		0.0000	1.0000	80.14
28.5	183,475	3,000	0.0164	0.9836	80.14
29.5	180,475		0.0000	1.0000	78.83
30.5	158,597		0.0000	1.0000	78.83
31.5	147,809		0.0000	1.0000	78.83
32.5	147,809		0.0000	1.0000	78.83
33.5	147,809		0.0000	1.0000	78.83
34.5	144,781		0.0000	1.0000	78.83
35.5	144,781	2,000	0.0138	0.9862	78.83
36.5	14,715		0.0000	1.0000	77.74
37.5	14,299		0.0000	1.0000	77.74
38.5	14,299		0.0000	1.0000	77.74

PACIFIC NORTHERN GAS LTD.

ACCOUNT 472.00 - DISTRIBUTION - STRUCTURES AND IMPROVEMENTS

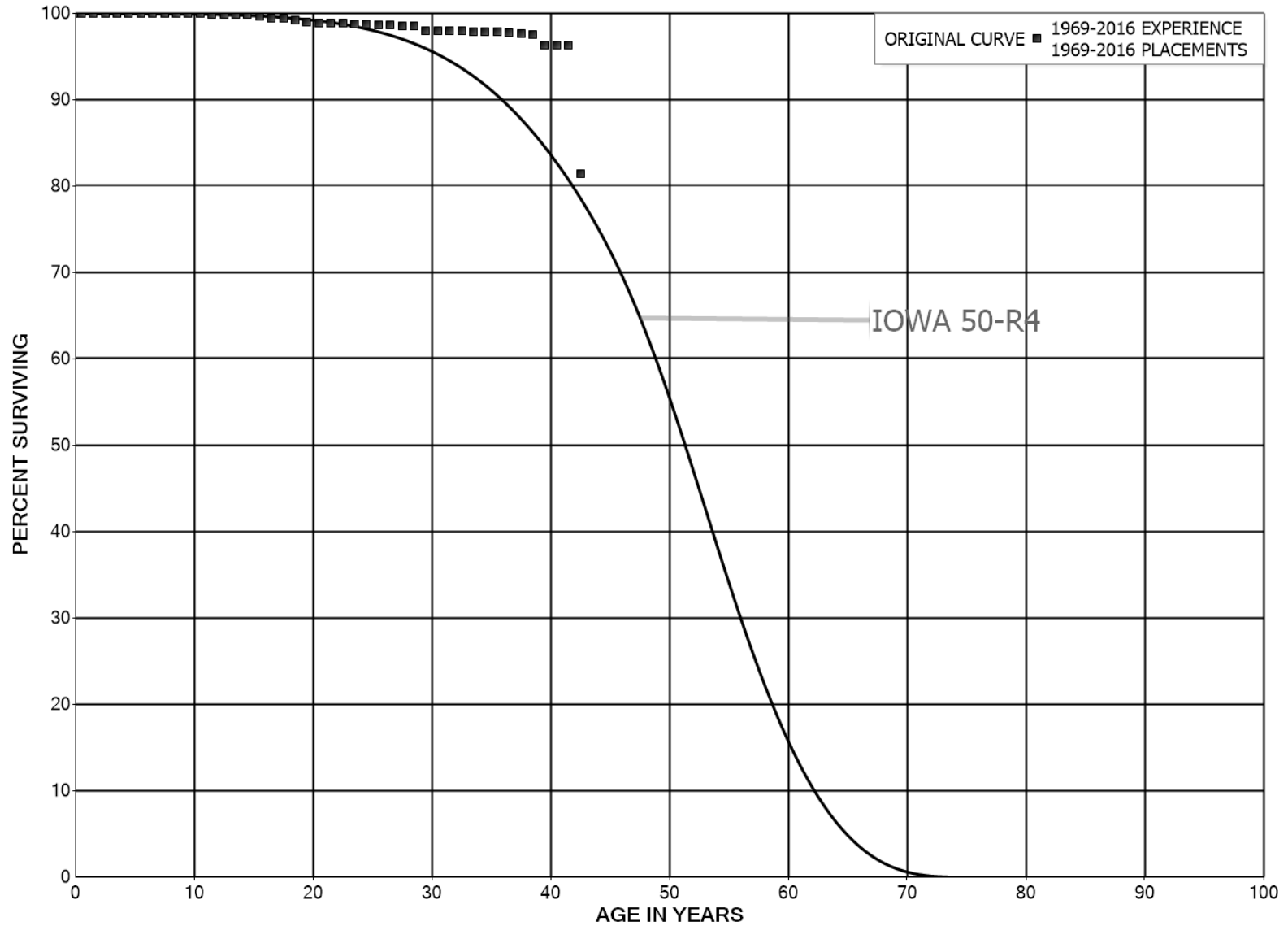
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1972-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	10,949		0.0000	1.0000	77.74
40.5	7,074		0.0000	1.0000	77.74
41.5	7,074		0.0000	1.0000	77.74
42.5	908		0.0000	1.0000	77.74
43.5	908		0.0000	1.0000	77.74
44.5					77.74

PACIFIC NORTHERN GAS LTD.
ACCOUNT 473.00 - DISTRIBUTION - SERVICES
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 473.00 - DISTRIBUTION - SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	52,360,679		0.0000	1.0000	100.00
0.5	51,123,791	1,299	0.0000	1.0000	100.00
1.5	49,445,039	3,779	0.0001	0.9999	100.00
2.5	47,780,747	4,475	0.0001	0.9999	99.99
3.5	46,133,155	6,466	0.0001	0.9999	99.98
4.5	44,613,309	7,586	0.0002	0.9998	99.97
5.5	43,412,314	10,052	0.0002	0.9998	99.95
6.5	41,467,987	8,222	0.0002	0.9998	99.93
7.5	40,280,190	1,206	0.0000	1.0000	99.91
8.5	38,720,995	1,320	0.0000	1.0000	99.90
9.5	37,470,383	1,823	0.0000	1.0000	99.90
10.5	36,425,339	2,859	0.0001	0.9999	99.90
11.5	35,531,067	4,543	0.0001	0.9999	99.89
12.5	34,607,235	6,726	0.0002	0.9998	99.87
13.5	33,750,254	8,689	0.0003	0.9997	99.86
14.5	32,944,948	52,833	0.0016	0.9984	99.83
15.5	32,115,086	72,488	0.0023	0.9977	99.67
16.5	31,187,640	7,540	0.0002	0.9998	99.44
17.5	30,252,112	64,504	0.0021	0.9979	99.42
18.5	28,440,781	64,553	0.0023	0.9977	99.21
19.5	26,434,496	35,135	0.0013	0.9987	98.98
20.5	19,298,435	6,363	0.0003	0.9997	98.85
21.5	18,448,919	7,064	0.0004	0.9996	98.82
22.5	17,264,391	7,334	0.0004	0.9996	98.78
23.5	15,896,544	7,427	0.0005	0.9995	98.74
24.5	14,456,063	7,109	0.0005	0.9995	98.69
25.5	13,278,800	9,413	0.0007	0.9993	98.64
26.5	10,929,159	5,360	0.0005	0.9995	98.57
27.5	10,079,457	4,683	0.0005	0.9995	98.53
28.5	9,272,763	44,674	0.0048	0.9952	98.48
29.5	8,591,163	3,027	0.0004	0.9996	98.01
30.5	8,036,066	2,958	0.0004	0.9996	97.97
31.5	7,170,778	2,581	0.0004	0.9996	97.94
32.5	6,447,565	2,319	0.0004	0.9996	97.90
33.5	5,556,057	2,226	0.0004	0.9996	97.87
34.5	4,797,146	2,067	0.0004	0.9996	97.83
35.5	4,115,051	2,537	0.0006	0.9994	97.78
36.5	2,358,624	2,053	0.0009	0.9991	97.72
37.5	1,876,000	1,737	0.0009	0.9991	97.64
38.5	1,572,426	20,965	0.0133	0.9867	97.55

PACIFIC NORTHERN GAS LTD.

ACCOUNT 473.00 - DISTRIBUTION - SERVICES

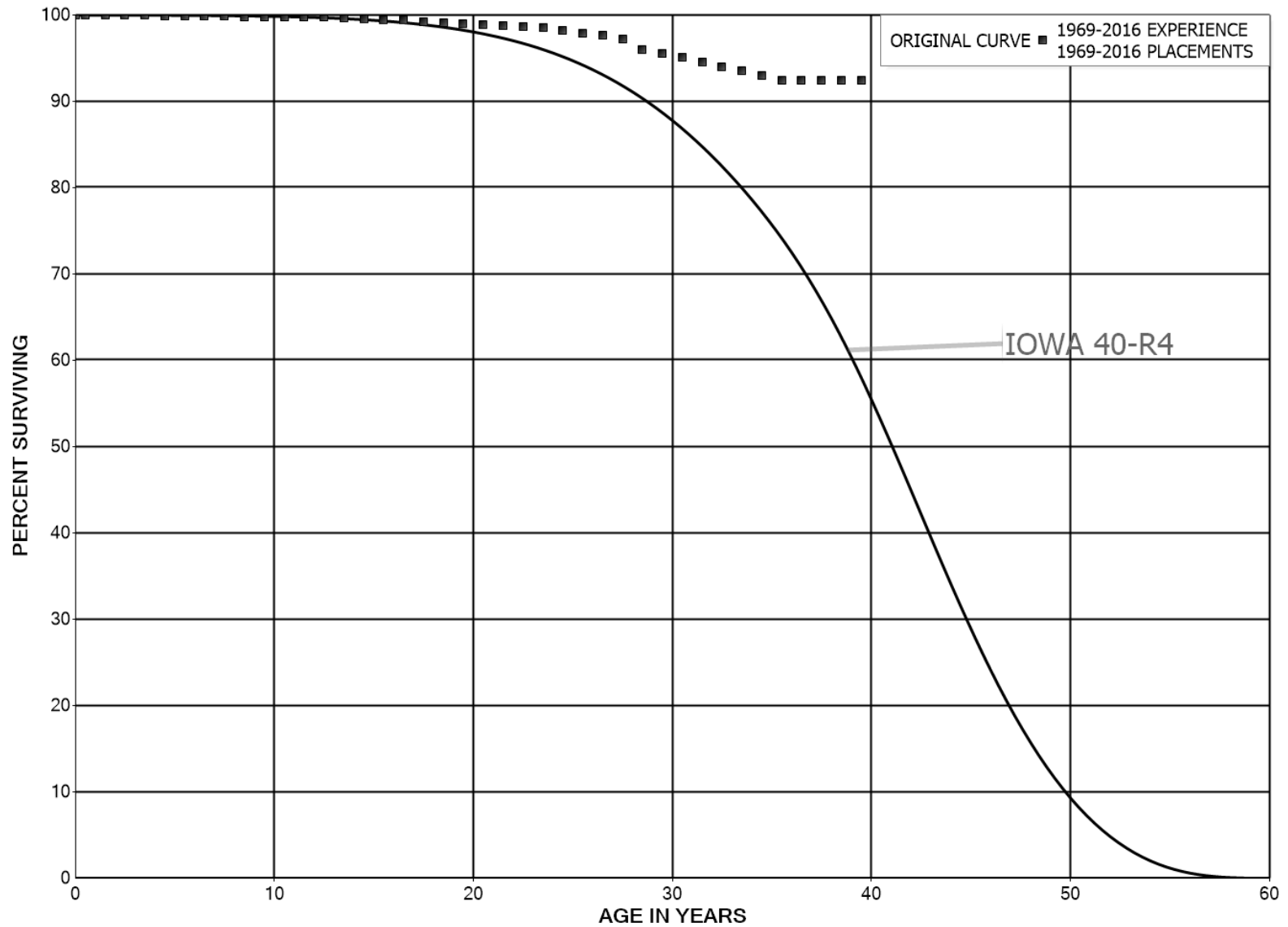
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,270,234		0.0000	1.0000	96.25
40.5	1,026,286		0.0000	1.0000	96.25
41.5	863,100	133,000	0.1541	0.8459	96.25
42.5	532,370	223,848	0.4205	0.5795	81.42
43.5	259,141	7,824	0.0302	0.9698	47.18
44.5	251,317	21,527	0.0857	0.9143	45.76
45.5	229,789	20,043	0.0872	0.9128	41.84
46.5					38.19

PACIFIC NORTHERN GAS LTD.
ACCOUNT 474.00 - DISTRIBUTION - HOUSE REGULATOR AND METER INSTALLS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 474.00 - DISTRIBUTION - HOUSE REGULATOR AND METER INSTALLS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	10,554,232		0.0000	1.0000	100.00
0.5	10,307,986	481	0.0000	1.0000	100.00
1.5	10,052,785	1,197	0.0001	0.9999	100.00
2.5	9,818,684	1,621	0.0002	0.9998	99.98
3.5	9,636,184	8,726	0.0009	0.9991	99.97
4.5	9,436,461	5,183	0.0005	0.9995	99.88
5.5	9,289,481	2,898	0.0003	0.9997	99.82
6.5	9,036,739	521	0.0001	0.9999	99.79
7.5	8,875,626	447	0.0001	0.9999	99.78
8.5	8,634,988	454	0.0001	0.9999	99.78
9.5	8,503,181	450	0.0001	0.9999	99.77
10.5	8,307,457	2,698	0.0003	0.9997	99.77
11.5	8,184,428	4,338	0.0005	0.9995	99.74
12.5	7,769,996	4,097	0.0005	0.9995	99.68
13.5	7,347,085	5,516	0.0008	0.9992	99.63
14.5	6,926,420	7,911	0.0011	0.9989	99.56
15.5	6,474,752	6,308	0.0010	0.9990	99.44
16.5	6,196,561	7,507	0.0012	0.9988	99.35
17.5	6,030,659	7,875	0.0013	0.9987	99.23
18.5	5,752,934	6,493	0.0011	0.9989	99.10
19.5	5,308,548	6,795	0.0013	0.9987	98.98
20.5	4,136,263	5,501	0.0013	0.9987	98.86
21.5	4,005,877	6,505	0.0016	0.9984	98.73
22.5	3,843,945	3,579	0.0009	0.9991	98.57
23.5	3,662,318	11,000	0.0030	0.9970	98.47
24.5	3,530,613	10,600	0.0030	0.9970	98.18
25.5	3,347,092	8,914	0.0027	0.9973	97.88
26.5	2,222,669	9,426	0.0042	0.9958	97.62
27.5	2,107,287	26,928	0.0128	0.9872	97.21
28.5	1,935,310	9,898	0.0051	0.9949	95.97
29.5	1,783,766	7,419	0.0042	0.9958	95.48
30.5	1,674,068	9,484	0.0057	0.9943	95.08
31.5	1,530,456	10,128	0.0066	0.9934	94.54
32.5	1,444,262	6,642	0.0046	0.9954	93.91
33.5	1,364,269	7,124	0.0052	0.9948	93.48
34.5	1,291,005	8,769	0.0068	0.9932	92.99
35.5	1,193,818		0.0000	1.0000	92.36
36.5	559,574		0.0000	1.0000	92.36
37.5	488,282		0.0000	1.0000	92.36
38.5	182,470		0.0000	1.0000	92.36

PACIFIC NORTHERN GAS LTD.

ACCOUNT 474.00 - DISTRIBUTION - HOUSE REGULATOR AND METER INSTALLS

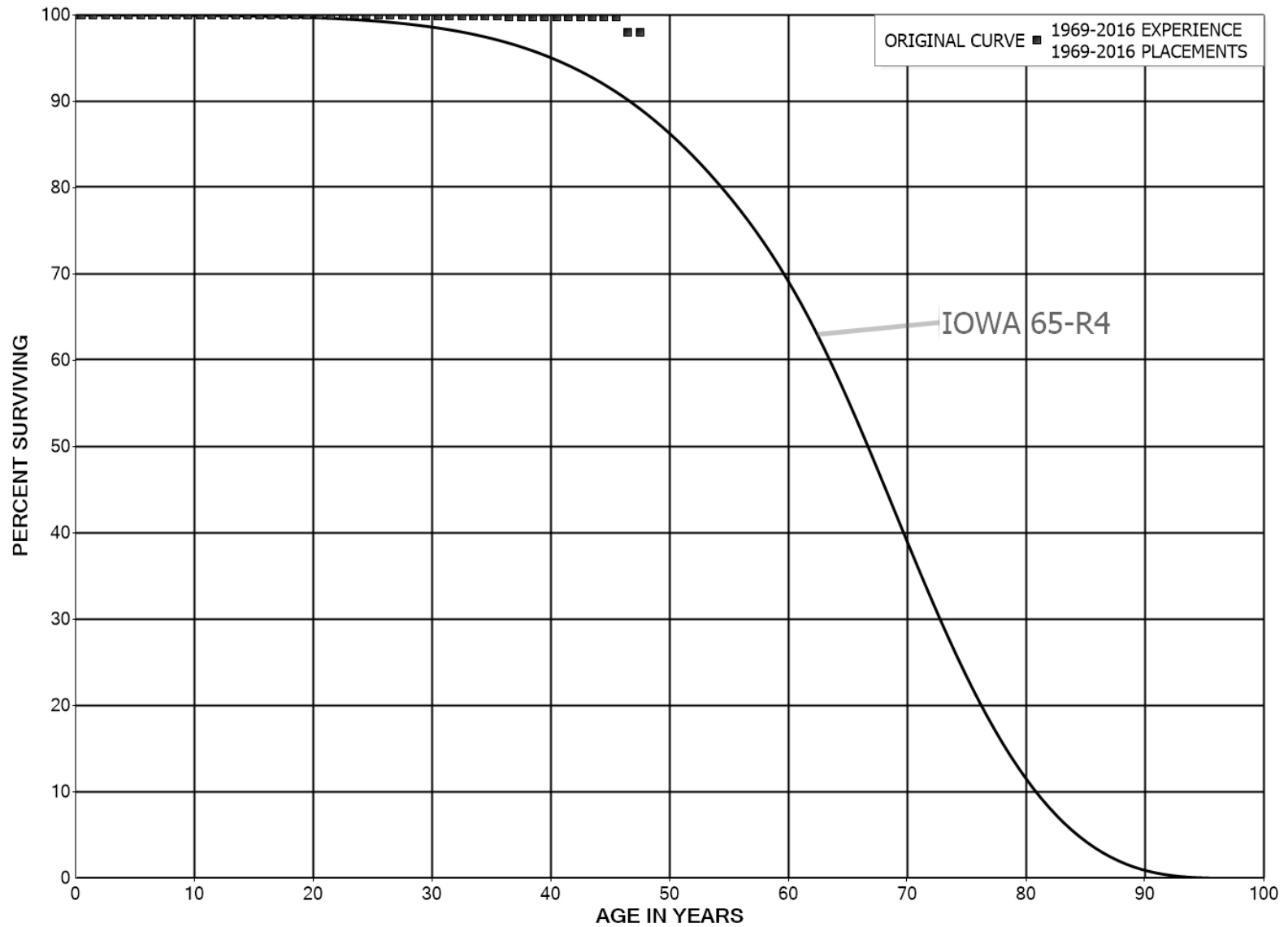
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	114,233		0.0000	1.0000	92.36
40.5	67,424		0.0000	1.0000	92.36
41.5	26,653		0.0000	1.0000	92.36
42.5	7,200		0.0000	1.0000	92.36
43.5					92.36

PACIFIC NORTHERN GAS LTD.
ACCOUNT 475.00 - DISTRIBUTION - MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 475.00 - DISTRIBUTION - MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	74,584,969	30	0.0000	1.0000	100.00
0.5	71,005,565	56	0.0000	1.0000	100.00
1.5	67,991,169	51	0.0000	1.0000	100.00
2.5	65,156,837	399	0.0000	1.0000	100.00
3.5	62,721,539	2,002	0.0000	1.0000	100.00
4.5	60,604,335	792	0.0000	1.0000	100.00
5.5	59,040,782	1,074	0.0000	1.0000	99.99
6.5	56,451,938	781	0.0000	1.0000	99.99
7.5	53,179,368	764	0.0000	1.0000	99.99
8.5	50,751,813	628	0.0000	1.0000	99.99
9.5	49,607,570	459	0.0000	1.0000	99.99
10.5	48,915,352	1,058	0.0000	1.0000	99.99
11.5	47,664,881	912	0.0000	1.0000	99.99
12.5	46,152,252	593	0.0000	1.0000	99.98
13.5	45,184,606	472	0.0000	1.0000	99.98
14.5	44,468,828	3,619	0.0001	0.9999	99.98
15.5	43,511,278	3,829	0.0001	0.9999	99.97
16.5	42,460,310	1,809	0.0000	1.0000	99.96
17.5	41,369,710	12,071	0.0003	0.9997	99.96
18.5	38,733,276	762	0.0000	1.0000	99.93
19.5	36,156,604	109	0.0000	1.0000	99.93
20.5	24,978,478	246	0.0000	1.0000	99.93
21.5	23,695,748	219	0.0000	1.0000	99.93
22.5	23,412,010	2,810	0.0001	0.9999	99.93
23.5	22,830,913	650	0.0000	1.0000	99.91
24.5	21,643,765	1,102	0.0001	0.9999	99.91
25.5	20,685,724	384	0.0000	1.0000	99.91
26.5	17,548,126	514	0.0000	1.0000	99.91
27.5	16,481,053	5,678	0.0003	0.9997	99.90
28.5	16,021,682	7,025	0.0004	0.9996	99.87
29.5	15,511,515	1,480	0.0001	0.9999	99.82
30.5	14,857,801	254	0.0000	1.0000	99.81
31.5	14,463,835	38	0.0000	1.0000	99.81
32.5	13,538,831	155	0.0000	1.0000	99.81
33.5	12,779,186	39	0.0000	1.0000	99.81
34.5	9,885,377	1,381	0.0001	0.9999	99.81
35.5	8,960,967	3,535	0.0004	0.9996	99.80
36.5	5,278,230	570	0.0001	0.9999	99.76
37.5	4,597,818	873	0.0002	0.9998	99.75
38.5	4,233,462		0.0000	1.0000	99.73

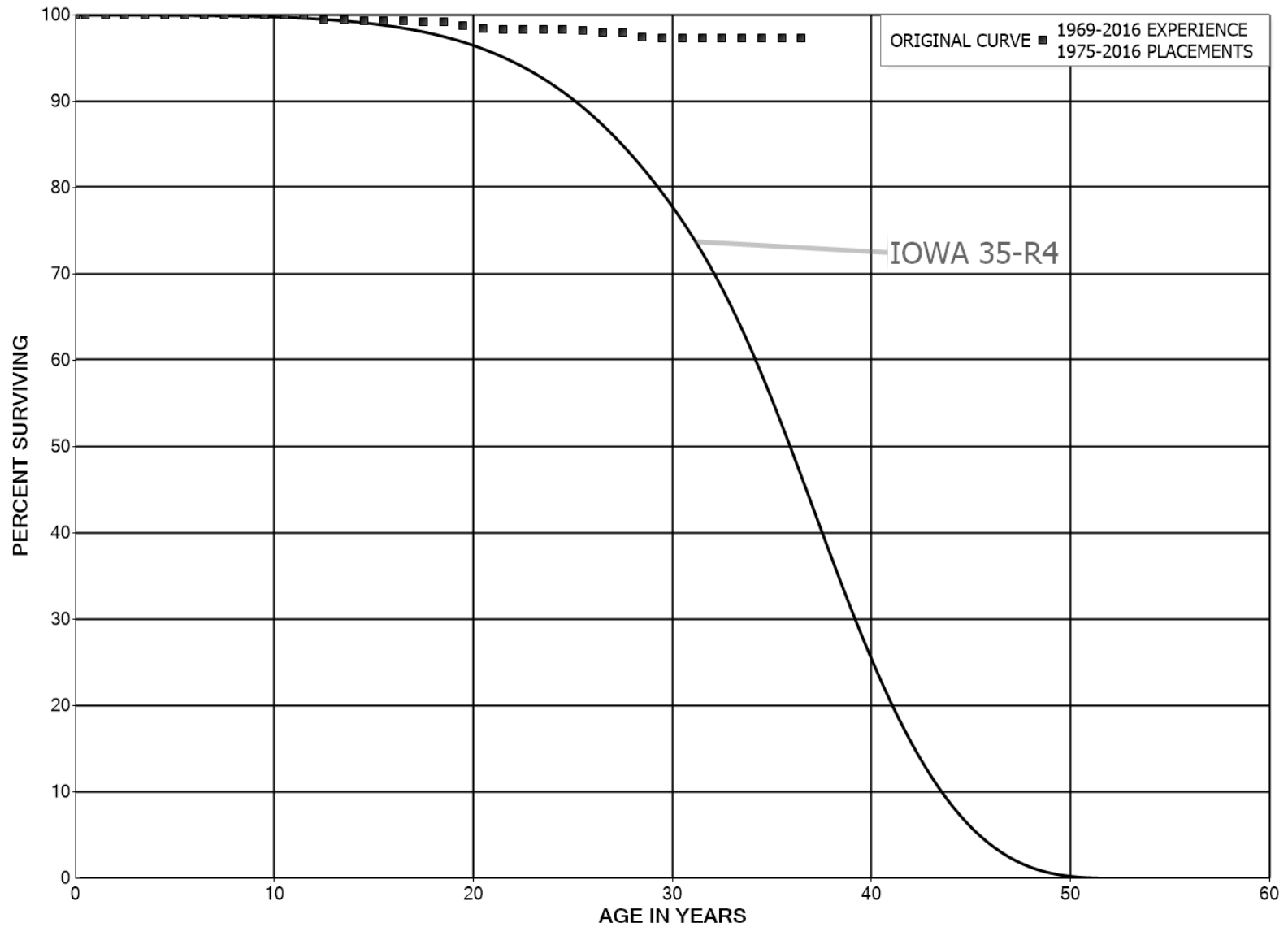
PACIFIC NORTHERN GAS LTD.

ACCOUNT 475.00 - DISTRIBUTION - MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016			EXPERIENCE BAND 1969-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	3,671,182		0.0000	1.0000	99.73
40.5	3,375,560		0.0000	1.0000	99.73
41.5	3,093,660		0.0000	1.0000	99.73
42.5	2,833,262		0.0000	1.0000	99.73
43.5	2,437,770		0.0000	1.0000	99.73
44.5	2,014,111		0.0000	1.0000	99.73
45.5	1,743,129	30,104	0.0173	0.9827	99.73
46.5	1,256,817		0.0000	1.0000	98.01
47.5					98.01

PACIFIC NORTHERN GAS LTD.
ACCOUNT 477.00 - DISTRIBUTION - MEASURING AND REGULATING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 477.00 - DISTRIBUTION - MEASURING AND REGULATING EQUIPMENT

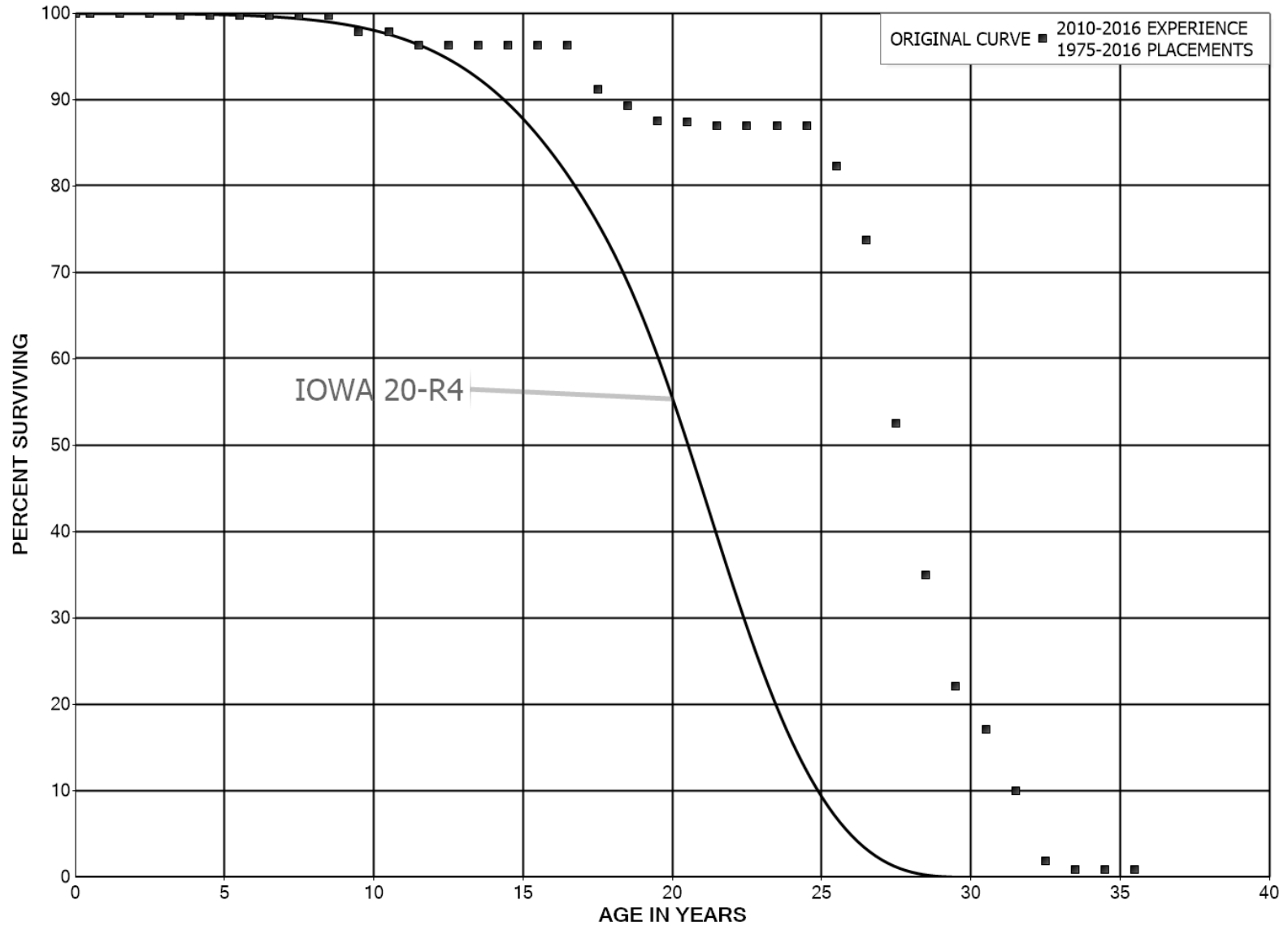
ORIGINAL LIFE TABLE

PLACEMENT BAND 1975-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,362,396		0.0000	1.0000	100.00
0.5	2,209,066	3	0.0000	1.0000	100.00
1.5	2,209,063	2	0.0000	1.0000	100.00
2.5	2,209,061		0.0000	1.0000	100.00
3.5	2,209,061	12	0.0000	1.0000	100.00
4.5	2,124,992	6	0.0000	1.0000	100.00
5.5	2,082,978		0.0000	1.0000	100.00
6.5	1,924,842		0.0000	1.0000	100.00
7.5	1,878,262		0.0000	1.0000	100.00
8.5	1,878,262		0.0000	1.0000	100.00
9.5	1,838,158		0.0000	1.0000	100.00
10.5	1,792,249	76	0.0000	1.0000	100.00
11.5	1,789,775	10,833	0.0061	0.9939	99.99
12.5	1,710,547	67	0.0000	1.0000	99.39
13.5	1,681,629	1,314	0.0008	0.9992	99.39
14.5	1,019,956	346	0.0003	0.9997	99.31
15.5	947,326	166	0.0002	0.9998	99.27
16.5	897,072	565	0.0006	0.9994	99.26
17.5	896,507	120	0.0001	0.9999	99.19
18.5	896,387	3,839	0.0043	0.9957	99.18
19.5	892,548	3,394	0.0038	0.9962	98.76
20.5	889,154	492	0.0006	0.9994	98.38
21.5	888,115		0.0000	1.0000	98.33
22.5	883,292		0.0000	1.0000	98.33
23.5	883,292	85	0.0001	0.9999	98.33
24.5	878,922	1,107	0.0013	0.9987	98.32
25.5	807,687	1,684	0.0021	0.9979	98.19
26.5	728,359	187	0.0003	0.9997	97.99
27.5	721,700	3,787	0.0052	0.9948	97.96
28.5	667,447	1,178	0.0018	0.9982	97.45
29.5	666,269	78	0.0001	0.9999	97.28
30.5	611,788		0.0000	1.0000	97.27
31.5	567,906		0.0000	1.0000	97.27
32.5	567,906		0.0000	1.0000	97.27
33.5	567,906		0.0000	1.0000	97.27
34.5	567,906		0.0000	1.0000	97.27
35.5	566,852		0.0000	1.0000	97.27
36.5	20,626		0.0000	1.0000	97.27
37.5	20,626		0.0000	1.0000	97.27
38.5					97.27

PACIFIC NORTHERN GAS LTD.
ACCOUNT 478.00 - DISTRIBUTION - METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 478.00 - DISTRIBUTION - METERS

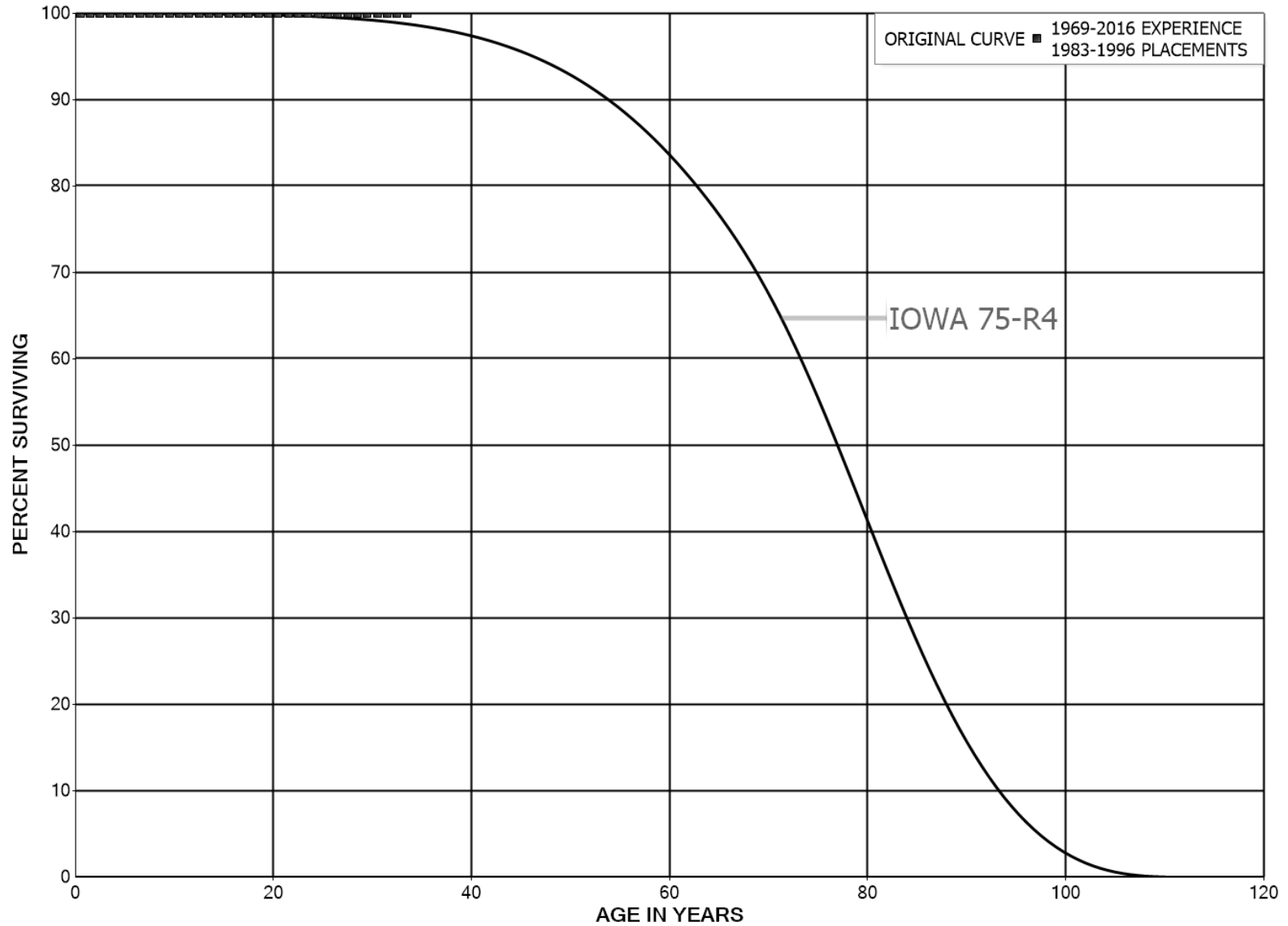
ORIGINAL LIFE TABLE

PLACEMENT BAND 1975-2016

EXPERIENCE BAND 2010-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,604,543		0.0000	1.0000	100.00
0.5	2,417,581	876	0.0004	0.9996	100.00
1.5	2,236,112	1,172	0.0005	0.9995	99.96
2.5	1,992,669	2,711	0.0014	0.9986	99.91
3.5	1,700,050	792	0.0005	0.9995	99.78
4.5	1,348,425		0.0000	1.0000	99.73
5.5	1,164,617		0.0000	1.0000	99.73
6.5	1,147,793		0.0000	1.0000	99.73
7.5	984,674		0.0000	1.0000	99.73
8.5	765,051	14,190	0.0185	0.9815	99.73
9.5	609,753		0.0000	1.0000	97.88
10.5	1,054,819	17,674	0.0168	0.9832	97.88
11.5	1,055,993		0.0000	1.0000	96.24
12.5	1,299,057		0.0000	1.0000	96.24
13.5	1,328,544		0.0000	1.0000	96.24
14.5	1,342,039		0.0000	1.0000	96.24
15.5	1,515,749		0.0000	1.0000	96.24
16.5	1,775,086	94,040	0.0530	0.9470	96.24
17.5	1,504,608	31,413	0.0209	0.9791	91.14
18.5	1,661,267	31,239	0.0188	0.9812	89.24
19.5	1,831,911	3,362	0.0018	0.9982	87.56
20.5	1,816,737	10,085	0.0056	0.9944	87.40
21.5	1,937,515		0.0000	1.0000	86.91
22.5	1,808,923		0.0000	1.0000	86.91
23.5	1,727,804		0.0000	1.0000	86.91
24.5	1,663,272	87,632	0.0527	0.9473	86.91
25.5	1,446,467	151,167	0.1045	0.8955	82.33
26.5	1,106,866	319,254	0.2884	0.7116	73.73
27.5	999,208	333,363	0.3336	0.6664	52.46
28.5	935,246	346,405	0.3704	0.6296	34.96
29.5	1,066,320	240,454	0.2255	0.7745	22.01
30.5	1,000,260	418,040	0.4179	0.5821	17.05
31.5	642,159	521,787	0.8126	0.1874	9.92
32.5	126,723	67,725	0.5344	0.4656	1.86
33.5	59,099		0.0000	1.0000	0.87
34.5	59,157	621	0.0105	0.9895	0.87
35.5	58,537	1,953	0.0334	0.9666	0.86
36.5					0.83

PACIFIC NORTHERN GAS LTD.
ACCOUNT 481.00 - GENERAL - LAND RIGHTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 481.00 - GENERAL - LAND RIGHTS

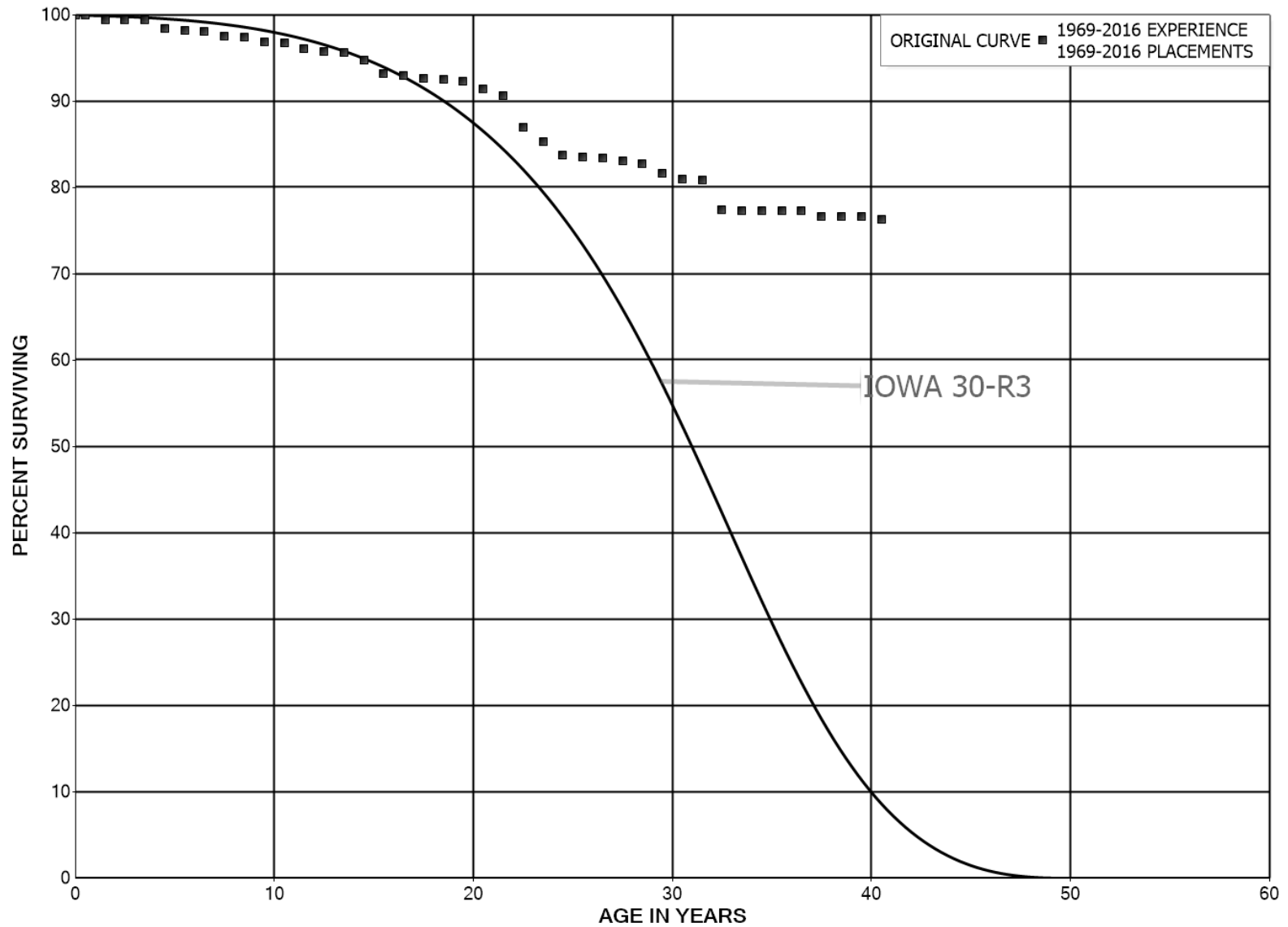
ORIGINAL LIFE TABLE

PLACEMENT BAND 1983-1996

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,729		0.0000	1.0000	100.00
0.5	1,729		0.0000	1.0000	100.00
1.5	1,729		0.0000	1.0000	100.00
2.5	1,729		0.0000	1.0000	100.00
3.5	1,729		0.0000	1.0000	100.00
4.5	1,729		0.0000	1.0000	100.00
5.5	1,729		0.0000	1.0000	100.00
6.5	1,729		0.0000	1.0000	100.00
7.5	1,729		0.0000	1.0000	100.00
8.5	1,729		0.0000	1.0000	100.00
9.5	1,729		0.0000	1.0000	100.00
10.5	1,729		0.0000	1.0000	100.00
11.5	1,729		0.0000	1.0000	100.00
12.5	1,729		0.0000	1.0000	100.00
13.5	1,729		0.0000	1.0000	100.00
14.5	1,729		0.0000	1.0000	100.00
15.5	1,729		0.0000	1.0000	100.00
16.5	1,729		0.0000	1.0000	100.00
17.5	1,729		0.0000	1.0000	100.00
18.5	1,729		0.0000	1.0000	100.00
19.5	1,729		0.0000	1.0000	100.00
20.5	350		0.0000	1.0000	100.00
21.5	350		0.0000	1.0000	100.00
22.5	350		0.0000	1.0000	100.00
23.5	350		0.0000	1.0000	100.00
24.5	350		0.0000	1.0000	100.00
25.5	350		0.0000	1.0000	100.00
26.5	350		0.0000	1.0000	100.00
27.5	350		0.0000	1.0000	100.00
28.5	350		0.0000	1.0000	100.00
29.5	350		0.0000	1.0000	100.00
30.5	350		0.0000	1.0000	100.00
31.5	50		0.0000	1.0000	100.00
32.5	50		0.0000	1.0000	100.00
33.5					100.00

PACIFIC NORTHERN GAS LTD.
ACCOUNT 482.00 - GENERAL - STRUCTURES AND EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 482.00 - GENERAL - STRUCTURES AND EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2016

EXPERIENCE BAND 1969-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	9,833,107	199	0.0000	1.0000	100.00
0.5	9,343,285	53,280	0.0057	0.9943	100.00
1.5	9,083,047	1,452	0.0002	0.9998	99.43
2.5	8,991,785	5,404	0.0006	0.9994	99.41
3.5	7,998,133	79,948	0.0100	0.9900	99.35
4.5	7,798,573	17,362	0.0022	0.9978	98.36
5.5	7,728,701	4,036	0.0005	0.9995	98.14
6.5	7,534,093	48,203	0.0064	0.9936	98.09
7.5	7,286,639	3,562	0.0005	0.9995	97.46
8.5	7,070,226	42,496	0.0060	0.9940	97.41
9.5	7,005,804	9,977	0.0014	0.9986	96.83
10.5	6,941,426	45,578	0.0066	0.9934	96.69
11.5	6,792,588	24,191	0.0036	0.9964	96.06
12.5	6,594,080	8,877	0.0013	0.9987	95.71
13.5	6,538,757	55,264	0.0085	0.9915	95.58
14.5	6,469,660	106,973	0.0165	0.9835	94.78
15.5	6,316,999	17,512	0.0028	0.9972	93.21
16.5	6,225,456	20,216	0.0032	0.9968	92.95
17.5	6,172,530	10,750	0.0017	0.9983	92.65
18.5	6,017,190	10,992	0.0018	0.9982	92.49
19.5	5,125,026	53,111	0.0104	0.9896	92.32
20.5	4,510,870	37,011	0.0082	0.9918	91.36
21.5	3,442,027	137,075	0.0398	0.9602	90.61
22.5	2,660,706	51,356	0.0193	0.9807	87.00
23.5	2,609,350	49,801	0.0191	0.9809	85.32
24.5	2,550,821	6,308	0.0025	0.9975	83.70
25.5	2,527,556	2,356	0.0009	0.9991	83.49
26.5	2,498,063	9,836	0.0039	0.9961	83.41
27.5	2,472,498	11,237	0.0045	0.9955	83.08
28.5	2,174,541	28,476	0.0131	0.9869	82.71
29.5	2,088,225	16,460	0.0079	0.9921	81.62
30.5	1,795,465	2,833	0.0016	0.9984	80.98
31.5	1,729,040	73,556	0.0425	0.9575	80.85
32.5	1,613,429	1,654	0.0010	0.9990	77.41
33.5	1,492,887	143	0.0001	0.9999	77.33
34.5	1,123,141	476	0.0004	0.9996	77.32
35.5	1,109,452	6	0.0000	1.0000	77.29
36.5	694,858	6,470	0.0093	0.9907	77.29
37.5	688,388	10	0.0000	1.0000	76.57
38.5	687,731	38	0.0001	0.9999	76.57

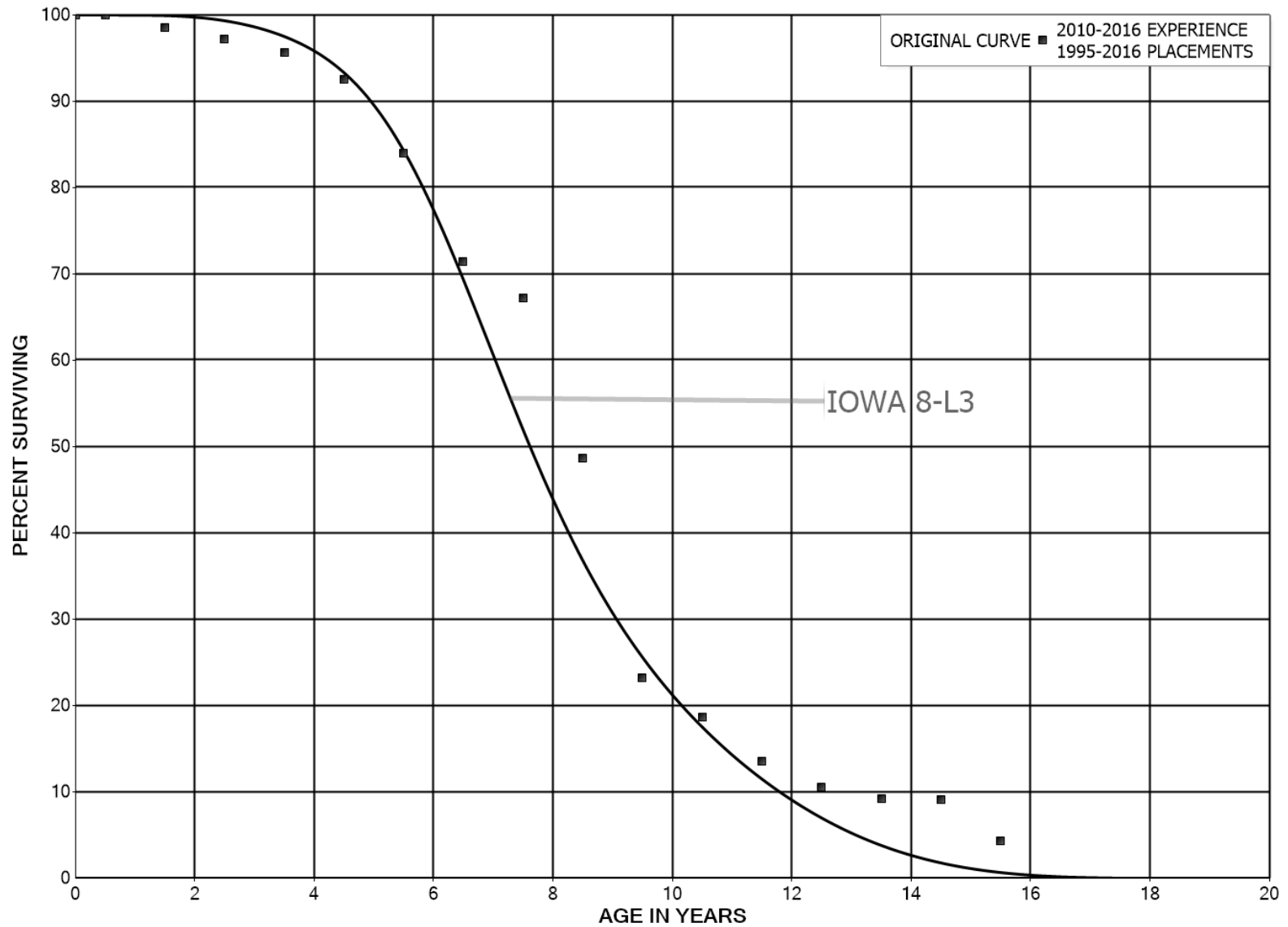
PACIFIC NORTHERN GAS LTD.

ACCOUNT 482.00 - GENERAL - STRUCTURES AND EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1969-2016			EXPERIENCE BAND 1969-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	684,936	2,149	0.0031	0.9969	76.57
40.5	630,810		0.0000	1.0000	76.33
41.5	151,679	89,630	0.5909	0.4091	76.33
42.5	67,291		0.0000	1.0000	31.22
43.5	6,065		0.0000	1.0000	31.22
44.5	6,065		0.0000	1.0000	31.22
45.5					31.22

PACIFIC NORTHERN GAS LTD.
ACCOUNT 484.00 - GENERAL - TRANSPORTATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 484.00 - GENERAL - TRANSPORTATION EQUIPMENT

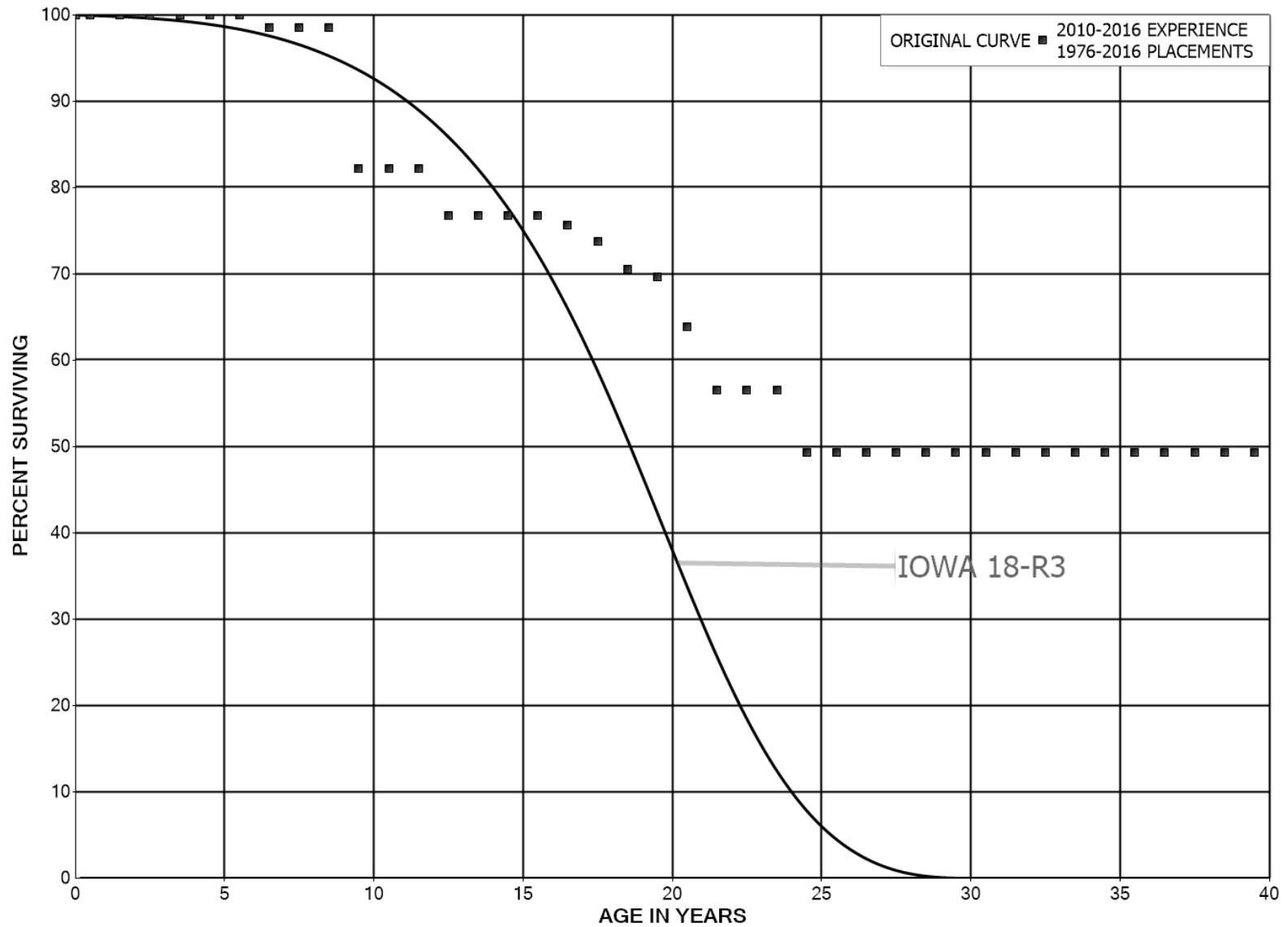
ORIGINAL LIFE TABLE

PLACEMENT BAND 1995-2016

EXPERIENCE BAND 2010-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,556,910		0.0000	1.0000	100.00
0.5	3,067,272	45,921	0.0150	0.9850	100.00
1.5	2,755,226	37,813	0.0137	0.9863	98.50
2.5	2,634,826	40,566	0.0154	0.9846	97.15
3.5	2,729,887	91,268	0.0334	0.9666	95.66
4.5	2,593,041	238,457	0.0920	0.9080	92.46
5.5	2,463,168	368,568	0.1496	0.8504	83.95
6.5	2,166,016	128,220	0.0592	0.9408	71.39
7.5	2,278,915	628,835	0.2759	0.7241	67.17
8.5	1,822,092	952,658	0.5228	0.4772	48.63
9.5	951,503	188,065	0.1977	0.8023	23.21
10.5	491,610	134,705	0.2740	0.7260	18.62
11.5	366,323	82,285	0.2246	0.7754	13.52
12.5	350,957	45,479	0.1296	0.8704	10.48
13.5	275,325	1,884	0.0068	0.9932	9.12
14.5	222,478	116,359	0.5230	0.4770	9.06
15.5	70,228	70,228	1.0000		4.32
16.5					

PACIFIC NORTHERN GAS LTD.
ACCOUNT 485.00 - GENERAL - HEAVY WORK EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



PACIFIC NORTHERN GAS LTD.

ACCOUNT 485.00 - GENERAL - HEAVY WORK EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1976-2016

EXPERIENCE BAND 2010-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,179,827		0.0000	1.0000	100.00
0.5	2,098,291		0.0000	1.0000	100.00
1.5	2,063,860		0.0000	1.0000	100.00
2.5	2,419,295		0.0000	1.0000	100.00
3.5	2,759,725		0.0000	1.0000	100.00
4.5	2,836,066		0.0000	1.0000	100.00
5.5	2,880,635	42,906	0.0149	0.9851	100.00
6.5	2,924,531		0.0000	1.0000	98.51
7.5	2,402,031		0.0000	1.0000	98.51
8.5	2,146,591	355,912	0.1658	0.8342	98.51
9.5	1,174,757		0.0000	1.0000	82.18
10.5	880,772		0.0000	1.0000	82.18
11.5	730,223	48,108	0.0659	0.9341	82.18
12.5	579,257		0.0000	1.0000	76.76
13.5	505,044		0.0000	1.0000	76.76
14.5	568,104		0.0000	1.0000	76.76
15.5	467,216	7,089	0.0152	0.9848	76.76
16.5	422,200	10,350	0.0245	0.9755	75.60
17.5	571,767	25,311	0.0443	0.9557	73.75
18.5	598,231	7,667	0.0128	0.9872	70.48
19.5	615,461	50,492	0.0820	0.9180	69.58
20.5	587,833	67,779	0.1153	0.8847	63.87
21.5	332,438		0.0000	1.0000	56.51
22.5	333,620		0.0000	1.0000	56.51
23.5	333,620	42,423	0.1272	0.8728	56.51
24.5	81,831		0.0000	1.0000	49.32
25.5	85,942		0.0000	1.0000	49.32
26.5	50,242		0.0000	1.0000	49.32
27.5	46,327		0.0000	1.0000	49.32
28.5	47,930		0.0000	1.0000	49.32
29.5	34,107		0.0000	1.0000	49.32
30.5	34,107		0.0000	1.0000	49.32
31.5	25,238		0.0000	1.0000	49.32
32.5	24,761		0.0000	1.0000	49.32
33.5	33,055		0.0000	1.0000	49.32
34.5	18,266		0.0000	1.0000	49.32
35.5	16,663		0.0000	1.0000	49.32
36.5	13,750		0.0000	1.0000	49.32
37.5	13,750		0.0000	1.0000	49.32
38.5	13,750		0.0000	1.0000	49.32
39.5	10,117		0.0000	1.0000	49.32
40.5					49.32

PART VI. NET SALVAGE STATISTICS

PACIFIC NORTHERN GAS LTD.

ACCOUNT 473.00 - DISTRIBUTION - SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		G R O S S S A L V A G E				NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2014	129,561	169,667	131		0		0	169,667-	131-
2015	126,630	172,774	136		0		0	172,774-	136-
2016	124,004	119,679	97		0		0	119,679-	97-
TOTAL	380,195	462,120	122		0		0	462,120-	122-
THREE-YEAR MOVING AVERAGES									
14-16	126,732	154,040	122		0		0	154,040-	122-

PACIFIC NORTHERN GAS LTD.

ACCOUNT 478.00 - DISTRIBUTION - METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		G R O S S S A L V A G E				NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2014	458,975		0		0	4,089	1	4,089	1
2015	432,374		0		0	3,827	1	3,827	1
2016	469,288		0		0	2,544	1	2,544	1
TOTAL	1,360,637		0		0	10,460	1	10,460	1
THREE-YEAR MOVING AVERAGES									
14-16	453,546		0		0	3,487	1	3,487	1

PACIFIC NORTHERN GAS LTD.

ACCOUNT 484.00 - GENERAL - TRANSPORTATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		G R O S S S A L V A G E				NET SALVAGE	
		AMOUNT	PCT	REUSE		FINAL		AMOUNT	PCT
				AMOUNT	PCT	AMOUNT	PCT		
2010	361,872		0		0	51,050	14	51,050	14
2011	77,034		0		0	10,490	14	10,490	14
2012	240,863		0		0	16,285	7	16,285	7
2013	426,036		0		0	87,413	21	87,413	21
2014	590,698		0		0	75,487	13	75,487	13
2015	456,360		0		0	54,169	12	54,169	12
2016	1,018,448		0		0	227,240	22	227,240	22
TOTAL	3,171,311		0		0	522,133	16	522,133	16

THREE-YEAR MOVING AVERAGES

10-12	226,589		0		0	25,942	11	25,942	11
11-13	247,978		0		0	38,063	15	38,063	15
12-14	419,199		0		0	59,728	14	59,728	14
13-15	491,031		0		0	72,356	15	72,356	15
14-16	688,502		0		0	118,965	17	118,965	17

FIVE-YEAR AVERAGE

12-16	546,481		0		0	92,119	17	92,119	17
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PACIFIC NORTHERN GAS LTD.

ACCOUNT 485.00 - GENERAL - HEAVY WORK EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		G R O S S S A L V A G E				NET SALVAGE	
		AMOUNT	PCT	REUSE AMOUNT	PCT	FINAL AMOUNT	PCT	AMOUNT	PCT
2012	54,771		0		0	13,353	24	13,353	24
2013									
2014	200,248		0		0	15,000	7	15,000	7
2015									
2016	342,450		0		0	28,604	8	28,604	8
TOTAL	597,470		0		0	56,957	10	56,957	10

THREE-YEAR MOVING AVERAGES

12-14	85,006		0		0	9,451	11	9,451	11
13-15	66,749		0		0	5,000	7	5,000	7
14-16	180,900		0		0	14,535	8	14,535	8

FIVE-YEAR AVERAGE

12-16	119,494		0		0	11,391	10	11,391	10
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PACIFIC NORTHERN GAS LTD.

ACCOUNT 486.00 - GENERAL - TOOLS AND WORK EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		G R O S S S A L V A G E				NET SALVAGE	
		AMOUNT	PCT	REUSE AMOUNT	PCT	FINAL AMOUNT	PCT	AMOUNT	PCT
2010	3,893		0		0	125	3	125	3
2011	8,404		0		0		0		0
2012	15,633		0		0	5,125	33	5,125	33
2013	161,332		0		0		0		0
2014	2,500		0		0		0		0
2015	4,500		0		0		0		0
2016	35,749		0		0		0		0
TOTAL	232,012		0		0	5,250	2	5,250	2

THREE-YEAR MOVING AVERAGES

10-12	9,310		0		0	1,750	19	1,750	19
11-13	61,790		0		0	1,708	3	1,708	3
12-14	59,822		0		0	1,708	3	1,708	3
13-15	56,111		0		0		0		0
14-16	14,250		0		0		0		0

FIVE-YEAR AVERAGE

12-16	43,943		0		0	1,025	2	1,025	2
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PART VII. DETAILED DEPRECIATION CALCULATIONS

PACIFIC NORTHERN GAS LTD.

ACCOUNT 411.00 - GATHERING PLANT - LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R4						
NET SALVAGE PERCENT.. 0						
1980	275.00	131		275	39.32	7
	275.00	131		275		7
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						39.3 2.55

PACIFIC NORTHERN GAS LTD.

ACCOUNT 412.00 - GATHERING PLANT - COMPRESSOR STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. -3						
1990	34,442.84	26,146	22,526	12,950	7.89	1,641
	34,442.84	26,146	22,526	12,950		1,641
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						7.9 4.76

PACIFIC NORTHERN GAS LTD.

ACCOUNT 413.00 - GATHERING PLANT - MEASURING AND REGULATING STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. -15						
1980	75,159.71	76,004	74,217	12,217	3.62	3,375
	75,159.71	76,004	74,217	12,217		3,375
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						3.6 4.49

PACIFIC NORTHERN GAS LTD.

ACCOUNT 417.00 - GATHERING PLANT - MEASURING AND REGULATING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-R2						
NET SALVAGE PERCENT.. -7						
2000	29,701.25	16,780	16,287	15,493	11.80	1,313
	29,701.25	16,780	16,287	15,493		1,313
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						11.8 4.42

PACIFIC NORTHERN GAS LTD.

ACCOUNT 418.00- GATHERING PLANT - PURIFICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 31-S5						
NET SALVAGE PERCENT.. -25						
1990	2,131,654.03	2,210,738	2,136,728	527,840	5.28	99,970
2000	59,112.21	39,329	38,012	35,878	14.50	2,474
2001	84,502.30	52,814	51,046	54,582	15.50	3,521
2002	41,472.49	24,248	23,436	28,405	16.50	1,722
2003	41,105.45	22,376	21,627	29,755	17.50	1,700
2004	80,184.24	40,416	39,063	61,167	18.50	3,306
2005	112,335.11	52,091	50,347	90,072	19.50	4,619
2006	60,438.84	25,589	24,732	50,817	20.50	2,479
2007	111,076.30	42,549	41,125	97,720	21.50	4,545
2008	97,399.41	33,382	32,264	89,485	22.50	3,977
2009	156,349.01	47,284	45,701	149,735	23.50	6,372
2010	273,285.67	71,628	69,230	272,377	24.50	11,117
2011	197,930.65	43,896	42,427	204,986	25.50	8,039
2012	91,549.12	16,612	16,056	98,380	26.50	3,712
2014	22,737.18	2,292	2,215	26,206	28.50	920
2016	188,463.07	3,800	3,673	231,906	30.50	7,603
	3,749,595.08	2,729,044	2,637,682	2,049,312		166,076
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.3 4.43						

PACIFIC NORTHERN GAS LTD.

ACCOUNT 443.00 - PROCESSING PLANT - GAS HOLDERS - STORAGE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 40-SQUARE						
NET SALVAGE PERCENT.. 0						
1997	30,000.00	14,625	13,113	16,887	20.50	824
	30,000.00	14,625	13,113	16,887		824
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						20.5 2.75

PACIFIC NORTHERN GAS LTD.

ACCOUNT 449.00 - PROCESSING PLANT - OTHER LOCAL STORAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 33-R3						
NET SALVAGE PERCENT.. 0						
1997	3,200.00	1,713	2,111	1,089	15.33	71
	3,200.00	1,713	2,111	1,089		71
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.3						2.22

PACIFIC NORTHERN GAS LTD.

ACCOUNT 461.00 - TRANSMISSION - LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 75-R4						
NET SALVAGE PERCENT.. 0						
1968	296,958.82	182,728	10,527	286,432	28.85	9,928
1970	92,594.85	54,927	3,164	89,430	30.51	2,931
1971	65,680.01	38,226	2,202	63,478	31.35	2,025
1972	29,748.57	16,972	978	28,771	32.21	893
1973	5,886.96	3,291	190	5,697	33.07	172
1974	285.13	156	9	276	33.94	8
1975	320.54	172	10	311	34.81	9
1976	9,698.29	5,082	293	9,406	35.70	263
1977	1,394.00	714	41	1,353	36.59	37
1978	1,478.45	739	43	1,436	37.49	38
1980	120.05	57	3	117	39.32	3
1981	308,028.30	142,762	8,225	299,804	40.24	7,450
1982	49,730.05	22,438	1,293	48,437	41.16	1,177
1983	101,521.35	44,534	2,566	98,956	42.10	2,350
1984	12,479.08	5,318	306	12,173	43.04	283
1985	10,740.05	4,442	256	10,484	43.98	238
1986	39,950.77	16,017	923	39,028	44.93	869
1987	29,691.01	11,528	664	29,027	45.88	633
1988	12,609.72	4,735	273	12,337	46.84	263
1989	50,070.09	18,159	1,046	49,024	47.80	1,026
1990	53,549.00	18,728	1,079	52,470	48.77	1,076
1991	5,240.82	1,766	102	5,139	49.73	103
1992	440.39	143	8	432	50.71	9
1993	13,227.28	4,113	237	12,990	51.68	251
1994	45,315.96	13,498	778	44,538	52.66	846
	1,236,759.54	611,245	35,215	1,201,545		32,881

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 75-R4
NET SALVAGE PERCENT.. 0

1996	70,475.07	19,150	47,894	22,581	54.62	413
2015	214,145.24	4,283	10,712	203,433	73.50	2,768
	284,620.31	23,433	58,606	226,014		3,181



PACIFIC NORTHERN GAS LTD.

ACCOUNT 461.00 - TRANSMISSION - LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 75-R4						
NET SALVAGE PERCENT.. 0						
1990	10,967.40	3,836		10,967	48.77	225
2013	78,734.45	3,675		78,734	71.50	1,101
2014	57,887.01	1,929		57,887	72.50	798
2016	27,077.40	181		27,077	74.50	363
	174,666.26	9,621		174,666		2,487
	1,696,046.11	644,299	93,821	1,602,225		38,549
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						41.6 2.27

PACIFIC NORTHERN GAS LTD.

ACCOUNT 462.00 - TRANSMISSION - COMPRESSOR STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 30-R4						
NET SALVAGE PERCENT.. -3						
1969	299,496.05	298,199	304,359	4,122	1.00	4,122
1970	3,030.96	3,018	3,080	42	1.00	42
1972	1,920.04	1,912	1,951	26	1.00	26
1973	1,817.75	1,810	1,847	25	1.00	25
1974	584.10	582	594	8	1.00	8
1975	726.71	724	739	10	1.00	10
1976	3,136.84	3,108	3,172	59	1.14	52
1977	593.43	583	595	16	1.38	12
1980	3,731.57	3,567	3,641	203	2.16	94
1982	1,272,570.06	1,191,469	1,216,081	94,666	2.73	34,676
1983	15,010.29	13,894	14,181	1,280	3.04	421
1984	114,988.38	105,094	107,265	11,173	3.38	3,306
1985	14,763.72	13,306	13,581	1,626	3.75	434
1986	11,153.66	9,895	10,099	1,389	4.16	334
1987	22,151.27	19,295	19,694	3,122	4.63	674
1988	18,948.43	16,166	16,500	3,017	5.15	586
1989	1,562.63	1,303	1,330	280	5.72	49
1990	25,033.92	20,336	20,756	5,029	6.34	793
1991	141,605.25	111,821	114,131	31,723	7.00	4,532
1992	58,539.28	44,860	45,787	14,509	7.68	1,889
1993	136,204.87	101,056	103,144	37,147	8.39	4,428
1994	91,268.58	65,429	66,781	27,226	9.12	2,985
1995	88,758.62	61,344	62,611	28,810	9.87	2,919
1996	11,746.00	7,803	7,964	4,134	10.65	388
1997	63,633.55	40,505	41,342	24,201	11.46	2,112
1998	35,029.88	21,300	21,740	14,341	12.29	1,167
1999	141,930.30	82,158	83,855	62,333	13.14	4,744
2000	19,737.06	10,835	11,059	9,270	14.01	662
2003	5,387.92	2,451	2,502	3,048	16.75	182
2004	10,778.31	4,555	4,649	6,453	17.69	365
2005	81,767.39	31,892	32,551	51,670	18.64	2,772
2006	99,182.23	35,415	36,147	66,011	19.60	3,368
2007	15,288.00	4,950	5,052	10,694	20.57	520
2008	4,901.11	1,422	1,451	3,597	21.55	167
2009	5,814.84	1,489	1,520	4,470	22.54	198
2011	18,888.43	3,554	3,627	15,828	24.52	646
2013	59,061.55	7,077	7,223	53,610	26.51	2,022
	2,900,742.98	2,344,177	2,392,601	595,165		81,730



PACIFIC NORTHERN GAS LTD.

ACCOUNT 462.00 - TRANSMISSION - COMPRESSOR STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 30-R4						
NET SALVAGE PERCENT.. -3						
1996	15,352.66	10,200	9,597	6,216	10.65	584
1998	382,528.81	232,593	218,845	175,160	12.29	14,252
1999	67,163.42	38,878	36,580	32,598	13.14	2,481
	465,044.89	281,671	265,022	213,974		17,317
	3,365,787.87	2,625,848	2,657,623	809,139		99,047
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						8.2 2.94

PACIFIC NORTHERN GAS LTD.

ACCOUNT 463.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT -
STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 39-R4						
NET SALVAGE PERCENT.. -15						
1969	98,454.43	105,094	113,223			
1970	8,004.87	8,481	9,206			
1971	5,425.16	5,701	6,239			
1972	1,890.17	1,970	2,174			
1973	808.52	835	930			
1975	2,294.22	2,323	2,597	41	4.66	9
1976	3,441.50	3,445	3,851	106	5.05	21
1977	2,838.12	2,805	3,136	128	5.48	23
1978	3,144.89	3,065	3,426	190	5.95	32
1980	23,080.67	21,779	24,347	2,196	7.00	314
1981	27,899.44	25,840	28,887	3,197	7.59	421
1982	147,135.53	133,586	149,338	19,868	8.21	2,420
1983	10,521.06	9,347	10,449	1,650	8.87	186
1984	28,910.06	25,114	28,075	5,171	9.54	542
1985	76,850.03	65,195	72,883	15,495	10.23	1,515
1986	38,259.47	31,656	35,389	8,610	10.94	787
1987	44,362.94	35,751	39,967	11,051	11.67	947
1988	226,989.59	177,908	198,887	62,151	12.42	5,004
1989	56,701.91	43,170	48,261	16,947	13.18	1,286
1990	25,453.68	18,786	21,001	8,271	13.97	592
1991	74,813.14	53,452	59,755	26,280	14.77	1,779
1992	82,398.99	56,855	63,559	31,200	15.60	2,000
1993	20,616.79	13,715	15,332	8,377	16.44	510
1994	20,528.84	13,136	14,685	8,923	17.30	516
1995	28,062.08	17,236	19,268	13,003	18.17	716
1999	8,533.14	4,323	4,833	4,980	21.82	228
2002	1,484.00	627	701	1,006	24.66	41
2003	30,321.43	11,954	13,364	21,506	25.63	839
2004	8,838.20	3,232	3,613	6,551	26.60	246
2005	56,747.66	19,109	21,362	43,898	27.58	1,592
2006	4,339.50	1,336	1,494	3,497	28.56	122
2007	91,366.87	25,486	28,491	76,581	29.54	2,592
2008	4,650.00	1,161	1,298	4,050	30.53	133
2016	16,676.08	246	275	18,902	38.50	491
	1,281,842.98	943,719	1,050,295	423,825		25,904

PACIFIC NORTHERN GAS LTD.

ACCOUNT 463.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT -
STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 39-R4						
NET SALVAGE PERCENT.. -15						
1996	83,483.54	49,086	50,113	45,893	19.06	2,408
	83,483.54	49,086	50,113	45,893		2,408
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 39-R4						
NET SALVAGE PERCENT.. -15						
1978	3,568.45	3,478	3,482	622	5.95	105
1990	912.88	674	675	375	13.97	27
2003	30,066.02	11,853	11,866	22,710	25.63	886
2004	28,191.47	10,308	10,320	22,101	26.60	831
2016	63,132.87	931	932	71,671	38.50	1,862
	125,871.69	27,244	27,275	117,478		3,711
	1,491,198.21	1,020,049	1,127,683	587,196		32,023
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						18.3 2.15

PACIFIC NORTHERN GAS LTD.

ACCOUNT 465.00 - TRANSMISSION - MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 65-R4						
NET SALVAGE PERCENT.. -20						
1969	17,380,047.36	14,217,365	15,607,290	5,248,767	20.69	253,686
1970	420,941.37	338,361	371,440	133,690	21.46	6,230
1971	53,145.06	41,963	46,065	17,709	22.23	797
1972	519,367.77	402,520	441,871	181,370	23.02	7,879
1973	44,805.00	34,071	37,402	16,364	23.81	687
1974	1,974,935.05	1,472,267	1,616,199	753,723	24.62	30,614
1975	282,899.30	206,614	226,813	112,666	25.44	4,429
1976	114,818.79	82,098	90,124	47,658	26.27	1,814
1977	68,231.88	47,716	52,381	29,497	27.12	1,088
1978	21,867.79	14,949	16,410	9,831	27.97	351
1979	1,051,828.43	702,361	771,026	491,169	28.83	17,037
1980	325,587.76	212,184	232,928	157,778	29.70	5,312
1981	609,567.99	387,349	425,217	306,264	30.58	10,015
1982	24,696,098.92	15,287,379	16,781,911	12,853,407	31.47	408,434
1983	968,064.71	583,162	640,173	521,504	32.37	16,111
1984	807,771.32	473,031	519,276	450,050	33.28	13,523
1985	162,053.53	92,147	101,156	93,309	34.20	2,728
1986	5,375,832.37	2,965,460	3,255,371	3,195,628	35.12	90,992
1987	897,363.88	479,602	526,489	550,348	36.05	15,266
1988	4,245,313.62	2,195,269	2,409,884	2,684,492	36.99	72,573
1989	1,029,044.30	514,267	564,543	670,310	37.93	17,672
1990	8,743,215.53	4,216,153	4,628,335	5,863,524	38.88	150,811
1991	2,006,999.34	932,604	1,023,778	1,384,622	39.83	34,763
1992	3,249,428.77	1,452,339	1,594,323	2,304,991	40.79	56,509
1993	6,298,443.63	2,703,468	2,967,766	4,590,367	41.75	109,949
1994	9,351,457.01	3,846,479	4,222,520	6,999,228	42.72	163,840
1995	8,980,127.01	3,532,962	3,878,353	6,897,799	43.69	157,880
1996	2,381,432.99	894,238	981,661	1,876,059	44.66	42,008
1997	1,442,443.88	515,558	565,960	1,164,972	45.64	25,525
1998	3,178,422.65	1,078,515	1,183,953	2,630,154	46.62	56,417
1999	5,946,251.83	1,910,103	2,096,839	5,038,663	47.60	105,854
2000	3,011,149.35	912,812	1,002,051	2,611,328	48.58	53,753
2001	731,933.38	208,496	228,879	649,441	49.57	13,101
2002	2,150,515.18	573,284	629,330	1,951,289	50.56	38,594
2003	1,372,877.27	340,891	374,217	1,273,235	51.55	24,699
2004	1,359,069.81	312,624	343,187	1,287,697	52.54	24,509
2005	6,921,218.43	1,465,582	1,608,861	6,696,601	53.53	125,100
2006	4,205,571.88	812,920	892,393	4,154,293	54.53	76,184
2007	3,853,629.31	674,462	740,399	3,883,956	55.52	69,956
2008	4,850,373.18	759,336	833,571	4,986,877	56.52	88,232
2009	2,923,042.50	404,187	443,701	3,063,950	57.51	53,277
2010	1,121,505.83	134,379	147,516	1,198,291	58.51	20,480

PACIFIC NORTHERN GAS LTD.

ACCOUNT 465.00 - TRANSMISSION - MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 65-R4						
NET SALVAGE PERCENT.. -20						
2011	3,520,212.85	356,781	391,661	3,832,595	59.51	64,403
2012	2,150,153.82	178,239	195,664	2,384,520	60.51	39,407
2013	2,115,297.24	136,691	150,054	2,388,302	61.50	38,834
2014	480,152.44	22,160	24,326	551,857	62.50	8,830
2015	1,257,455.33	34,826	38,231	1,470,716	63.50	23,161
2016	1,029,528.51	9,500	10,429	1,225,005	64.50	18,992
	155,681,495.15	69,169,724	75,931,928	110,885,866		2,662,306

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 65-R4
NET SALVAGE PERCENT.. -20

1996	3,348,547.95	1,257,393	2,268,070	1,750,187	44.66	39,189
1997	105,760.40	37,801	68,185	58,727	45.64	1,287
1998	492,662.93	167,172	301,543	289,653	46.62	6,213
1999	109,864.44	35,292	63,659	68,178	47.60	1,432
2000	78,580.79	23,821	42,968	51,329	48.58	1,057
2003	3,553.94	882	1,591	2,674	51.55	52
2006	22,367.96	4,324	7,800	19,042	54.53	349
2007	87,430.90	15,302	27,602	77,316	55.52	1,393
2008	65,003.79	10,176	18,355	59,649	56.52	1,055
2009	83,763.81	11,583	20,893	79,623	57.51	1,385
2010	4,003.06	480	866	3,938	58.51	67
2011	22,179.04	2,248	4,055	22,560	59.51	379
2012	213,214.77	17,675	31,882	223,976	60.51	3,701
2015	2,103,466.59	58,258	105,085	2,419,075	63.50	38,096
2016	138,418.78	1,277	2,303	163,799	64.50	2,540
	6,878,819.15	1,643,684	2,964,857	5,289,726		98,195

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 65-R4
NET SALVAGE PERCENT.. -20

1970	10,388.55	8,351	9,537	2,929	21.46	136
1980	589,185.56	383,970	438,513	268,509	29.70	9,041
1990	1,043,295.67	503,098	574,564	677,391	38.88	17,423
2000	11,382.63	3,451	3,941	9,718	48.58	200
2001	110,897.25	31,590	36,077	96,999	49.57	1,957
2003	22,383.42	5,558	6,348	20,513	51.55	398



PACIFIC NORTHERN GAS LTD.

ACCOUNT 465.00 - TRANSMISSION - MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 65-R4						
NET SALVAGE PERCENT.. -20						
2004	60,353.98	13,883	15,855	56,570	52.54	1,077
2009	113,856.77	15,744	17,980	118,648	57.51	2,063
2010	59,342.01	7,110	8,120	63,090	58.51	1,078
2012	123,347.96	10,225	11,677	136,340	60.51	2,253
2013	1,391,361.92	89,910	102,682	1,566,952	61.50	25,479
2014	2,024,908.91	93,454	106,729	2,323,161	62.50	37,171
2015	5,324.61	147	168	6,222	63.50	98
2016	261,817.27	2,416	2,759	311,422	64.50	4,828
	5,827,846.51	1,168,907	1,334,951	5,658,464		103,202
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 65-R4						
NET SALVAGE PERCENT.. -20						
1980	1,670,849.65	1,088,886	1,039,095	965,924	29.70	32,523
1990	45,285.77	21,838	20,839	33,503	38.88	862
2011	24,879.22	2,522	2,407	27,448	59.51	461
	1,741,014.64	1,113,246	1,062,341	1,026,876		33,846
	170,129,175.45	73,095,561	81,294,078	122,860,932		2,897,549
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						42.4 1.70

PACIFIC NORTHERN GAS LTD.

ACCOUNT 466.00 - TRANSMISSION - COMPRESSOR EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 35-R3						
NET SALVAGE PERCENT.. -2						
1969	717,052.22	671,002	731,393			
1970	18,164.36	16,860	18,528			
1971	8,118.03	7,474	8,280			
1972	7,914.94	7,224	8,073			
1973	5,018.51	4,541	5,119			
1974	2,916.92	2,615	2,975			
1975	6,553.50	5,816	6,685			
1982	8,747,857.95	7,061,784	8,351,055	571,760	7.30	78,323
1983	487,922.62	386,768	457,380	40,301	7.80	5,167
1984	1,098,759.23	854,325	1,010,299	110,435	8.32	13,273
1985	1,967,386.33	1,498,167	1,771,688	235,047	8.87	26,499
1986	3,000,929.07	2,234,492	2,642,443	418,504	9.45	44,286
1987	113,912.00	82,827	97,949	18,242	10.05	1,815
1988	44,106.75	31,261	36,968	8,021	10.68	751
1989	1,197,433.48	826,351	977,218	244,164	11.32	21,569
1990	20,693.95	13,877	16,411	4,697	11.99	392
1991	633,943.04	412,357	487,641	158,981	12.68	12,538
1992	88,140.63	55,509	65,643	24,260	13.39	1,812
1993	278,199.63	169,285	200,191	83,572	14.12	5,919
1994	513,257.99	301,251	356,250	167,273	14.86	11,257
1995	450,348.51	254,221	300,634	158,721	15.63	10,155
1996	790,721.05	428,617	506,870	299,666	16.40	18,272
1997	680,182.80	352,839	417,257	276,530	17.20	16,077
1998	56,668.02	28,075	33,201	24,601	18.00	1,367
1999	331,832.97	156,373	184,922	153,548	18.83	8,154
2000	250,003.56	111,766	132,171	122,832	19.66	6,248
2001	425,130.49	179,524	212,300	221,333	20.51	10,791
2002	424,716.18	168,580	199,358	233,853	21.38	10,938
2003	265,586.55	98,686	116,703	154,195	22.25	6,930
2004	519,050.53	179,403	212,157	317,275	23.14	13,711
2005	233,298.34	74,516	88,120	149,844	24.04	6,233
2006	27,761.57	8,131	9,615	18,701	24.95	750
2007	70,844.71	18,850	22,291	49,970	25.87	1,932
2008	12,824.62	3,065	3,625	9,457	26.80	353
2009	16,564.94	3,505	4,145	12,751	27.74	460
2010	34,858.50	6,410	7,580	27,975	28.69	975
2011	30,632.27	4,776	5,648	25,597	29.65	863
2012	161,404.64	20,650	24,420	140,213	30.61	4,581
2013	354,448.63	35,326	41,775	319,762	31.58	10,125

PACIFIC NORTHERN GAS LTD.

ACCOUNT 466.00 - TRANSMISSION - COMPRESSOR EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 35-R3						
NET SALVAGE PERCENT.. -2						
2014	401,868.36	28,693	33,931	375,974	32.55	11,551
2015	510,106.70	21,853	25,843	494,466	33.53	14,747
2016	189,789.77	2,710	3,205	190,381	34.51	5,517
	25,196,924.86	16,830,355	19,837,962	5,862,902		384,331
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 35-R3						
NET SALVAGE PERCENT.. -2						
1990	4,412.00	2,959	3,143	1,357	11.99	113
	4,412.00	2,959	3,143	1,357		113
	25,201,336.86	16,833,314	19,841,105	5,864,259		384,444
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.3						1.53

PACIFIC NORTHERN GAS LTD.

ACCOUNT 467.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 35-S2.5						
NET SALVAGE PERCENT.. -7						
1969	155,081.23	145,598	165,937			
1970	91,632.28	85,385	98,047			
1971	11,851.07	10,960	12,681			
1972	39,808.64	36,522	42,595			
1973	28,863.99	26,261	30,884			
1974	8,158.30	7,355	8,729			
1975	22,965.44	20,515	24,573			
1976	808.11	715	865			
1977	2,043.79	1,789	2,187			
1978	504.17	437	539			
1979	1,925.57	1,648	2,060			
1980	10,510.57	8,888	11,246			
1981	223,582.51	186,533	236,070	3,163	7.71	410
1982	41,009.75	33,738	42,698	1,183	8.09	146
1983	8,062.96	6,537	8,273	354	8.48	42
1984	125,237.19	99,928	126,465	7,538	8.90	847
1985	93,121.81	73,050	92,450	7,191	9.34	770
1986	90,029.92	69,331	87,743	8,589	9.81	876
1987	165,087.16	124,659	157,764	18,879	10.30	1,833
1988	673,421.32	498,008	630,262	90,299	10.81	8,353
1989	30,208.49	21,841	27,641	4,682	11.35	413
1990	75,723.67	53,430	67,619	13,405	11.92	1,125
1991	100,743.77	69,266	87,661	20,135	12.51	1,610
1992	630,534.91	421,576	533,532	141,140	13.13	10,749
1993	286,160.57	185,641	234,941	71,251	13.78	5,171
1994	366,874.23	230,375	291,555	101,001	14.46	6,985
1995	194,770.74	118,076	149,433	58,972	15.17	3,887
1996	91,190.75	53,220	67,353	30,221	15.91	1,899
1997	403,330.97	226,014	286,036	145,528	16.67	8,730
1998	421,566.36	226,052	286,084	164,992	17.46	9,450
1999	121,614.16	62,163	78,671	51,456	18.28	2,815
2000	107,510.11	52,193	66,054	48,982	19.12	2,562
2001	29,746.24	13,650	17,275	14,553	19.99	728
2003	110,906.84	44,823	56,726	61,944	21.78	2,844
2004	418,681.21	157,307	199,082	248,906	22.71	10,960
2005	177,509.74	61,594	77,951	111,984	23.65	4,735
2006	92,219.92	29,320	37,106	61,569	24.60	2,503
2007	284,198.13	81,932	103,690	200,402	25.57	7,837
2008	58,116.41	15,031	19,023	43,162	26.54	1,626
2009	781,968.45	178,578	226,002	610,704	27.53	22,183
2010	62,728.27	12,446	15,751	51,368	28.51	1,802
2011	365,132.57	61,284	77,559	313,133	29.51	10,611

PACIFIC NORTHERN GAS LTD.

ACCOUNT 467.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 35-S2.5						
NET SALVAGE PERCENT.. -7						
2012	350,291.35	48,190	60,988	313,824	30.50	10,289
2013	10,989.37	1,176	1,488	10,270	31.50	326
2014	1,306,426.82	99,850	126,367	1,271,510	32.50	39,123
2015	285,038.90	13,072	16,543	288,448	33.50	8,610
2016	851,507.01	13,020	16,478	894,635	34.50	25,931
	9,809,395.74	3,988,977	5,010,680	5,485,374		218,781

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 35-S2.5
NET SALVAGE PERCENT.. -7

1996	1,907,965.78	1,113,508	1,440,621	600,902	15.91	37,769
1997	1,153.80	647	837	397	16.67	24
1999	346,928.58	177,332	229,426	141,787	18.28	7,756
2000	8,534.51	4,143	5,360	3,772	19.12	197
2005	39,809.13	13,813	17,871	24,725	23.65	1,045
2006	12,764.60	4,058	5,250	8,408	24.60	342
2007	242,299.56	69,853	90,374	168,887	25.57	6,605
2008	377,229.76	97,563	126,224	277,412	26.54	10,453
2009	219,910.21	50,221	64,974	170,330	27.53	6,187
2010	261,480.52	51,880	67,121	212,663	28.51	7,459
2011	251,586.82	42,226	54,631	214,567	29.51	7,271
2012	607,391.34	83,559	108,106	541,803	30.50	17,764
2013	466,191.38	49,882	64,536	434,289	31.50	13,787
2014	189,207.21	14,461	18,709	183,743	32.50	5,654
2015	265,500.25	12,176	15,753	268,332	33.50	8,010
2016	167,841.73	2,566	3,320	176,271	34.50	5,109
	5,365,795.18	1,787,888	2,313,113	3,428,288		135,432

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 35-S2.5
NET SALVAGE PERCENT.. -7

1978	12,599.45	10,912	12,358	1,123	6.67	168
1980	42,554.34	35,984	40,753	4,780	7.34	651
1990	74,099.39	52,284	59,214	20,073	11.92	1,684
2000	11,691.73	5,676	6,428	6,082	19.12	318
2001	129,333.66	59,349	67,215	71,172	19.99	3,560
2002	36,369.01	15,699	17,780	21,135	20.88	1,012



PACIFIC NORTHERN GAS LTD.

ACCOUNT 467.00 - TRANSMISSION - MEASURING AND REGULATING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 35-S2.5						
NET SALVAGE PERCENT.. -7						
2003	26,449.89	10,690	12,107	16,195	21.78	744
2004	52,991.12	19,910	22,549	34,152	22.71	1,504
2006	52,205.03	16,598	18,798	37,062	24.60	1,507
2007	123,160.53	35,506	40,212	91,570	25.57	3,581
2009	282,232.67	64,454	72,996	228,992	27.53	8,318
2010	170,109.83	33,752	38,225	143,792	28.51	5,044
2011	24,918.14	4,182	4,736	21,926	29.51	743
2012	53,767.49	7,397	8,377	49,154	30.50	1,612
2013	615,250.76	65,832	74,557	583,761	31.50	18,532
2014	536,680.64	41,019	46,456	527,793	32.50	16,240
2015	34,447.17	1,580	1,789	35,069	33.50	1,047
2016	83,744.73	1,280	1,450	88,157	34.50	2,555
	2,362,605.58	482,104	546,000	1,981,988		68,820
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 35-S2.5						
NET SALVAGE PERCENT.. -7						
1990	27,405.79	19,337	21,263	8,061	11.92	676
2001	25,021.93	11,482	12,626	14,148	19.99	708
2003	4,783.52	1,933	2,126	2,993	21.78	137
2004	7,090.20	2,664	2,929	4,657	22.71	205
2008	20,448.59	5,289	5,816	16,064	26.54	605
2013	165,970.26	17,759	19,528	158,060	31.50	5,018
2014	144,571.25	11,050	12,151	142,541	32.50	4,386
2015	11,346.15	520	572	11,569	33.50	345
2016	22,093.67	338	372	23,269	34.50	674
	428,731.36	70,372	77,381	381,361		12,754
	17,966,527.86	6,329,341	7,947,174	11,277,011		435,787
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.9						2.43

PACIFIC NORTHERN GAS LTD.

ACCOUNT 468.00 - TRANSMISSION - COMMUNICATION STRUCTURES AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 15-R2						
NET SALVAGE PERCENT.. 0						
1969	2,373.06	2,215	2,373			
1970	7,408.99	6,915	7,409			
1973	13,680.72	12,769	13,681			
1980	39,158.21	36,548	39,158			
1981	1,590.51	1,484	1,591			
1982	342,697.47	319,850	342,697			
1983	14,974.60	13,976	14,975			
1984	11,235.20	10,486	11,235			
1987	14,687.37	13,708	14,687			
1988	30,091.84	28,086	30,092			
1989	65,796.51	61,410	65,797			
1990	157,731.52	147,216	157,732			
1991	182,547.48	170,377	182,547			
1992	25,803.87	24,084	25,804			
1994	62,237.04	56,096	62,237			
1995	14,201.00	12,525	14,201			
1996	40,113.57	34,578	40,114			
1997	920,035.48	774,053	905,033	15,003	2.38	6,304
1998	961.44	787	920	41	2.72	15
1999	265,467.55	210,959	246,656	18,812	3.08	6,108
2000	114,610.46	88,021	102,915	11,695	3.48	3,361
2001	215,627.83	159,278	186,230	29,398	3.92	7,499
2002	82,649.82	58,461	68,353	14,296	4.39	3,256
2003	48,323.41	32,506	38,006	10,317	4.91	2,101
2004	100,724.08	64,061	74,901	25,823	5.46	4,729
2005	86,004.94	51,317	60,001	26,004	6.05	4,298
2007	4,179.42	2,132	2,493	1,687	7.35	230
2008	4,786.76	2,221	2,597	2,190	8.04	272
2012	26,248.09	6,807	7,959	18,289	11.11	1,646
2013	1,578.25	322	376	1,202	11.94	101
2014	335,998.55	49,503	57,880	278,119	12.79	21,745
2016	14,620.83	439	513	14,108	14.55	970
	3,248,145.87	2,453,190	2,781,162	466,984		62,635

PACIFIC NORTHERN GAS LTD.

ACCOUNT 468.00 - TRANSMISSION - COMMUNICATION STRUCTURES AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 15-R2						
NET SALVAGE PERCENT.. 0						
2016	20,124.11	604		20,124	14.55	1,383
	20,124.11	604		20,124		1,383
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 15-R2						
NET SALVAGE PERCENT.. 0						
1991	129,794.00	121,141	129,794			
	129,794.00	121,141	129,794			
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 15-R2						
NET SALVAGE PERCENT.. 0						
2015	5,426.25	485	362	5,064	13.66	371
	5,426.25	485	362	5,064		371
	3,403,490.23	2,575,420	2,911,318	492,172		64,389
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						7.6 1.89

PACIFIC NORTHERN GAS LTD.

ACCOUNT 469.00 - TRANSMISSION - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. 40-SQUARE						
NET SALVAGE PERCENT.. 0						
2000	1,943.15	802	141	1,802	23.50	77
2016	484,950.35	6,062	1,069	483,881	39.50	12,250
	486,893.50	6,864	1,210	485,683		12,327
PNG - DAWSON CREEK						
SURVIVOR CURVE.. 40-SQUARE						
NET SALVAGE PERCENT.. 0						
2002	18,450.46	6,688	7,017	11,433	25.50	448
	18,450.46	6,688	7,017	11,433		448
	505,343.96	13,552	8,227	497,116		12,775
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						38.9 2.53

PACIFIC NORTHERN GAS LTD.

ACCOUNT 471.00 - DISTRIBUTION - LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 75-R4						
NET SALVAGE PERCENT.. 0						
1970	364.03	216		364	30.51	12
1971	120.60	70		121	31.35	4
1973	1,703.45	952		1,703	33.07	51
1974	2,774.26	1,519		2,774	33.94	82
1977	301.25	154		301	36.59	8
1978	1,862.98	932		1,863	37.49	50
1980	2,332.91	1,110		2,333	39.32	59
1981	427.00	198		427	40.24	11
1982	1,523.96	688		1,524	41.16	37
1983	9,186.62	4,030		9,187	42.10	218
1984	1,555.47	663		1,555	43.04	36
1985	1,338.52	554		1,339	43.98	30
1986	269.50	108		270	44.93	6
1987	4,525.67	1,757		4,526	45.88	99
1988	835.02	314		835	46.84	18
1989	1,600.92	581		1,601	47.80	33
1990	300.00	105		300	48.77	6
1991	1,312.50	442		1,312	49.73	26
2009	1,943.83	194		1,944	67.51	29
	34,278.49	14,587		34,278		815

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 75-R4
NET SALVAGE PERCENT.. 0

1996	139,548.29	37,919	19,666	119,882	54.62	2,195
1997	2,005.35	519	269	1,736	55.60	31
1998	15,123.04	3,712	1,925	13,198	56.59	233
	156,676.68	42,150	21,861	134,816		2,459

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 75-R4
NET SALVAGE PERCENT.. 0

1970	2,182.78	1,295		2,183	30.51	72
1980	58,392.52	27,779		58,393	39.32	1,485
1990	4,319.64	1,511		4,320	48.77	89
	64,894.94	30,585		64,895		1,646



PACIFIC NORTHERN GAS LTD.

ACCOUNT 471.00 - DISTRIBUTION - LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 75-R4						
NET SALVAGE PERCENT.. 0						
1980	1,360.63	647		1,361	39.32	35
1990	650.00	227		650	48.77	13
	2,010.63	874		2,011		48
	257,860.74	88,196	21,861	236,000		4,968
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 47.5 1.93						

PACIFIC NORTHERN GAS LTD.

ACCOUNT 472.00 - DISTRIBUTION - STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. -10						
1972	908.33	949	876	124	1.50	83
1974	6,165.87	6,326	5,836	946	2.02	468
1976	3,875.21	3,903	3,601	662	2.53	262
1979	416.64	407	375	83	3.33	25
1980	203.82	197	182	42	3.62	12
1982	3,028.03	2,859	2,638	693	4.25	163
1985	10,787.68	9,738	8,984	2,882	5.38	536
1986	21,878.74	19,398	17,896	6,170	5.82	1,060
1988	20,988.08	17,862	16,479	6,608	6.79	973
1991	6,067.59	4,788	4,417	2,257	8.48	266
1993	4,993.94	3,708	3,421	2,072	9.75	213
2000	131,919.83	72,991	67,340	77,772	14.91	5,216
2002	3,168.10	1,562	1,441	2,044	16.55	124
2005	5,947.34	2,368	2,185	4,357	19.14	228
2009	6,081.94	1,610	1,485	5,205	22.78	228
2012	44,686.90	7,177	6,621	42,534	25.62	1,660
2014	23,021.17	2,068	1,908	23,415	27.55	850
2015	39,194.48	2,113	1,949	41,165	28.53	1,443
	333,333.69	160,024	147,635	219,032		13,810

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 30-R3
NET SALVAGE PERCENT.. -10

1996	57,946.45	38,584	34,315	29,426	11.84	2,485
1997	11,514.75	7,355	6,541	6,125	12.58	487
1998	4,951.41	3,025	2,690	2,756	13.34	207
2000	171,817.09	95,066	84,548	104,451	14.91	7,005
2001	93,565.06	48,957	43,541	59,381	15.73	3,775
2002	84,330.77	41,589	36,988	55,776	16.55	3,370
2003	104,898.99	48,463	43,101	72,288	17.40	4,154
2004	65,607.36	28,242	25,117	47,051	18.26	2,577
2005	42,405.46	16,886	15,018	31,628	19.14	1,652
2006	34,107.32	12,468	11,089	26,429	20.03	1,319
2007	42,084.73	13,996	12,448	33,846	20.93	1,617
2008	43,856.84	13,106	11,656	36,587	21.85	1,674
2009	124,470.27	32,952	29,306	107,611	22.78	4,724
2010	100,683.11	23,221	20,652	90,100	23.71	3,800
2011	78,414.76	15,354	13,655	72,601	24.66	2,944
2012	24,891.66	3,998	3,556	23,825	25.62	930



PACIFIC NORTHERN GAS LTD.

ACCOUNT 472.00 - DISTRIBUTION - STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. -10						
2013	39,880.35	5,001	4,448	39,421	26.58	1,483
2015	16,356.46	882	784	17,208	28.53	603
2016	16,271.50	292	260	17,639	29.51	598
	1,158,054.34	449,437	399,713	874,147		45,404

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 30-R3
NET SALVAGE PERCENT.. -10

1977	3,349.30	3,342	3,060	624	2.79	224
1980	105,346.88	101,898	93,308	22,574	3.62	6,236
1990	41,339.75	33,514	30,689	14,785	7.89	1,874
2000	22,675.72	12,546	11,488	13,455	14.91	902
2001	532.72	279	255	331	15.73	21
2002	79,207.03	39,062	35,769	51,359	16.55	3,103
2003	51,480.36	23,784	21,779	34,849	17.40	2,003
2004	45,401.39	19,544	17,896	32,045	18.26	1,755
2005	28,730.41	11,440	10,476	21,128	19.14	1,104
2006	31,690.30	11,585	10,608	24,251	20.03	1,211
2007	40,017.58	13,308	12,186	31,833	20.93	1,521
2008	15,473.94	4,624	4,234	12,787	21.85	585
2009	41,405.22	10,961	10,037	35,509	22.78	1,559
2010	66,648.28	15,372	14,076	59,237	23.71	2,498
2011	51,889.62	10,160	9,303	47,775	24.66	1,937
2012	48,378.98	7,770	7,115	46,102	25.62	1,799
2013	40,989.33	5,140	4,707	40,382	26.58	1,519
2014	31,041.67	2,789	2,554	31,592	27.55	1,147
2016	127,429.84	2,289	2,096	138,077	29.51	4,679
	873,028.32	329,407	301,637	658,694		35,677

PNG - TUMBLER RIDGE
SURVIVOR CURVE.. IOWA 30-R3
NET SALVAGE PERCENT.. -10

1980	22,514.94	21,778	19,369	5,397	3.62	1,491
2001	6,537.72	3,421	3,043	4,149	15.73	264
2003	6,635.51	3,066	2,727	4,572	17.40	263
2005	14,429.58	5,746	5,110	10,762	19.14	562
2007	20,434.77	6,796	6,044	16,434	20.93	785



PACIFIC NORTHERN GAS LTD.

ACCOUNT 472.00 - DISTRIBUTION - STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. -10						
2008	126,979.80	37,946	33,749	105,929	21.85	4,848
2009	19,862.00	5,258	4,676	17,172	22.78	754
2010	11,801.66	2,722	2,421	10,561	23.71	445
2011	29,389.97	5,755	5,118	27,211	24.66	1,103
2012	32,375.90	5,200	4,625	30,989	25.62	1,210
2014	9,159.89	823	732	9,344	27.55	339
2015	23,606.33	1,272	1,131	24,836	28.53	871
2016	17,053.13	306	272	18,486	29.51	626
	340,781.20	100,089	89,018	285,841		13,561
	2,705,197.55	1,038,957	938,004	2,037,714		108,452
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.8						4.01

PACIFIC NORTHERN GAS LTD.

ACCOUNT 473.00 - DISTRIBUTION - SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 50-R4						
NET SALVAGE PERCENT.. -60						
1973	49,381.72	61,628	48,456	30,555	11.00	2,778
1974	189,938.66	232,971	183,178	120,724	11.67	10,345
1975	163,185.66	196,606	154,585	106,512	12.35	8,624
1976	243,947.91	288,522	226,856	163,461	13.04	12,535
1977	281,227.00	326,313	256,570	193,394	13.74	14,075
1978	301,837.34	343,274	269,905	213,034	14.46	14,733
1979	480,571.00	535,164	420,783	348,131	15.20	22,903
1980	432,449.24	471,197	370,487	321,432	15.95	20,152
1981	680,027.58	724,420	569,589	518,456	16.71	31,027
1982	756,685.41	787,195	618,947	591,750	17.49	33,834
1983	889,188.14	902,277	709,432	713,269	18.29	38,998
1984	720,631.94	712,561	560,264	592,747	19.10	31,034
1985	862,330.71	830,045	652,638	727,091	19.92	36,501
1986	552,069.25	516,560	406,155	477,156	20.76	22,984
1987	636,926.20	578,635	454,962	564,120	21.61	26,105
1988	802,011.44	706,283	555,328	727,890	22.48	32,379
1989	844,341.59	719,784	565,943	785,003	23.36	33,605
1990	1,238,272.16	1,020,336	802,258	1,178,978	24.25	48,618
1991	1,170,154.63	930,507	731,628	1,140,619	25.15	45,353
1992	1,433,053.66	1,097,834	863,192	1,429,694	26.06	54,862
1993	1,360,512.70	1,002,208	788,004	1,388,816	26.98	51,476
1994	1,177,463.99	832,326	654,432	1,229,511	27.91	44,053
1995	843,152.95	570,646	448,681	900,364	28.85	31,208
1996	2,108,160.91	1,363,390	1,071,990	2,301,067	29.79	77,243
1997	1,419,276.04	874,274	687,414	1,583,428	30.75	51,494
1998	886,825.80	519,041	408,106	1,010,816	31.71	31,877
1999	420,298.81	233,081	183,264	489,214	32.67	14,974
2000	378,972.31	198,400	155,996	450,360	33.64	13,388
2001	267,999.03	131,898	103,707	325,091	34.62	9,390
2002	245,109.81	112,947	88,807	303,369	35.60	8,522
2003	345,497.47	148,370	116,659	436,137	36.58	11,923
2004	255,919.51	101,876	80,102	329,369	37.56	8,769
2005	216,249.06	79,234	62,299	283,699	38.55	7,359
2006	281,244.12	94,138	74,018	375,973	39.54	9,509
2007	252,297.35	76,456	60,115	343,561	40.53	8,477
2008	475,950.71	129,154	101,550	659,971	41.52	15,895
2009	225,707.72	54,025	42,478	318,654	42.52	7,494
2010	463,676.54	96,296	75,714	666,168	43.51	15,311
2011	248,663.50	43,685	34,348	363,513	44.51	8,167
2012	249,375.17	35,830	28,172	370,828	45.51	8,148
2013	222,812.25	24,955	19,621	336,878	46.50	7,245

PACIFIC NORTHERN GAS LTD.

ACCOUNT 473.00 - DISTRIBUTION - SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 50-R4						
NET SALVAGE PERCENT.. -60						
2014	325,362.46	26,029	20,466	500,114	47.50	10,529
2015	217,662.20	10,448	8,215	340,045	48.50	7,011
2016	212,110.35	3,394	2,669	336,708	49.50	6,802
	25,828,532.00	18,744,213	14,737,981	26,587,670		1,007,709

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 50-R4
NET SALVAGE PERCENT.. -60

1996	4,992,764.60	3,228,921	2,149,583	5,838,841	29.79	196,000
1997	522,456.43	321,833	214,253	621,677	30.75	20,217
1998	860,001.48	503,342	335,089	1,040,914	31.71	32,826
1999	507,688.90	281,544	187,432	624,871	32.67	19,127
2000	402,534.69	210,735	140,292	503,763	33.64	14,975
2001	362,194.16	178,257	118,671	460,840	34.62	13,311
2002	432,124.84	199,123	132,562	558,838	35.60	15,698
2003	410,451.58	176,264	117,344	539,379	36.58	14,745
2004	486,854.60	193,807	129,023	649,945	37.56	17,304
2005	485,495.49	177,886	118,424	658,369	38.55	17,078
2006	501,312.99	167,799	111,708	690,392	39.54	17,461
2007	700,248.02	212,203	141,269	979,127	40.53	24,158
2008	734,110.23	199,208	132,618	1,041,958	41.52	25,095
2009	422,851.07	101,214	67,381	609,181	42.52	14,327
2010	651,739.34	135,353	90,108	952,675	43.51	21,896
2011	630,890.03	110,835	73,786	935,638	44.51	21,021
2012	761,126.92	109,359	72,803	1,145,000	45.51	25,159
2013	938,826.36	105,149	70,001	1,432,122	46.50	30,798
2014	851,215.27	68,097	45,334	1,316,610	47.50	27,718
2015	902,839.98	43,336	28,850	1,415,694	48.50	29,190
2016	810,054.43	12,961	8,628	1,287,459	49.50	26,009
	17,367,781.41	6,737,226	4,485,159	23,303,291		624,113

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 50-R4
NET SALVAGE PERCENT.. -60

1970	209,746.85	274,248	152,344	183,251	9.14	20,049
1980	923,036.27	1,005,740	558,684	918,174	15.95	57,566
1990	1,058,173.40	871,935	484,356	1,208,721	24.25	49,844



PACIFIC NORTHERN GAS LTD.

ACCOUNT 473.00 - DISTRIBUTION - SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 50-R4						
NET SALVAGE PERCENT.. -60						
2000	73,450.42	38,453	21,360	96,160	33.64	2,859
2001	146,496.77	72,100	40,051	194,344	34.62	5,614
2002	115,052.73	53,016	29,450	154,634	35.60	4,344
2003	78,203.94	33,584	18,656	106,471	36.58	2,911
2004	114,965.36	45,765	25,422	158,522	37.56	4,221
2005	182,058.33	66,706	37,055	254,238	38.55	6,595
2006	240,701.96	80,568	44,755	340,368	39.54	8,608
2007	283,035.34	85,771	47,645	405,211	40.53	9,998
2008	344,537.18	93,494	51,936	499,324	41.52	12,026
2009	522,958.51	125,175	69,534	767,199	42.52	18,043
2010	805,853.05	167,360	92,968	1,196,397	43.51	27,497
2011	259,804.74	45,642	25,354	390,334	44.51	8,770
2012	476,255.65	68,428	38,011	723,998	45.51	15,909
2013	445,724.87	49,921	27,731	685,429	46.50	14,740
2014	475,514.17	38,041	21,132	739,691	47.50	15,572
2015	556,950.84	26,734	14,851	876,271	48.50	18,067
2016	214,723.23	3,436	1,909	341,648	49.50	6,902
	7,527,243.61	3,246,117	1,803,204	10,240,385		310,135

PNG - TUMBLER RIDGE
SURVIVOR CURVE.. IOWA 50-R4
NET SALVAGE PERCENT.. -60

1980	398,405.06	434,102	253,481	383,967	15.95	24,073
1990	43,782.09	36,076	21,066	48,986	24.25	2,020
2001	338.72	167	98	444	34.62	13
2002	4,329.17	1,995	1,165	5,762	35.60	162
2003	16,102.55	6,915	4,038	21,726	36.58	594
2004	61,549.72	24,502	14,307	84,172	37.56	2,241
2005	7,610.15	2,788	1,628	10,548	38.55	274
2006	19,961.91	6,682	3,902	28,037	39.54	709
2007	13,711.21	4,155	2,426	19,512	40.53	481
2008	3,390.45	920	537	4,888	41.52	118
2009	8,058.37	1,929	1,126	11,767	42.52	277
2010	13,005.09	2,701	1,577	19,231	43.51	442
2011	54,051.23	9,496	5,545	80,937	44.51	1,818



PACIFIC NORTHERN GAS LTD.

ACCOUNT 473.00 - DISTRIBUTION - SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 50-R4						
NET SALVAGE PERCENT.. -60						
2012	26,622.70	3,825	2,233	40,363	45.51	887
2013	35,753.14	4,004	2,338	54,867	46.50	1,180
2014	8,421.36	674	394	13,081	47.50	275
	715,092.92	540,931	315,861	828,288		35,564
	51,438,649.94	29,268,487	21,342,205	60,959,634		1,977,521
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						30.8 3.84

PACIFIC NORTHERN GAS LTD.

ACCOUNT 474.00 - DISTRIBUTION - HOUSE REGULATOR AND METER INSTALLS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 40-R4						
NET SALVAGE PERCENT.. -20						
1973	7,200.41	7,681	7,526	1,115	4.44	251
1974	19,452.21	20,536	20,120	3,222	4.81	670
1975	40,771.14	42,565	41,703	7,222	5.20	1,389
1976	46,809.47	48,265	47,288	8,883	5.63	1,578
1977	68,236.47	69,417	68,012	13,872	6.09	2,278
1978	68,021.42	68,157	66,777	14,848	6.60	2,250
1979	71,291.62	70,279	68,856	16,694	7.14	2,338
1980	101,960.40	98,708	96,710	25,643	7.73	3,317
1981	88,418.12	83,953	82,253	23,848	8.35	2,856
1982	59,015.61	54,885	53,774	17,045	9.00	1,894
1983	73,351.16	66,742	65,391	22,630	9.67	2,340
1984	76,066.04	67,638	66,269	25,010	10.36	2,414
1985	134,127.72	116,409	114,052	46,901	11.07	4,237
1986	102,279.33	86,559	84,807	37,928	11.79	3,217
1987	141,646.06	116,731	114,368	55,607	12.53	4,438
1988	145,048.30	116,227	113,874	60,184	13.29	4,529
1989	105,956.54	82,424	80,755	46,392	14.07	3,297
1990	224,029.18	168,896	165,477	103,358	14.87	6,951
1991	172,921.66	126,112	123,559	83,947	15.69	5,350
1992	120,705.26	85,025	83,304	61,543	16.52	3,725
1993	178,047.82	120,823	118,377	95,280	17.38	5,482
1994	155,426.87	101,463	99,409	87,103	18.24	4,775
1995	124,885.09	78,191	76,608	73,254	19.13	3,829
1996	221,649.85	132,790	130,102	135,878	20.03	6,784
1997	282,840.31	161,728	158,454	180,954	20.94	8,642
1998	184,510.95	100,411	98,378	123,035	21.86	5,628
1999	120,326.21	62,088	60,831	83,560	22.80	3,665
2000	92,279.16	45,014	44,103	66,632	23.74	2,807
2001	114,488.01	52,584	51,520	85,866	24.69	3,478
2002	176,497.24	75,982	74,444	137,353	25.65	5,355
2003	111,070.94	44,584	43,681	89,604	26.62	3,366
2004	43,132.26	16,045	15,720	36,039	27.60	1,306
2005	22,035.90	7,556	7,403	19,040	28.57	666
2006	69,116.33	21,647	21,209	61,731	29.56	2,088
2007	9,106.01	2,584	2,532	8,396	30.54	275
2008	50,428.37	12,814	12,555	47,959	31.53	1,521
2009	39,190.85	8,794	8,616	38,413	32.52	1,181
2010	63,416.62	12,328	12,078	64,022	33.52	1,910
2011	33,929.27	5,588	5,475	35,240	34.51	1,021
2012	50,496.43	6,802	6,664	53,931	35.51	1,519
2013	31,075.53	3,254	3,188	34,103	36.51	934

PACIFIC NORTHERN GAS LTD.

ACCOUNT 474.00 - DISTRIBUTION - HOUSE REGULATOR AND METER INSTALLS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 40-R4						
NET SALVAGE PERCENT.. -20						
2014	41,597.80	3,120	3,057	46,861	37.50	1,250
2015	87,957.09	3,958	3,878	101,671	38.50	2,641
2016	125,919.09	1,889	1,851	149,252	39.50	3,779
	4,296,732.12	2,679,246	2,625,008	2,531,070		133,221

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 40-R4
NET SALVAGE PERCENT.. -20

1996	943,840.01	565,455	687,483	445,125	20.03	22,223
1997	155,053.05	88,659	107,792	78,272	20.94	3,738
1998	85,338.88	46,441	56,463	45,943	21.86	2,102
1999	38,068.61	19,643	23,882	21,800	22.80	956
2000	33,757.81	16,467	20,021	20,489	23.74	863
2001	44,161.11	20,283	24,660	28,333	24.69	1,148
2002	71,139.86	30,626	37,235	48,133	25.65	1,877
2003	33,315.56	13,373	16,259	23,720	26.62	891
2004	53,855.47	20,034	24,357	40,269	27.60	1,459
2005	51,684.21	17,723	21,548	40,473	28.57	1,417
2006	63,303.95	19,827	24,106	51,859	29.56	1,754
2007	79,573.50	22,583	27,457	68,032	30.54	2,228
2008	98,986.96	25,153	30,581	88,203	31.53	2,797
2009	64,598.57	14,496	17,624	59,894	32.52	1,842
2010	69,532.77	13,517	16,434	67,005	33.52	1,999
2011	39,914.22	6,574	7,993	39,904	34.51	1,156
2012	56,666.32	7,633	9,280	58,719	35.51	1,654
2013	52,167.15	5,462	6,641	55,960	36.51	1,533
2014	55,505.68	4,163	5,061	61,545	37.50	1,641
2015	65,881.41	2,965	3,605	75,453	38.50	1,960
2016	65,506.75	983	1,195	77,413	39.50	1,960
	2,221,851.85	962,060	1,169,677	1,496,545		57,198

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 40-R4
NET SALVAGE PERCENT.. -20

1978	237,790.83	238,266	226,971	58,378	6.60	8,845
1980	293,040.64	283,693	270,245	81,404	7.73	10,531
1990	880,509.47	663,816	632,348	424,263	14.87	28,531



PACIFIC NORTHERN GAS LTD.

ACCOUNT 474.00 - DISTRIBUTION - HOUSE REGULATOR AND METER INSTALLS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 40-R4						
NET SALVAGE PERCENT.. -20						
2000	145,825.92	71,134	67,762	107,229	23.74	4,517
2001	285,108.25	130,950	124,742	217,388	24.69	8,805
2002	166,944.19	71,869	68,462	131,871	25.65	5,141
2003	274,427.91	110,155	104,933	224,380	26.62	8,429
2004	308,918.16	114,918	109,470	261,231	27.60	9,465
2005	45,593.32	15,634	14,893	39,819	28.57	1,394
2006	60,754.62	19,028	18,126	54,780	29.56	1,853
2007	42,050.04	11,934	11,368	39,092	30.54	1,280
2008	87,274.22	22,176	21,125	83,604	31.53	2,652
2009	55,835.03	12,529	11,935	55,067	32.52	1,693
2010	114,602.74	22,279	21,223	116,300	33.52	3,470
2011	64,781.39	10,669	10,163	67,574	34.51	1,958
2012	74,288.67	10,007	9,533	79,614	35.51	2,242
2013	89,730.71	9,395	8,950	98,727	36.51	2,704
2014	135,800.44	10,185	9,702	153,258	37.50	4,087
2015	100,881.53	4,540	4,325	116,733	38.50	3,032
2016	54,820.19	822	783	65,001	39.50	1,646
	3,518,978.27	1,833,999	1,747,059	2,475,715		112,275

PNG - TUMBLER RIDGE
SURVIVOR CURVE.. IOWA 40-R4
NET SALVAGE PERCENT.. -20

1980	239,243.74	231,612	223,619	63,473	7.73	8,211
1990	10,969.58	8,270	7,985	5,179	14.87	348
2000	19.64	10	10	14	23.74	1
2002	567.56	244	236	445	25.65	17
2004	4,188.12	1,558	1,504	3,522	27.60	128
2005	1,017.77	349	337	884	28.57	31
2006	2,098.20	657	634	1,884	29.56	64
2007	624.11	177	171	578	30.54	19
2008	3,500.78	890	859	3,342	31.53	106
2009	967.66	217	210	952	32.52	29
2010	2,292.15	446	431	2,320	33.52	69

PACIFIC NORTHERN GAS LTD.

ACCOUNT 474.00 - DISTRIBUTION - HOUSE REGULATOR AND METER INSTALLS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 40-R4						
NET SALVAGE PERCENT.. -20						
2011	3,172.08	522	504	3,303	34.51	96
2012	9,545.50	1,286	1,242	10,213	35.51	288
2013	7,905.98	828	799	8,688	36.51	238
	286,112.87	247,066	238,540	104,796		9,645
	10,323,675.11	5,722,371	5,780,284	6,608,126		312,339
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						21.2 3.03

PACIFIC NORTHERN GAS LTD.

ACCOUNT 475.00 - DISTRIBUTION - MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 65-R4						
NET SALVAGE PERCENT.. -25						
1969	1,256,817.29	1,070,950	1,084,874	486,147	20.69	23,497
1970	441,367.81	369,563	374,368	177,342	21.46	8,264
1971	270,981.38	222,882	225,780	112,947	22.23	5,081
1972	423,659.77	342,026	346,473	183,102	23.02	7,954
1973	395,492.06	313,274	317,347	177,018	23.81	7,435
1974	260,397.44	202,208	204,837	120,660	24.62	4,901
1975	281,900.64	214,463	217,251	135,124	25.44	5,311
1976	295,621.59	220,183	223,046	146,481	26.27	5,576
1977	562,279.55	409,600	414,926	287,924	27.12	10,617
1978	363,483.33	258,841	262,206	192,148	27.97	6,870
1979	679,842.46	472,881	479,029	370,774	28.83	12,861
1980	834,170.74	566,277	573,640	469,074	29.70	15,794
1981	923,029.78	610,976	618,920	534,867	30.58	17,491
1982	2,893,769.43	1,865,939	1,890,200	1,727,012	31.47	54,878
1983	759,489.87	476,580	482,776	466,586	32.37	14,414
1984	924,966.01	564,229	571,565	584,643	33.28	17,567
1985	393,712.24	233,201	236,233	255,907	34.20	7,483
1986	652,234.33	374,782	379,655	435,638	35.12	12,404
1987	503,141.52	280,111	283,753	345,174	36.05	9,575
1988	453,692.88	244,382	247,559	319,557	36.99	8,639
1989	1,066,559.78	555,224	562,443	770,757	37.93	20,321
1990	1,415,180.20	710,863	720,106	1,048,870	38.88	26,977
1991	956,938.67	463,194	469,216	726,957	39.83	18,251
1992	1,186,498.08	552,404	559,586	923,536	40.79	22,641
1993	578,287.29	258,559	261,921	460,938	41.75	11,040
1994	283,518.38	121,477	123,056	231,342	42.72	5,415
1995	1,282,484.91	525,578	532,411	1,070,695	43.69	24,507
1996	2,353,292.94	920,491	932,459	2,009,157	44.66	44,988
1997	1,790,152.38	666,496	675,162	1,562,529	45.64	34,236
1998	1,696,640.76	599,699	607,496	1,513,305	46.62	32,460
1999	436,832.16	146,170	148,070	397,970	47.60	8,361
2000	484,218.99	152,904	154,892	450,382	48.58	9,271
2001	163,402.86	48,486	49,116	155,137	49.57	3,130
2002	61,786.77	17,157	17,380	59,853	50.56	1,184
2003	250,221.05	64,720	65,561	247,215	51.55	4,796
2004	352,788.98	84,533	85,632	355,354	52.54	6,763
2005	288,298.01	63,591	64,418	295,955	53.53	5,529
2006	168,254.20	33,878	34,318	175,999	54.53	3,228
2007	415,340.71	75,722	76,707	442,469	55.52	7,970
2008	77,302.74	12,606	12,770	83,859	56.52	1,484
2009	362,358.89	52,193	52,872	400,077	57.51	6,957
2010	576,098.00	71,904	72,839	647,284	58.51	11,063

PACIFIC NORTHERN GAS LTD.

ACCOUNT 475.00 - DISTRIBUTION - MAINS

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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 65-R4						
NET SALVAGE PERCENT.. -25						
2011	132,438.16	13,982	14,164	151,384	59.51	2,544
2012	382,377.10	33,018	33,447	444,524	60.51	7,346
2013	330,078.86	22,218	22,507	390,092	61.50	6,343
2014	95,516.55	4,592	4,652	114,744	62.50	1,836
2015	696,935.67	20,107	20,368	850,801	63.50	13,398
2016	81,044.85	779	789	100,517	64.50	1,558
	31,534,898.06	15,605,893	15,808,798	23,609,824		600,209
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 65-R4						
NET SALVAGE PERCENT.. -25						
1996	8,824,723.88	3,451,791	4,919,005	6,111,900	44.66	136,854
1997	785,757.66	292,547	416,897	565,300	45.64	12,386
1998	927,722.17	327,915	467,298	692,355	46.62	14,851
1999	651,958.48	218,153	310,881	504,067	47.60	10,590
2000	553,870.40	174,898	249,240	443,098	48.58	9,121
2001	679,840.92	201,726	287,471	562,330	49.57	11,344
2002	572,743.38	159,044	226,647	489,282	50.56	9,677
2003	556,088.45	143,832	204,969	490,142	51.55	9,508
2004	1,042,854.27	249,881	356,095	947,473	52.54	18,033
2005	788,200.67	173,857	247,756	737,494	53.53	13,777
2006	408,131.73	82,177	117,107	393,058	54.53	7,208
2007	558,669.74	101,852	145,145	553,192	55.52	9,964
2008	1,403,017.66	228,797	326,049	1,427,723	56.52	25,260
2009	826,776.27	119,087	169,706	863,764	57.51	15,019
2010	929,320.32	115,991	165,294	996,356	58.51	17,029
2011	1,002,210.99	105,808	150,783	1,101,981	59.51	18,518
2012	1,300,823.86	112,326	160,071	1,465,959	60.51	24,227
2013	1,222,065.31	82,260	117,225	1,410,356	61.50	22,933
2014	1,946,970.00	93,601	133,387	2,300,326	62.50	36,805
2015	1,860,448.66	53,674	76,489	2,249,072	63.50	35,418
2016	3,082,945.03	29,635	42,232	3,811,450	64.50	59,092
	29,925,139.85	6,518,852	9,289,747	28,116,678		517,614

PACIFIC NORTHERN GAS LTD.

ACCOUNT 475.00 - DISTRIBUTION - MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 65-R4						
NET SALVAGE PERCENT.. -25						
1961	564,265.19	542,562	476,740	228,591	15.00	15,239
1970	14,840.19	12,426	10,919	7,632	21.46	356
1980	1,901,479.30	1,290,819	1,134,221	1,242,628	29.70	41,839
1990	1,706,038.69	856,965	753,001	1,379,548	38.88	35,482
2000	9,049.87	2,858	2,511	8,801	48.58	181
2001	110,687.48	32,844	28,859	109,500	49.57	2,209
2002	80,775.72	22,430	19,709	81,261	50.56	1,607
2003	160,743.56	41,576	36,532	164,397	51.55	3,189
2004	116,073.10	27,813	24,439	120,653	52.54	2,296
2005	172,914.55	38,141	33,514	182,629	53.53	3,412
2006	115,372.73	23,230	20,412	123,804	54.53	2,270
2007	144,854.01	26,409	23,205	157,862	55.52	2,843
2008	946,470.57	154,346	135,621	1,047,467	56.52	18,533
2009	2,082,654.40	299,980	263,587	2,339,731	57.51	40,684
2010	1,082,351.42	135,091	118,702	1,234,237	58.51	21,094
2011	357,690.29	37,763	33,182	413,931	59.51	6,956
2012	418,826.57	36,166	31,778	491,755	60.51	8,127
2013	850,677.76	57,261	50,314	1,013,033	61.50	16,472
2014	791,794.76	38,066	33,448	956,295	62.50	15,301
2015	456,956.00	13,183	11,584	559,611	63.50	8,813
2016	415,384.12	3,993	3,509	515,722	64.50	7,996
	12,499,900.28	3,693,922	3,245,787	12,379,088		254,899

PNG - TUMBLER RIDGE
SURVIVOR CURVE.. IOWA 65-R4
NET SALVAGE PERCENT.. -25

1980	943,551.11	640,530	546,224	633,214	29.70	21,320
1990	15,994.88	8,034	6,851	13,142	38.88	338
2007	24,750.46	4,512	3,848	27,090	55.52	488
2011	70,422.07	7,435	6,340	81,687	59.51	1,373
2012	13,174.10	1,138	970	15,497	60.51	256
2013	32,076.62	2,159	1,841	38,255	61.50	622
	1,099,969.24	663,808	566,075	808,886		24,397
	75,059,907.43	26,482,475	28,910,408	64,914,476		1,397,119

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 46.5 1.86



PACIFIC NORTHERN GAS LTD.

ACCOUNT 477.00 - DISTRIBUTION - MEASURING AND REGULATING EQUIPMENT

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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 35-R4						
NET SALVAGE PERCENT.. -7						
1980	25,840.15	24,118	27,649			
1981	1,054.45	970	1,128			
1985	43,881.62	37,522	46,953			
1986	54,403.27	45,455	57,429	782	7.67	102
1988	50,466.00	40,083	50,642	3,356	9.02	372
1989	6,472.14	5,000	6,317	608	9.73	62
1990	3,209.19	2,409	3,044	390	10.45	37
1991	70,127.24	51,025	64,467	10,569	11.20	944
1992	4,285.21	3,017	3,812	773	11.97	65
1994	4,822.89	3,160	3,992	1,168	13.57	86
1995	547.62	345	436	150	14.41	10
2004	11,440.00	4,326	5,466	6,775	22.63	299
	276,549.78	217,430	271,335	24,573		1,977

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 35-R4
NET SALVAGE PERCENT.. -7

2000	50,087.84	24,745	47,794	5,800	18.84	308
2001	72,283.62	33,655	65,003	12,341	19.77	624
2002	656,175.77	286,664	553,676	148,432	20.71	7,167
2003	28,851.23	11,757	22,708	8,163	21.67	377
2004	24,731.74	9,353	18,065	8,398	22.63	371
2005	2,397.93	836	1,615	951	23.60	40
2006	34,423.37	10,976	21,200	15,633	24.57	636
2007	23,007.99	6,647	12,838	11,780	25.55	461
2009	28,652.01	6,543	12,637	18,020	27.53	655
2010	26,381.50	5,226	10,094	18,134	28.52	636
2011	42,007.30	7,051	13,619	31,329	29.51	1,062
2012	84,057.57	11,539	22,287	67,655	30.51	2,217
2016	153,329.85	2,344	4,527	159,536	34.50	4,624
	1,226,387.72	417,336	806,061	506,173		19,178

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 35-R4
NET SALVAGE PERCENT.. -7

1978	20,626.07	19,712	22,070			
1980	332,360.78	310,209	349,689	5,937	4.47	1,328



PACIFIC NORTHERN GAS LTD.

ACCOUNT 477.00 - DISTRIBUTION - MEASURING AND REGULATING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 35-R4						
NET SALVAGE PERCENT.. -7						
1990	74,435.15	55,866	62,976	16,670	10.45	1,595
2002	4,183.56	1,828	2,061	2,416	20.71	117
2004	32,222.95	12,186	13,737	20,742	22.63	917
2006	5,719.36	1,824	2,056	4,064	24.57	165
2007	17,095.83	4,939	5,568	12,725	25.55	498
2009	17,928.10	4,094	4,615	14,568	27.53	529
2010	4,525.73	897	1,011	3,831	28.52	134
	509,097.53	411,555	463,782	80,952		5,283
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 35-R4						
NET SALVAGE PERCENT.. -7						
1980	188,024.57	175,493	198,184	3,002	4.47	672
2006	5,766.32	1,839	2,077	4,093	24.57	167
2010	127,228.83	25,204	28,463	107,672	28.52	3,775
	321,019.72	202,536	228,723	114,768		4,614
	2,333,054.75	1,248,857	1,769,902	726,466		31,052
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						23.4 1.33

PACIFIC NORTHERN GAS LTD.

ACCOUNT 478.00 - DISTRIBUTION - METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 20-R4						
NET SALVAGE PERCENT.. +1						
1990	238,470.97	224,282	169,129	66,957	1.00	66,957
1991	280,384.96	261,898	197,495	80,086	1.13	70,873
1992	254,596.89	234,407	176,765	75,286	1.40	53,776
1993	254,230.11	230,672	173,948	77,740	1.67	46,551
1994	233,800.10	208,663	157,351	74,111	1.97	37,620
1995	82,941.68	72,628	54,768	27,344	2.31	11,837
1996	152,261.81	130,389	98,325	52,414	2.70	19,413
1997	242,746.59	202,229	152,499	87,820	3.17	27,703
1998	95,789.01	77,193	58,211	36,620	3.72	9,844
1999	84,630.50	65,603	49,471	34,313	4.34	7,906
2001	47,216.49	33,399	25,186	21,558	5.71	3,775
2002	36,651.25	24,565	18,524	17,760	6.46	2,749
2003	45,398.50	28,675	21,624	23,321	7.24	3,221
2004	45,155.03	26,710	20,142	24,562	8.05	3,051
2005	50,940.55	27,989	21,106	29,325	8.90	3,295
2006	23,549.20	11,902	8,975	14,338	9.79	1,465
2007	41,870.61	19,275	14,535	26,917	10.70	2,516
2008	197,662.95	81,895	61,756	133,930	11.63	11,516
2009	137,262.29	50,347	37,966	97,923	12.59	7,778
2010	57,930.57	18,496	13,948	43,404	13.55	3,203
2011	94,458.03	25,576	19,287	74,227	14.53	5,109
2012	156,230.96	34,646	26,126	128,542	15.52	8,282
2013	138,622.96	23,948	18,059	119,178	16.51	7,219
2014	120,413.75	14,901	11,237	107,973	17.50	6,170
2015	222,860.24	16,547	12,478	208,154	18.50	11,252
2016	209,705.92	5,190	3,914	203,695	19.50	10,446
	3,545,781.92	2,152,025	1,622,826	1,887,498		443,527

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 20-R4
NET SALVAGE PERCENT.. +1

1997	118,518.44	98,736	72,140	45,193	3.17	14,256
1999	354,428.73	274,743	200,738	150,146	4.34	34,596
2002	41,309.65	27,687	20,229	20,667	6.46	3,199
2003	53,070.21	33,520	24,491	28,048	7.24	3,874
2004	65,646.66	38,832	28,372	36,618	8.05	4,549
2005	15,658.38	8,603	6,286	9,216	8.90	1,036
2006	51,220.91	25,887	18,914	31,795	9.79	3,248
2007	63,735.57	29,341	21,438	41,661	10.70	3,894



PACIFIC NORTHERN GAS LTD.

ACCOUNT 478.00 - DISTRIBUTION - METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 20-R4						
NET SALVAGE PERCENT.. +1						
2008	64,311.24	26,645	19,468	44,200	11.63	3,801
2009	72,599.32	26,629	19,456	52,417	12.59	4,163
2010	84,674.26	27,034	19,752	64,075	13.55	4,729
2011	97,584.83	26,423	19,306	77,303	14.53	5,320
2012	173,813.71	38,545	28,163	143,913	15.52	9,273
2013	138,651.99	23,953	17,501	119,764	16.51	7,254
2014	173,055.08	21,416	15,647	155,677	17.50	8,896
2015	164,070.79	12,182	8,901	153,529	18.50	8,299
2016	154,614.83	3,827	2,796	150,273	19.50	7,706
	1,886,964.60	744,003	543,598	1,324,497		128,093

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 20-R4
NET SALVAGE PERCENT.. +1

1990	106,388.50	100,058	62,332	42,993	1.00	42,993
2001	20,373.73	14,411	8,977	11,193	5.71	1,960
2002	1,081.80	725	452	619	6.46	96
2003	63,801.45	40,298	25,104	38,059	7.24	5,257
2004	7,399.72	4,377	2,727	4,599	8.05	571
2005	10,342.16	5,682	3,540	6,699	8.90	753
2006	14,920.89	7,541	4,698	10,074	9.79	1,029
2007	38,374.96	17,666	11,005	26,986	10.70	2,522
2008	26,569.20	11,008	6,858	19,446	11.63	1,672
2009	32,681.59	11,987	7,467	24,887	12.59	1,977
2010	31,133.09	9,940	6,192	24,630	13.55	1,818
2011	85,400.02	23,123	14,405	70,141	14.53	4,827
2012	65,578.55	14,543	9,060	55,863	15.52	3,599
2013	80,457.74	13,899	8,658	70,995	16.51	4,300
2014	80,440.13	9,954	6,201	73,435	17.50	4,196
2015	59,783.93	4,439	2,765	56,421	18.50	3,050
2016	67,184.63	1,663	1,036	65,477	19.50	3,358
	791,912.09	291,314	181,476	602,517		83,978



PACIFIC NORTHERN GAS LTD.

ACCOUNT 478.00 - DISTRIBUTION - METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 20-R4						
NET SALVAGE PERCENT.. +1						
1980	56,583.41	53,217	50,000	6,018	1.00	6,018
2009	1,925.16	706	663	1,243	12.59	99
2010	5,356.69	1,710	1,607	3,697	13.55	273
2011	37,710.00	10,211	9,594	27,739	14.53	1,909
2012	32,151.19	7,130	6,699	25,131	15.52	1,619
2013	32,418.52	5,600	5,261	26,833	16.51	1,625
2014	12,572.98	1,556	1,462	10,985	17.50	628
2015	22,844.28	1,696	1,593	21,022	18.50	1,136
	201,562.23	81,826	76,879	122,667		13,307
	6,426,220.84	3,269,168	2,424,780	3,937,179		668,905
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.9						10.41

PACIFIC NORTHERN GAS LTD.

ACCOUNT 479.00 - OTHER DISTRIBUTION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. 35-SQUARE						
NET SALVAGE PERCENT.. 0						
1997	30,514.62	17,001	23,643	6,872	15.50	443
	30,514.62	17,001	23,643	6,872		443
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. 35-SQUARE						
NET SALVAGE PERCENT.. 0						
1996	5.31	3	3	2	14.50	
1998	19,611.39	10,366	10,279	9,332	16.50	566
	19,616.70	10,369	10,282	9,334		566
	50,131.32	27,370	33,925	16,206		1,009
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						16.1 2.01

PACIFIC NORTHERN GAS LTD.

ACCOUNT 481.00 - GENERAL - LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 75-R4						
NET SALVAGE PERCENT.. 0						
1983	50.00	22		50	42.10	1
1985	300.00	124		300	43.98	7
	350.00	146		350		8
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 75-R4						
NET SALVAGE PERCENT.. 0						
1996	1,378.59	375	234	1,144	54.62	21
	1,378.59	375	234	1,144		21
	1,728.59	521	234	1,494		29
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						51.5 1.68

PACIFIC NORTHERN GAS LTD.

ACCOUNT 482.00 - GENERAL - STRUCTURES AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. 0						
1971	6,064.80	5,812	6,065			
1973	61,226.06	57,634	61,226			
1975	479,130.81	442,875	479,131			
1976	51,977.61	47,594	51,978			
1977	2,718.84	2,466	2,703	15	2.79	5
1978	647.05	581	637	10	3.06	3
1981	13,212.81	11,486	12,592	621	3.92	158
1982	369,603.15	317,241	347,790	21,813	4.25	5,132
1983	118,887.54	100,659	110,352	8,535	4.60	1,855
1984	42,055.39	35,074	38,451	3,604	4.98	724
1985	63,591.77	52,188	57,214	6,378	5.38	1,186
1986	276,300.53	222,698	244,143	32,158	5.82	5,525
1987	57,840.41	45,713	50,115	7,725	6.29	1,228
1988	286,719.03	221,826	243,187	43,532	6.79	6,411
1989	15,729.69	11,886	13,031	2,699	7.33	368
1990	8,303.94	6,120	6,709	1,595	7.89	202
1991	16,956.98	12,164	13,335	3,622	8.48	427
1992	8,728.30	6,081	6,667	2,062	9.10	227
1994	644,245.65	420,261	460,731	183,515	10.43	17,595
1995	1,031,832.67	649,363	711,894	319,939	11.12	28,771
1996	144,101.52	87,229	95,629	48,473	11.84	4,094
1997	497,134.46	288,671	316,469	180,666	12.58	14,361
1998	95,233.53	52,886	57,979	37,255	13.34	2,793
1999	32,710.54	17,315	18,982	13,728	14.12	972
2000	44,346.64	22,306	24,454	19,893	14.91	1,334
2001	45,687.93	21,732	23,825	21,863	15.73	1,390
2002	13,832.66	6,202	6,799	7,033	16.55	425
2003	46,445.99	19,507	21,385	25,061	17.40	1,440
2004	174,316.77	68,215	74,784	99,533	18.26	5,451
2005	103,260.25	37,380	40,980	62,281	19.14	3,254
2006	48,230.75	16,029	17,573	30,658	20.03	1,531
2007	21,926.74	6,629	7,267	14,659	20.93	700
2008	191,684.66	52,075	57,090	134,595	21.85	6,160
2009	194,526.47	46,817	51,325	143,201	22.78	6,286
2010	190,572.08	39,957	43,805	146,767	23.71	6,190
2011	35,104.03	6,249	6,851	28,253	24.66	1,146
2012	88,357.61	12,900	14,142	74,215	25.62	2,897
2013	7,696.19	877	961	6,735	26.58	253

PACIFIC NORTHERN GAS LTD.

ACCOUNT 482.00 - GENERAL - STRUCTURES AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. 0						
2014	63,345.99	5,173	5,671	57,675	27.55	2,093
2015	157,558.45	7,720	8,463	149,095	28.53	5,226
2016	434,535.58	7,096	7,779	426,756	29.51	14,461
	6,186,381.87	3,492,687	3,820,164	2,366,218		152,274
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. 0						
1996	416,942.42	252,388	315,230	101,713	11.84	8,591
1997	384,037.68	222,999	278,523	105,515	12.58	8,388
1998	49,356.50	27,409	34,234	15,123	13.34	1,134
2000	23,187.89	11,664	14,568	8,620	14.91	578
2006	6,170.00	2,050	2,560	3,610	20.03	180
2008	21,166.02	5,750	7,182	13,984	21.85	640
2011	17,406.60	3,098	3,869	13,537	24.66	549
2012	21,848.50	3,190	3,984	17,864	25.62	697
2014	8,808.61	719	898	7,911	27.55	287
	948,924.22	529,267	661,048	287,876		21,044
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 30-R3						
NET SALVAGE PERCENT.. 0						
1980	22,485.44	19,772	21,281	1,205	3.62	333
1990	8,623.16	6,355	6,840	1,783	7.89	226
2000	6,495.66	3,267	3,516	2,979	14.91	200
2009	4,724.21	1,137	1,224	3,500	22.78	154
2012	9,405.57	1,373	1,478	7,928	25.62	309
2013	980,551.57	111,783	120,312	860,240	26.58	32,364
2014	17,655.00	1,442	1,552	16,103	27.55	585
2015	49,400.00	2,421	2,606	46,794	28.53	1,640
2016	55,087.01	900	969	54,118	29.51	1,834
	1,154,427.62	148,450	159,777	994,651		37,645

PACIFIC NORTHERN GAS LTD.

ACCOUNT 482.00 - GENERAL - STRUCTURES AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 30-R5						
NET SALVAGE PERCENT.. 0						
1980	392,102.75	377,724	391,117	986	1.10	896
1990	10,209.53	8,535	8,838	1,372	4.92	279
	402,312.28	386,259	399,954	2,358		1,175
	8,692,045.99	4,556,663	5,040,943	3,651,103		212,138
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						17.2 2.44

PACIFIC NORTHERN GAS LTD.

ACCOUNT 483.00 - GENERAL - OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2002	62,866.54	58,675	42,537	20,330	1.00	20,330
2003	24,104.74	21,694	15,727	8,378	1.50	5,585
2004	40,762.66	33,969	24,626	16,137	2.50	6,455
2005	53,536.69	41,045	29,756	23,781	3.50	6,795
2006	46,009.70	32,207	23,349	22,661	4.50	5,036
2008	47,521.51	26,929	19,522	27,999	6.50	4,308
2009	51,100.65	25,550	18,523	32,578	7.50	4,344
2010	11,287.55	4,891	3,546	7,742	8.50	911
2011	1,389.69	510	370	1,020	9.50	107
2012	29,113.14	8,734	6,332	22,781	10.50	2,170
2013	34,588.58	8,071	5,851	28,737	11.50	2,499
2014	10,524.90	1,754	1,272	9,253	12.50	740
2015	23,823.64	2,382	1,727	22,097	13.50	1,637
2016	108,768.81	3,625	2,628	106,141	14.50	7,320
	545,398.80	270,036	195,763	349,635		68,237

PNG - FORT ST. JOHN
SURVIVOR CURVE.. 15-SQUARE
NET SALVAGE PERCENT.. 0

2006	1,841.86	1,289	1,364	478	4.50	106
2008	1,640.28	929	983	657	6.50	101
2013	9,761.75	2,278	2,411	7,351	11.50	639
2014	10,033.79	1,672	1,769	8,264	12.50	661
2015	6,235.02	624	660	5,575	13.50	413
	29,512.70	6,792	7,188	22,325		1,920

PNG - DAWSON CREEK
SURVIVOR CURVE.. 15-SQUARE
NET SALVAGE PERCENT.. 0

2002	3,695.86	3,449	2,901	795	1.00	795
2003	3,493.36	3,144	2,645	849	1.50	566
2004	6,025.48	5,021	4,224	1,802	2.50	721
2005	5,851.44	4,486	3,774	2,078	3.50	594
2006	6,523.58	4,567	3,842	2,682	4.50	596
2007	3,242.08	2,053	1,727	1,515	5.50	275
2008	8,812.69	4,994	4,201	4,612	6.50	710
2009	5,615.59	2,808	2,362	3,254	7.50	434



PACIFIC NORTHERN GAS LTD.

ACCOUNT 483.00 - GENERAL - OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2010	3,012.40	1,305	1,098	1,915	8.50	225
2011	1,676.00	615	517	1,159	9.50	122
2012	3,273.26	982	826	2,447	10.50	233
2013	7,681.61	1,792	1,507	6,174	11.50	537
2014	17,878.66	2,980	2,507	15,372	12.50	1,230
	76,782.01	38,196	32,130	44,652		7,038
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2003	2,311.20	2,080	1,790	521	1.50	347
2004	1,814.53	1,512	1,301	514	2.50	206
2005	716.47	549	472	244	3.50	70
2006	2,872.10	2,010	1,730	1,143	4.50	254
2010	6,811.03	2,951	2,539	4,272	8.50	503
2013	4,366.00	1,019	877	3,489	11.50	303
2014	5,134.84	856	737	4,398	12.50	352
	24,026.17	10,977	9,445	14,581		2,035
	675,719.68	326,001	244,526	431,193		79,230
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.4						11.73

PACIFIC NORTHERN GAS LTD.

ACCOUNT 484.00 - GENERAL - TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 8-L3						
NET SALVAGE PERCENT.. +15						
2002	63,463.37	47,201	48,706	5,238	1.00	5,238
2003	33,131.13	24,148	24,918	3,244	1.14	2,846
2006	277,043.13	179,853	185,587	49,900	1.89	26,402
2008	21,876.62	13,203	13,624	4,971	2.32	2,143
2009	5,981.30	3,502	3,614	1,470	2.49	590
2010	5,245.49	2,932	3,025	1,433	2.74	523
2011	92,237.86	47,335	48,844	29,558	3.17	9,324
2012	297,484.35	132,120	136,332	116,530	3.82	30,505
2013	464,308.10	166,251	171,551	223,111	4.63	48,188
2014	252,820.18	66,081	68,188	146,709	5.54	26,482
2015	421,244.98	67,136	69,276	288,782	6.50	44,428
2016	389,702.36	20,703	21,363	309,884	7.50	41,318
	2,324,538.87	770,465	795,028	1,180,831		237,987

PNG - FORT ST. JOHN
SURVIVOR CURVE.. IOWA 8-L3
NET SALVAGE PERCENT.. +15

2011	100,111.42	51,376	50,132	34,962	3.17	11,029
2012	55,666.75	24,723	24,125	23,192	3.82	6,071
2013	117,281.42	41,994	40,977	58,712	4.63	12,681
2014	152,524.75	39,866	38,901	90,745	5.54	16,380
2015	55,818.97	8,896	8,681	38,765	6.50	5,964
2016	62,554.51	3,323	3,243	49,929	7.50	6,657
	543,957.82	170,178	166,059	296,305		58,782

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 8-L3
NET SALVAGE PERCENT.. +15

2001	35,890.70	26,694	28,077	2,430	1.00	2,430
2006	49,030.29	31,830	33,479	8,197	1.89	4,337
2008	8,600.00	5,190	5,459	1,851	2.32	798
2010	30,182.50	16,868	17,742	7,913	2.74	2,888
2011	104,377.58	53,565	56,340	32,381	3.17	10,215
2012	40,123.82	17,820	18,743	15,362	3.82	4,021
2013	91,179.58	32,648	34,339	43,163	4.63	9,322



PACIFIC NORTHERN GAS LTD.

ACCOUNT 484.00 - GENERAL - TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - DAWSON CREEK						
SURVIVOR CURVE.. IOWA 8-L3						
NET SALVAGE PERCENT.. +15						
2014	101,476.60	26,523	27,897	58,358	5.54	10,534
2015	104,540.04	16,661	17,524	71,335	6.50	10,975
2016	218,173.26	11,590	12,190	173,257	7.50	23,101
	783,574.37	239,389	251,791	414,247		78,621
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 8-L3						
NET SALVAGE PERCENT.. +15						
2013	40,077.00	14,350	13,741	20,325	4.63	4,390
	40,077.00	14,350	13,741	20,325		4,390
	3,692,148.06	1,194,382	1,226,618	1,911,708		379,780
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.0						10.29

PACIFIC NORTHERN GAS LTD.

ACCOUNT 485.00 - GENERAL - HEAVY WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. IOWA 18-R3						
NET SALVAGE PERCENT.. +10						
1976	10,116.69	8,599	9,105			
1977	3,633.26	3,088	3,270			
1980	2,913.04	2,476	2,622			
1981	1,602.92	1,362	1,443			
1982	14,789.11	12,571	13,310			
1984	4,110.85	3,494	3,700			
1985	7,185.15	6,107	6,467			
1987	16,735.50	14,225	15,062			
1989	18,704.10	15,898	16,834			
1990	6,424.15	5,461	5,782			
1992	217,818.85	180,027	196,037			
1994	15,553.52	12,443	13,998			
1995	187,616.42	147,373	168,855			
1996	5,012.54	3,855	4,511			
1997	12,626.00	9,476	11,363			
1998	4,467.72	3,261	4,021			
1999	77,172.98	54,523	69,456			
2000	37,927.60	25,791	34,135			
2001	113,586.81	74,002	102,228			
2002	30,145.95	18,705	26,225	906	5.59	162
2003	113,176.28	66,434	93,144	8,715	6.26	1,392
2004	53,208.60	29,371	41,180	6,708	6.96	964
2005	180,327.56	92,868	130,206	32,089	7.70	4,167
2006	296,813.92	141,431	198,293	68,839	8.47	8,127
2007	653,989.75	285,467	400,239	188,352	9.27	20,318
2008	260,120.49	102,748	144,058	90,051	10.10	8,916
2009	279,630.62	98,430	138,004	113,664	10.96	10,371
2010	32,765.61	10,092	14,149	15,340	11.84	1,296
2011	3,295.00	867	1,216	1,750	12.74	137
2012	217,720.64	47,137	66,088	129,860	13.67	9,500
2013	15,696.90	2,661	3,731	10,396	14.61	712
2014	374,699.00	45,715	64,095	273,134	15.56	17,554
2015	354,475.21	26,055	36,530	282,497	16.53	17,090
2016	425,281.60	10,419	14,608	368,145	17.51	21,025
	4,049,344.34	1,562,432	2,053,964	1,590,446		121,731

PACIFIC NORTHERN GAS LTD.

ACCOUNT 485.00 - GENERAL - HEAVY WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. IOWA 18-R3						
NET SALVAGE PERCENT.. +10						
1985	1,683.68	1,431	1,515			
1990	15,549.14	13,217	13,994			
1996	3,835.00	2,949	3,452			
1999	18,713.38	13,221	16,842			
2002	8,000.00	4,964	6,788	412	5.59	74
2004	50,703.52	27,988	38,274	7,359	6.96	1,057
2006	81,822.65	38,988	53,317	20,324	8.47	2,400
2007	6,948.38	3,033	4,148	2,106	9.27	227
2009	18,591.70	6,544	8,949	7,784	10.96	710
2012	5,855.32	1,268	1,734	3,536	13.67	259
2014	68,159.00	8,316	11,372	49,971	15.56	3,212
2015	13,123.55	965	1,320	10,492	16.53	635
2016	6,532.35	160	219	5,660	17.51	323
	299,517.67	123,044	161,923	107,643		8,897

PNG - DAWSON CREEK
SURVIVOR CURVE.. IOWA 18-R3
NET SALVAGE PERCENT.. +10

1983	1,822.30	1,549	1,640			
1990	15,549.14	13,217	13,994			
1992	415.58	343	374			
1999	4,854.17	3,429	4,353	15	3.87	4
2001	2,854.17	1,859	2,360	209	4.97	42
2002	10,102.01	6,268	7,958	1,134	5.59	203
2003	20,376.14	11,961	15,185	3,153	6.26	504
2004	11,572.05	6,388	8,110	2,305	6.96	331
2006	26,439.59	12,598	15,994	7,802	8.47	921
2008	153,705.35	60,714	77,081	61,254	10.10	6,065
2009	355,029.61	124,970	158,658	160,869	10.96	14,678
2010	8,842.48	2,723	3,457	4,501	11.84	380
2011	107,328.71	28,227	35,836	60,760	12.74	4,769
2012	49,902.69	10,804	13,716	31,196	13.67	2,282
2013	48,948.62	8,297	10,534	33,520	14.61	2,294
2015	98,098.50	7,211	9,155	79,134	16.53	4,787
2016	292,781.67	7,173	9,107	254,397	17.51	14,529
	1,208,622.78	307,731	387,512	700,249		51,789



PACIFIC NORTHERN GAS LTD.

ACCOUNT 485.00 - GENERAL - HEAVY WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. IOWA 18-R3						
NET SALVAGE PERCENT.. +10						
2002	82,503.75	51,193	73,931	323	5.59	58
2010	5,143.21	1,584	2,288	2,341	11.84	198
2011	12,540.90	3,298	4,763	6,524	12.74	512
2012	7,121.00	1,542	2,227	4,182	13.67	306
2016	10,191.75	250	361	8,812	17.51	503
	117,500.61	57,867	83,569	22,182		1,577
	5,674,985.40	2,051,074	2,686,968	2,420,520		183,994
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						13.2 3.24

PACIFIC NORTHERN GAS LTD.

ACCOUNT 486.00 - GENERAL - TOOLS AND WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1997	78,942.60	74,995	61,252	17,690	1.00	17,690
1998	124,786.07	115,427	94,275	30,511	1.50	20,341
1999	198,545.26	173,727	141,892	56,653	2.50	22,661
2000	131,778.11	108,717	88,795	42,983	3.50	12,281
2001	103,936.01	80,550	65,789	38,147	4.50	8,477
2002	180,593.19	130,930	106,937	73,656	5.50	13,392
2003	91,983.23	62,089	50,711	41,272	6.50	6,350
2004	130,906.42	81,817	66,824	64,082	7.50	8,544
2005	100,110.93	57,564	47,016	53,095	8.50	6,246
2006	215,843.12	113,318	92,553	123,290	9.50	12,978
2007	170,594.05	81,032	66,183	104,411	10.50	9,944
2008	110,299.76	46,877	38,287	72,013	11.50	6,262
2009	85,020.84	31,883	26,041	58,980	12.50	4,718
2010	124,331.19	40,408	33,003	91,328	13.50	6,765
2011	89,966.97	24,741	20,207	69,760	14.50	4,811
2012	124,295.34	27,966	22,841	101,454	15.50	6,545
2013	77,927.96	13,637	11,138	66,790	16.50	4,048
2014	233,823.83	29,228	23,872	209,952	17.50	11,997
2015	84,766.95	6,358	5,193	79,574	18.50	4,301
2016	354,850.06	8,871	7,245	347,605	19.50	17,826
	2,813,301.89	1,310,135	1,070,056	1,743,246		206,177

PNG - FORT ST. JOHN
SURVIVOR CURVE.. 20-SQUARE
NET SALVAGE PERCENT.. 0

1997	8,116.29	7,710	7,263	854	1.00	854
1998	31,401.13	29,046	27,361	4,040	1.50	2,693
1999	29,340.27	25,673	24,183	5,157	2.50	2,063
2000	43,537.58	35,919	33,835	9,703	3.50	2,772
2002	19,813.60	14,365	13,532	6,282	5.50	1,142
2003	27,669.37	18,677	17,593	10,076	6.50	1,550
2004	20,725.31	12,953	12,201	8,524	7.50	1,137
2005	24,991.41	14,370	13,536	11,455	8.50	1,348
2006	29,127.87	15,292	14,405	14,723	9.50	1,550
2007	17,802.98	8,456	7,965	9,838	10.50	937
2008	15,866.70	6,743	6,352	9,515	11.50	827
2009	45,471.30	17,052	16,063	29,409	12.50	2,353
2010	42,614.13	13,850	13,046	29,568	13.50	2,190
2012	30,387.47	6,837	6,440	23,947	15.50	1,545



PACIFIC NORTHERN GAS LTD.

ACCOUNT 486.00 - GENERAL - TOOLS AND WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2013	33,998.45	5,950	5,605	28,394	16.50	1,721
2014	10,105.90	1,263	1,190	8,916	17.50	509
2015	29,764.36	2,232	2,102	27,662	18.50	1,495
2016	18,597.22	465	438	18,159	19.50	931
	479,331.34	236,853	223,111	256,221		27,617

PNG - DAWSON CREEK
SURVIVOR CURVE.. 20-SQUARE
NET SALVAGE PERCENT.. 0

2000	33,744.46	27,839	25,987	7,758	3.50	2,217
2001	54,152.26	41,968	39,175	14,977	4.50	3,328
2002	32,346.57	23,451	21,891	10,456	5.50	1,901
2003	41,311.94	27,886	26,030	15,282	6.50	2,351
2004	78,642.21	49,151	45,880	32,762	7.50	4,368
2005	29,869.04	17,175	16,032	13,837	8.50	1,628
2006	54,115.66	28,411	26,520	27,595	9.50	2,905
2007	22,872.15	10,864	10,141	12,731	10.50	1,212
2008	20,472.51	8,701	8,122	12,350	11.50	1,074
2009	15,886.01	5,957	5,561	10,325	12.50	826
2010	28,294.09	9,196	8,584	19,710	13.50	1,460
2011	24,081.22	6,622	6,181	17,900	14.50	1,234
2012	9,377.85	2,110	1,970	7,408	15.50	478
2013	68,245.90	11,943	11,148	57,098	16.50	3,460
2014	35,597.00	4,450	4,154	31,443	17.50	1,797
2015	24,192.97	1,814	1,693	22,500	18.50	1,216
2016	40,597.37	1,015	947	39,650	19.50	2,033
	613,799.21	278,553	260,018	353,782		33,488

PNG - TUMBLER RIDGE
SURVIVOR CURVE.. 20-SQUARE
NET SALVAGE PERCENT.. 0

2000	268.47	221	204	65	3.50	19
2001	3,550.80	2,752	2,538	1,013	4.50	225
2002	248.62	180	166	83	5.50	15
2003	3,168.74	2,139	1,972	1,196	6.50	184
2004	2,774.67	1,734	1,599	1,176	7.50	157
2005	5,598.10	3,219	2,968	2,630	8.50	309



PACIFIC NORTHERN GAS LTD.

ACCOUNT 486.00 - GENERAL - TOOLS AND WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2006	9,241.00	4,852	4,474	4,767	9.50	502
2008	14,980.00	6,366	5,870	9,110	11.50	792
2009	4,193.30	1,572	1,450	2,744	12.50	220
2010	4,472.68	1,454	1,341	3,132	13.50	232
2011	14,968.43	4,116	3,796	11,173	14.50	771
2012	11,678.27	2,628	2,423	9,255	15.50	597
2014	2,507.35	313	289	2,219	17.50	127
2015	5,595.37	420	387	5,208	18.50	282
	83,245.80	31,966	29,477	53,769		4,432
	3,989,678.24	1,857,507	1,582,662	2,407,018		271,714
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.9						6.81

PACIFIC NORTHERN GAS LTD.

ACCOUNT 487.00 - GENERAL - COMPUTER EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2012	290,071.50	232,057	211,889	78,183	1.00	78,183
2013	53,939.54	37,758	34,476	19,463	1.50	12,975
2014	39,275.46	19,638	17,931	21,344	2.50	8,538
2015	40,714.48	12,214	11,152	29,562	3.50	8,446
2016	140,460.21	14,046	12,825	127,635	4.50	28,363
	564,461.19	315,713	288,274	276,187		136,505
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2014	5,997.80	2,999	2,225	3,773	2.50	1,509
2015	1,506.76	452	335	1,171	3.50	335
2016	1,885.48	189	140	1,745	4.50	388
	9,390.04	3,640	2,700	6,690		2,232
PNG - DAWSON CREEK						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2012	1,942.30	1,554	995	947	1.00	947
2013	3,334.49	2,334	1,494	1,840	1.50	1,227
2015	7,963.60	2,389	1,530	6,434	3.50	1,838
2016	17,618.46	1,762	1,128	16,490	4.50	3,664
	30,858.85	8,039	5,147	25,712		7,676
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2016	2,675.00	268		2,675	4.50	594
	2,675.00	268		2,675		594
	607,385.08	327,660	296,122	311,264		147,007
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						2.1 24.20

PACIFIC NORTHERN GAS LTD.

ACCOUNT 488.00 - GENERAL - COMMUNICATION STRUCTURES AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PNG - WEST						
SURVIVOR CURVE.. 14-SQUARE						
NET SALVAGE PERCENT.. 0						
2003	176,126.87	163,546	158,975	17,152	1.00	17,152
2005	23,066.11	18,947	18,417	4,649	2.50	1,860
2006	20,037.74	15,028	14,608	5,430	3.50	1,551
2010	49,469.34	22,968	22,326	27,143	7.50	3,619
2011	4,151.08	1,631	1,585	2,566	8.50	302
2016	114,958.55	4,105	3,990	110,968	13.50	8,220
	387,809.69	226,225	219,902	167,908		32,704
PNG - FORT ST. JOHN						
SURVIVOR CURVE.. 14-SQUARE						
NET SALVAGE PERCENT.. 0						
2010	19,995.39	9,284	8,083	11,912	7.50	1,588
2016	15,665.78	559	487	15,179	13.50	1,124
	35,661.17	9,843	8,570	27,091		2,712
PNG - DAWSON CREEK						
SURVIVOR CURVE.. 14-SQUARE						
NET SALVAGE PERCENT.. 0						
2003	10,845.74	10,071	8,572	2,274	1.00	2,274
2013	30,000.00	7,500	6,384	23,616	10.50	2,249
2016	15,665.78	559	476	15,190	13.50	1,125
	56,511.52	18,130	15,431	41,080		5,648
PNG - TUMBLER RIDGE						
SURVIVOR CURVE.. 14-SQUARE						
NET SALVAGE PERCENT.. 0						
2007	1,794.63	1,218	1,065	730	4.50	162
	1,794.63	1,218	1,065	730		162
	481,777.01	255,416	244,967	236,809		41,226
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						5.7 8.56



PACIFIC NORTHERN GAS LTD.

ACCOUNT 489.00 - OTHER GENERAL EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 20-R2.5						
NET SALVAGE PERCENT.. 0						
2009	2,000.00	675	1,728	272	13.25	21
	2,000.00	675	1,728	272		21
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.0 1.05						

APPENDIX A – ESTIMATION OF SURVIVOR CURVES

ESTIMATION OF SURVIVOR CURVES

Average Service Life

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

SURVIVOR CURVES

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

Iowa Type Curves

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

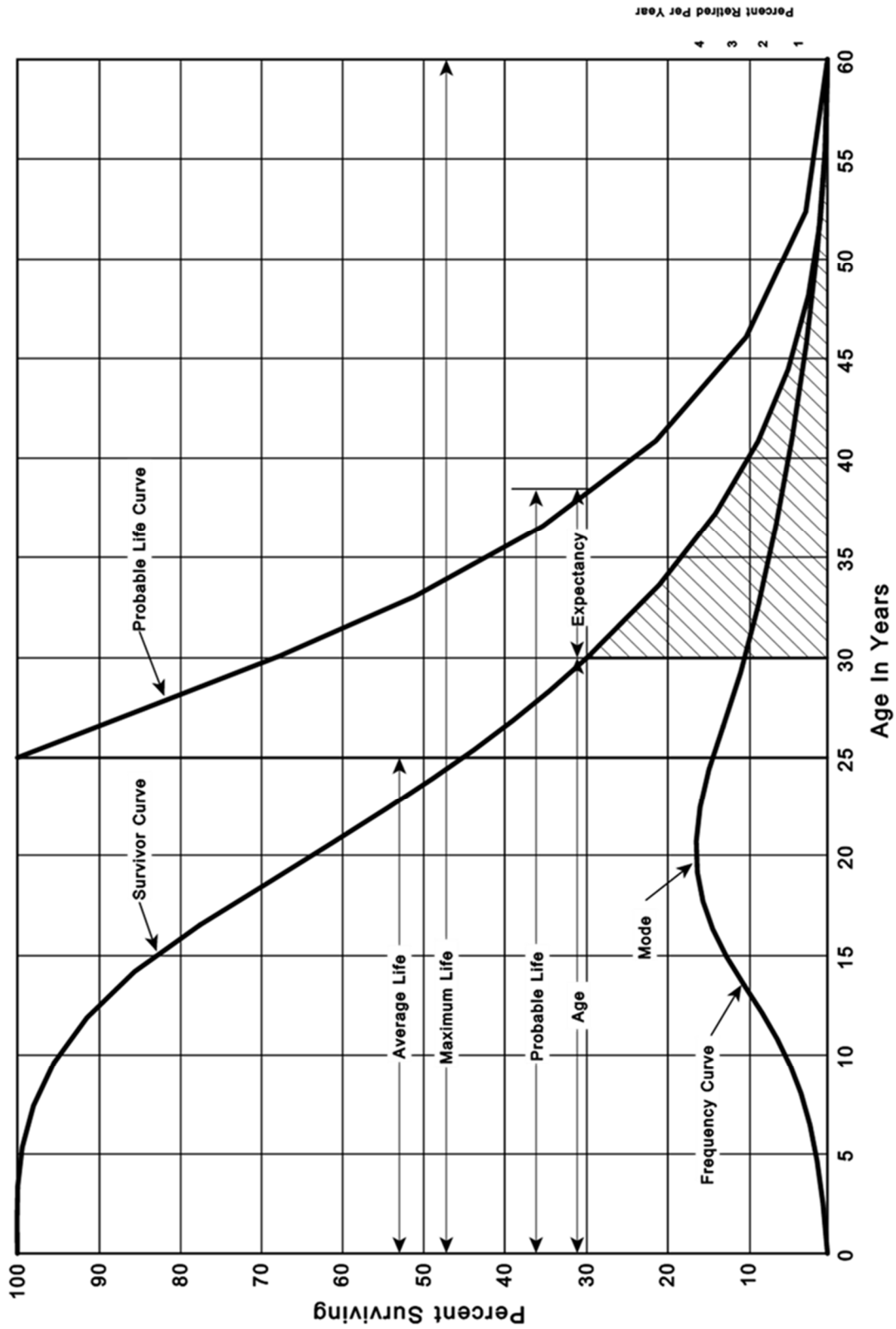


Figure 1. A Typical Survivor Curve and Derived Curves

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

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125.¹ These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."² In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis³ presenting his development of the fourth family consisting of the four O type survivor curves.

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

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

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

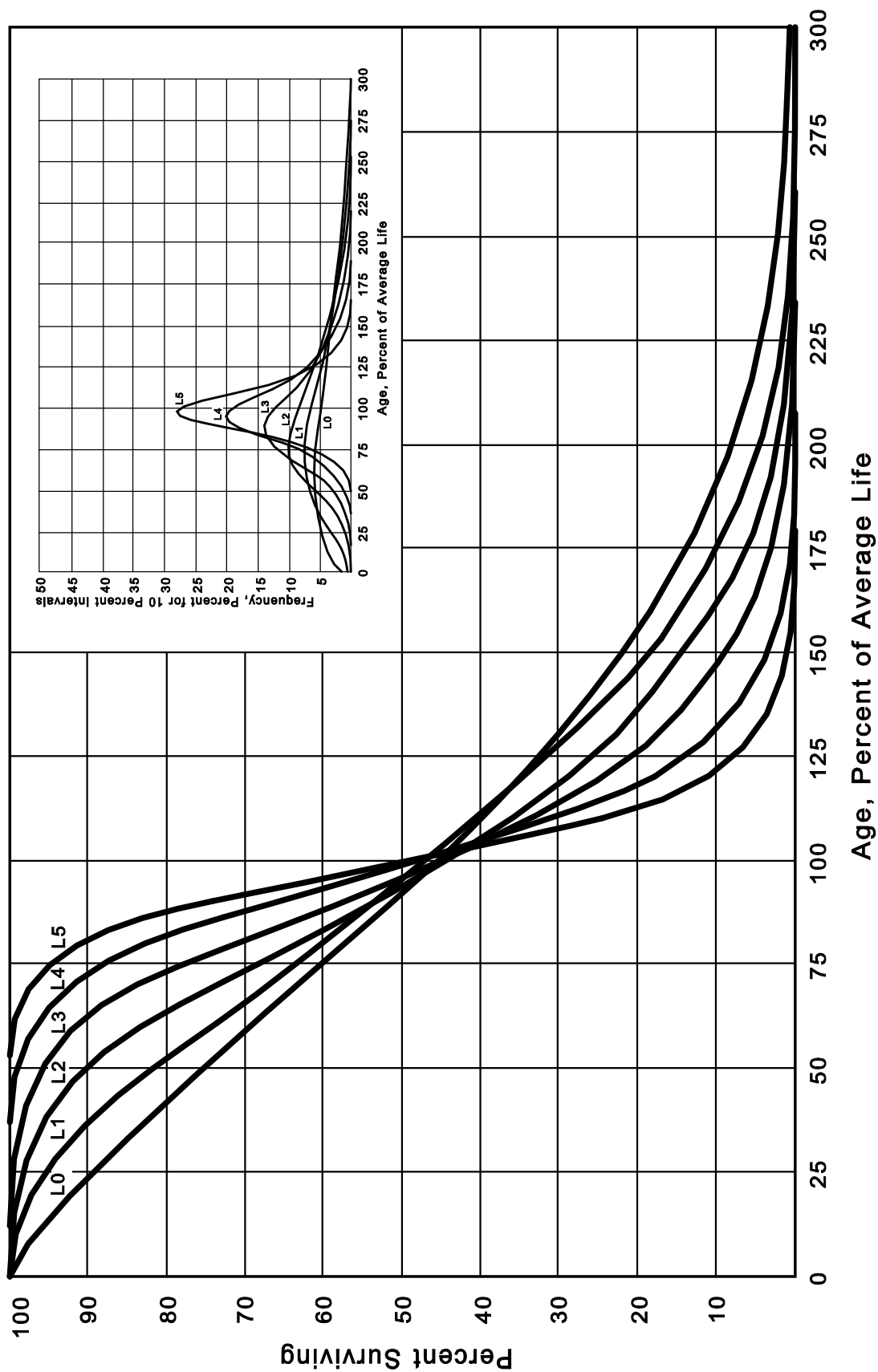


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

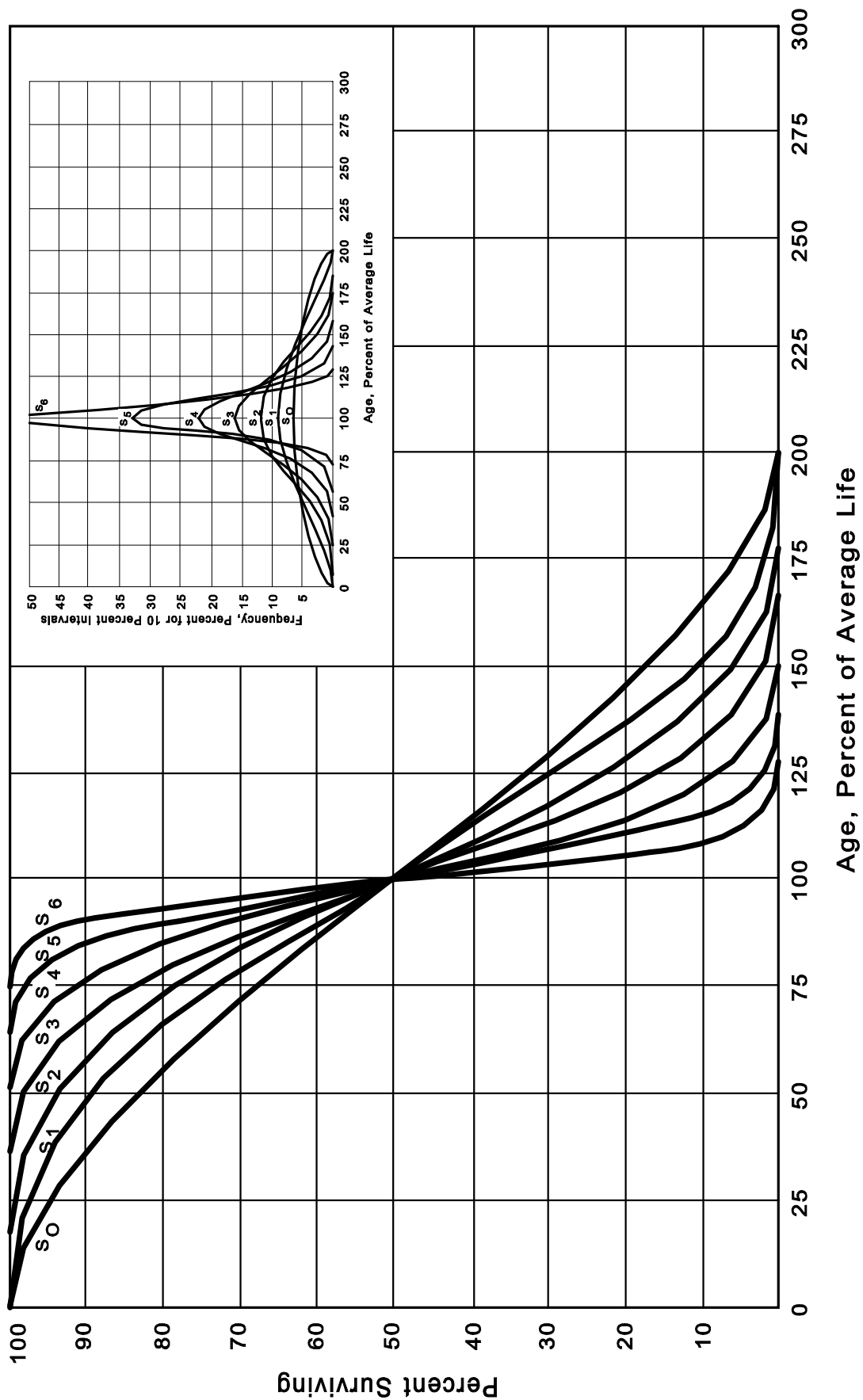


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

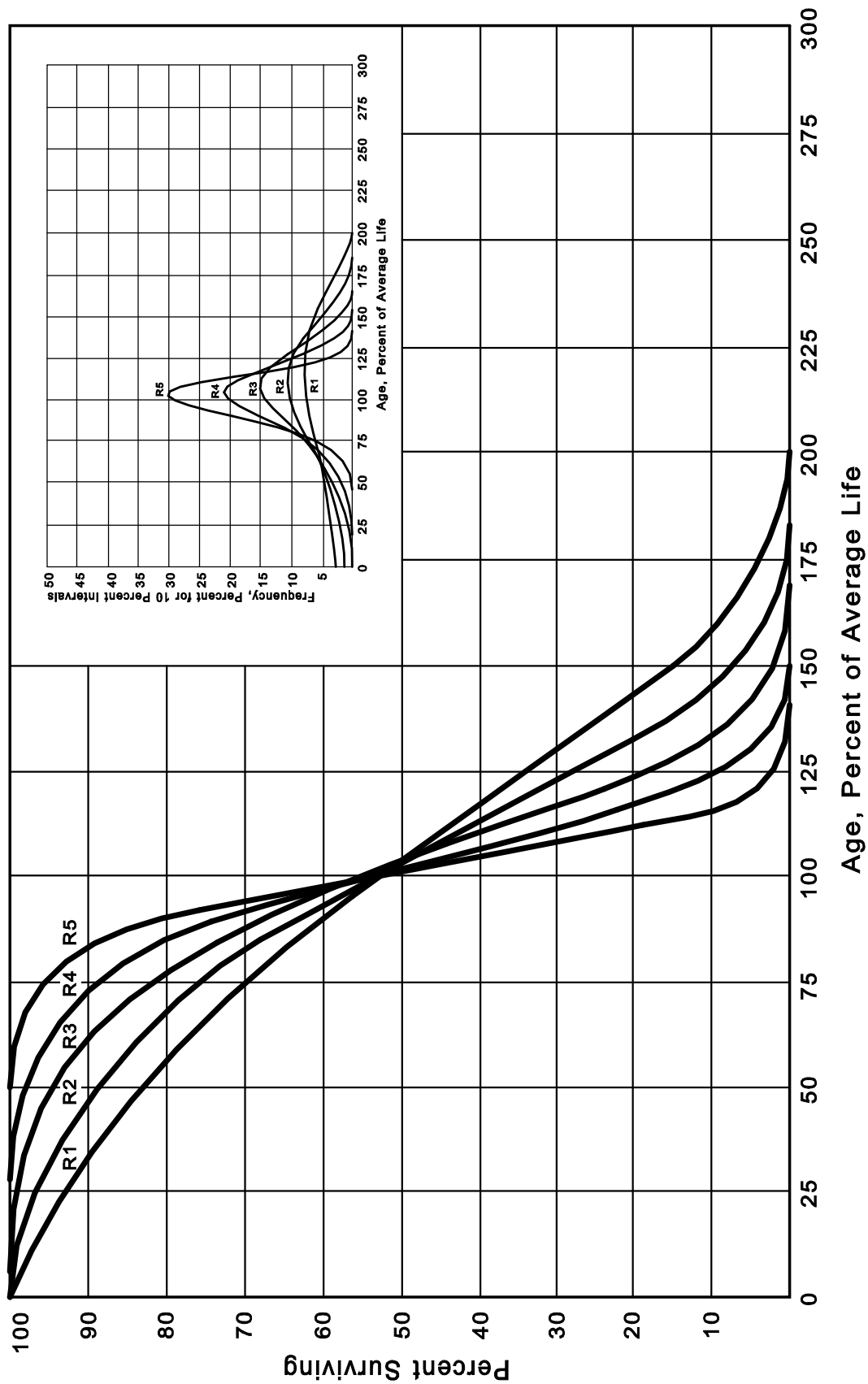


Figure 4. Right Modal or "R" Iowa Type Survivor Curves

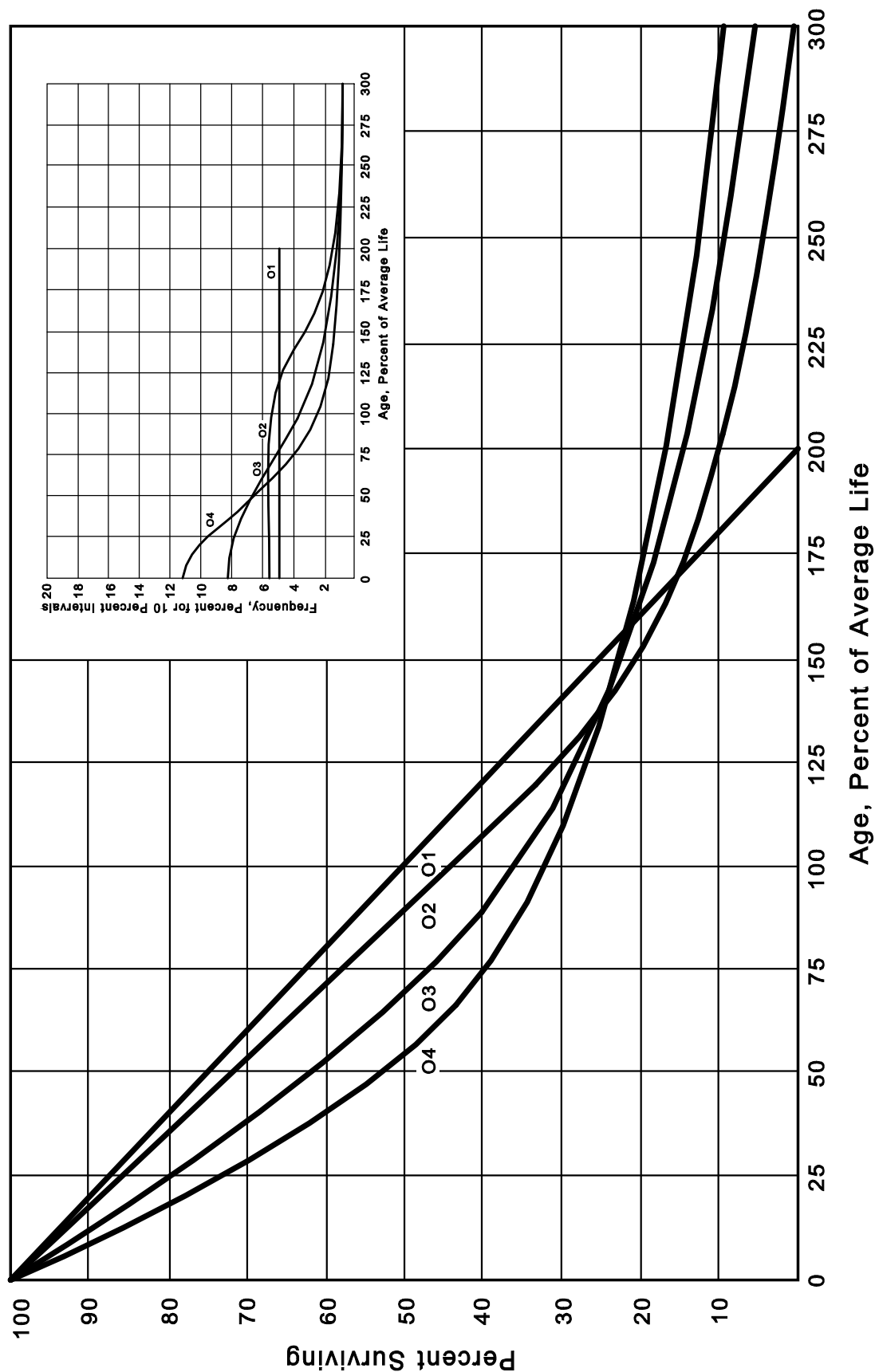


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

Retirement Rate Method of Analysis

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

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

Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2007-2016 during which there were placements during the years 2007-2016. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on the following pages. In Schedule 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, \$10,000 of the dollars invested in 2002 were

⁴ Winfrey, Robley, Supra Note 1.

⁵ Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.

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

SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2007-2016
SUMMARIZED BY AGE INTERVAL

Experience Band 2007-2016

Placement Band 2002-2016

Year Placed	Retirements, Thousands of Dollars										Total During Age Interval	Age Interval
	During Year											
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2002	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2003	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2004	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2005	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2006	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2007	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2008		5	11	12	13	14	15	16	18	20	113	7½-8½
2009			6	12	13	15	16	17	19	19	124	6½-7½
2010				6	13	15	16	17	19	19	131	5½-6½
2011					7	14	16	17	19	20	143	4½-5½
2012						8	18	20	22	23	146	3½-4½
2013							9	20	22	25	150	2½-3½
2014								11	23	25	151	1½-2½
2015									11	24	153	½-1½
2016										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2007-2016
SUMMARIZED BY AGE INTERVAL

Experience Band 2007-2016

Placement Band 2007-2016

Year Placed	Acquisitions, Transfers and Sales, Thousands of Dollars										Total During Age Interval	Age Interval
	During Year											
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2002	-	-	-	-	-	-	60 ^a	-	-	-	-	13½-14½
2003	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2004	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2005	-	-	-	-	-	-	-	(5) ^b	-	-	60	10½-11½
2006	-	-	-	-	-	-	-	6 ^a	-	-	-	9½-10½
2007	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2008		-	-	-	-	-	-	-	-	-	-	7½-8½
2009			-	-	-	-	-	-	-	-	-	6½-7½
2010				-	-	-	-	(12) ^b	-	-	-	5½-6½
2011					-	-	-	-	22 ^a	-	-	4½-5½
2012						-	-	(19) ^b	-	-	10	3½-4½
2013							-	-	-	-	-	2½-3½
2014								-	-	(102) ^c	(121)	1½-2½
2015									-	-	-	½-1½
2016												0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

^a Transfer Affecting Exposures at Beginning of Year

^b Transfer Affecting Exposures at End of Year

^c Sale with Continued Use

Parentheses Denote Credit Amount.

retired in 2007. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of \$143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2007 retirements of 2002 installations and ending with the 2016 retirements of the 2011 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

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

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

Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on the following page. The surviving plant at the beginning of each year from 2007 through 2016 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition, are obtained by adding or subtracting the net entries

SCHEDULE 3. PLANT EXPOSED TO RETIREMENT JANUARY 1
OF EACH YEAR 2007-2016
SUMMARIZED BY AGE INTERVAL

Experience Band 2007-2016

Placement Band 2002-2016

Year Placed	Exposures, Thousands of Dollars										Total at Beginning of Age Interval	Age Interval
	Annual Survivors at the Beginning of the Year											
(1)	2007 (2)	2008 (3)	2009 (4)	2010 (5)	2011 (6)	2012 (7)	2013 (8)	2014 (9)	2015 (10)	2016 (11)	(12)	(13)
2002	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2003	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2004	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2005	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2006	376	367	257	346	334	321	307	267	280	261	1,097	9½-10½
2007	420 ^a	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2008		460 ^a	455	444	432	419	405	390	374	356	1,952	7½-8½
2009			510 ^a	504	492	479	464	448	431	412	2,463	6½-7½
2010				580 ^a	574	561	546	530	501	482	3,057	5½-6½
2011					660 ^a	653	639	623	628	609	3,789	4½-5½
2012						750 ^a	742	724	685	663	4,332	3½-4½
2013							850 ^a	841	821	799	4,955	2½-3½
2014								960 ^a	949	923	5,719	1½-2½
2015									1,080 ^a	1,069	6,579	½-1½
2016										1,220 ^a	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

^a Additions during the year.

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

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

For the entire experience band 2006-2015, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

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

Original Life Table

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

retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent

SCHEDULE 4. ORIGINAL LIFE TABLE

CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2007-2016

Placement Band 2002-2016

(Exposure and Retirement Amounts are in Thousands of Dollars)

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

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

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

Column 4 = Column 3 divided by Column 2.

Column 5 = 1.0000 minus Column 4.

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

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

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

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

Smoothing the Original Survivor Curve

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

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year

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

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

FIGURE 6. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

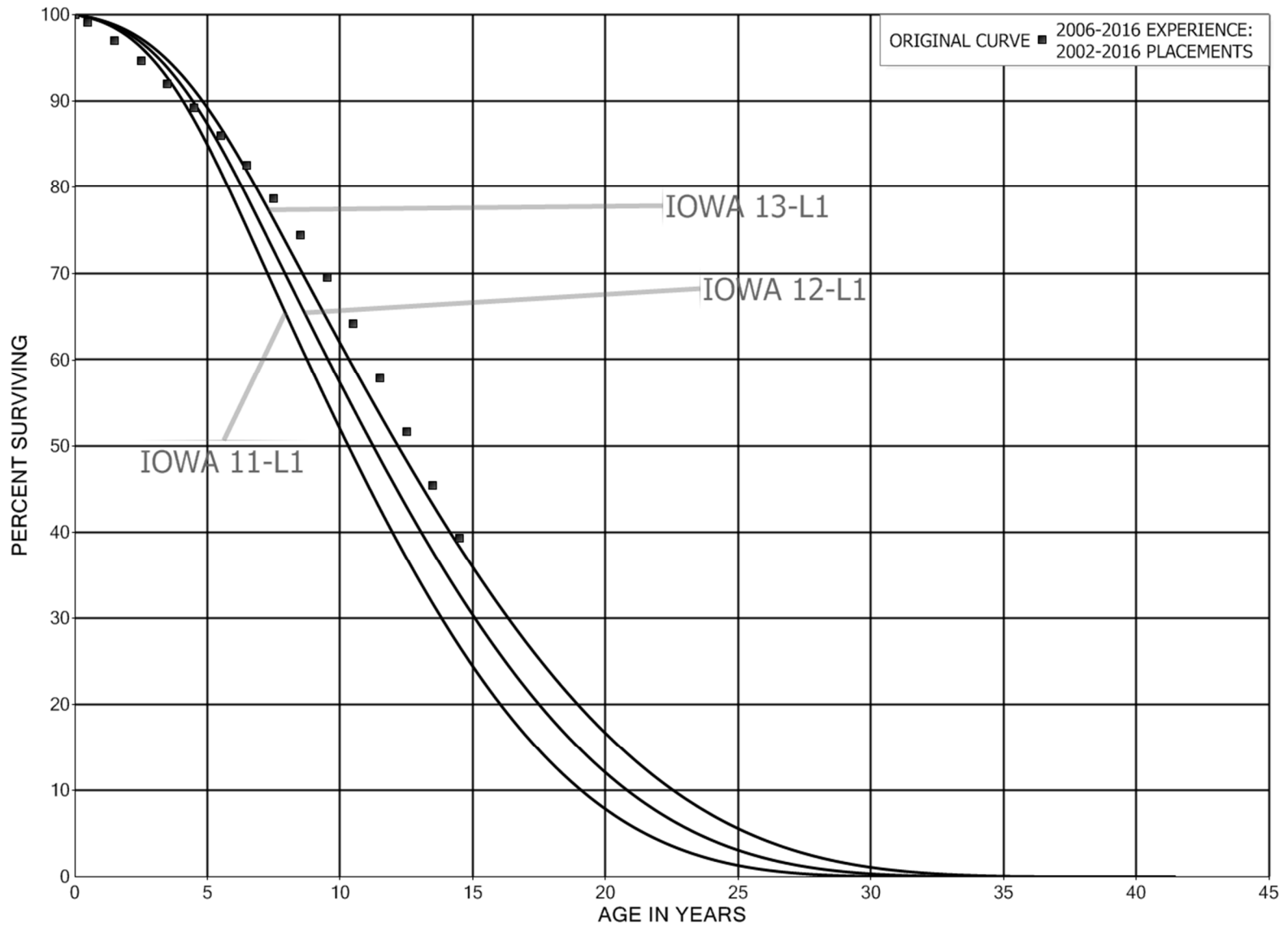


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

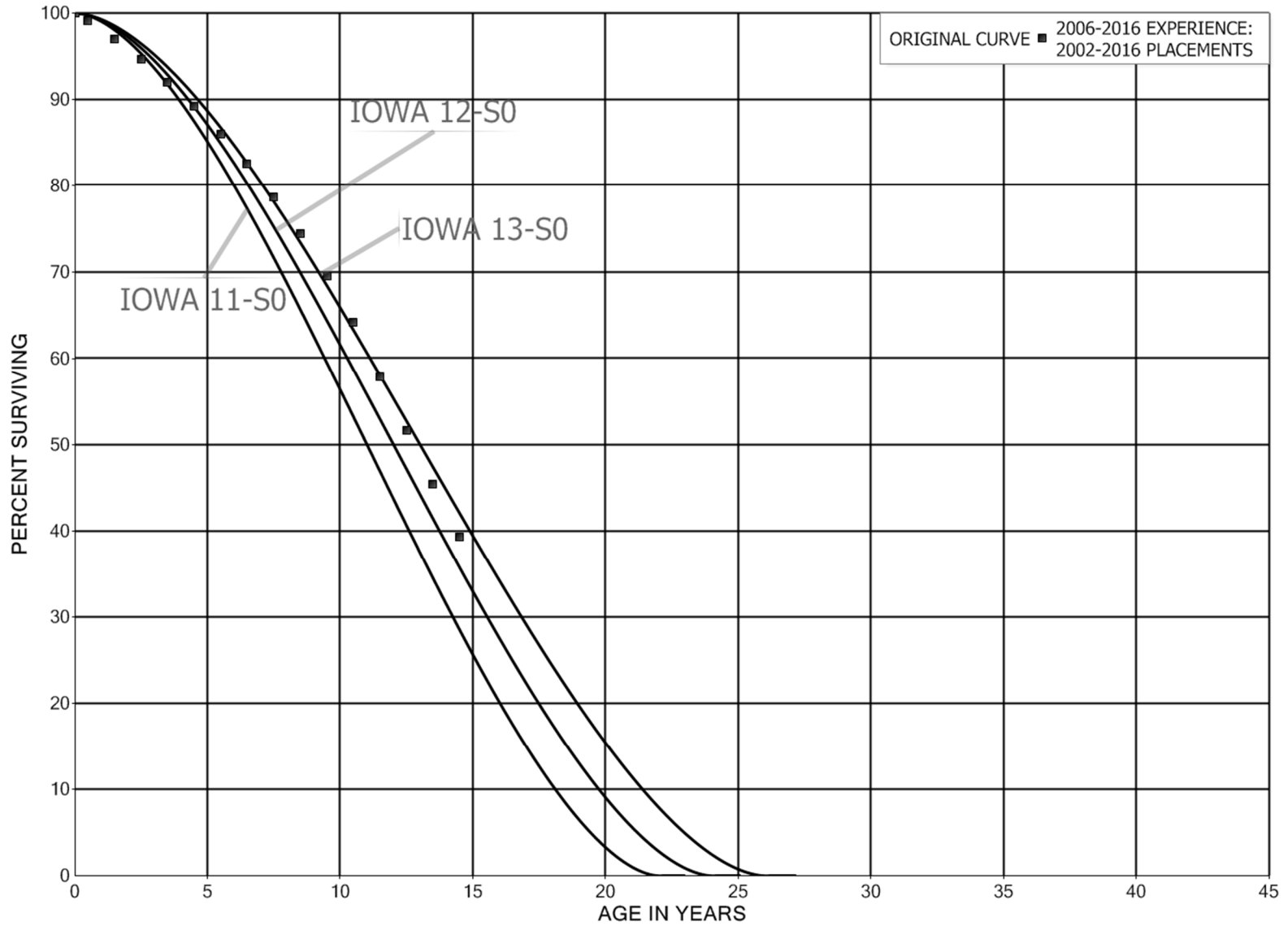


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

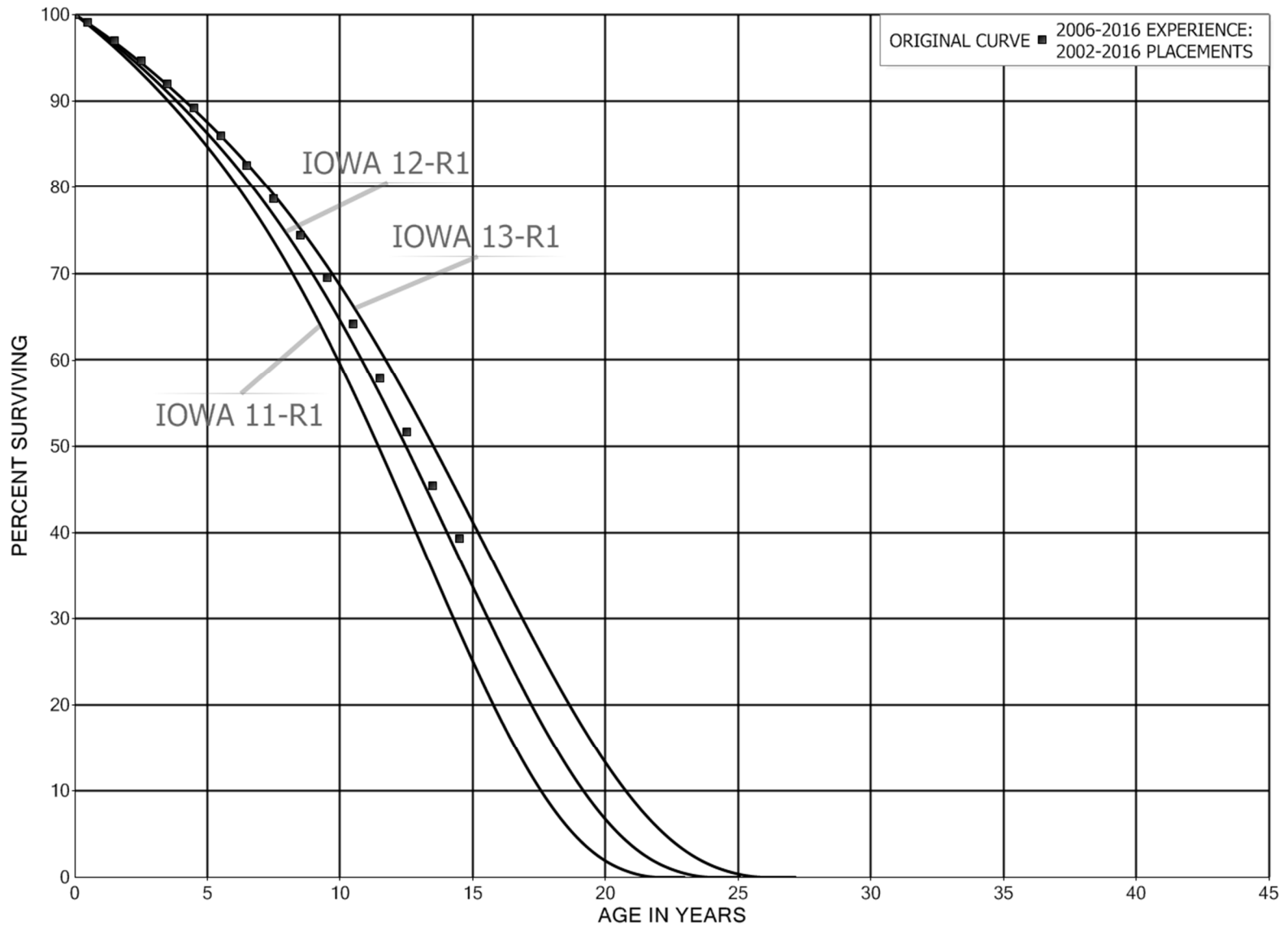
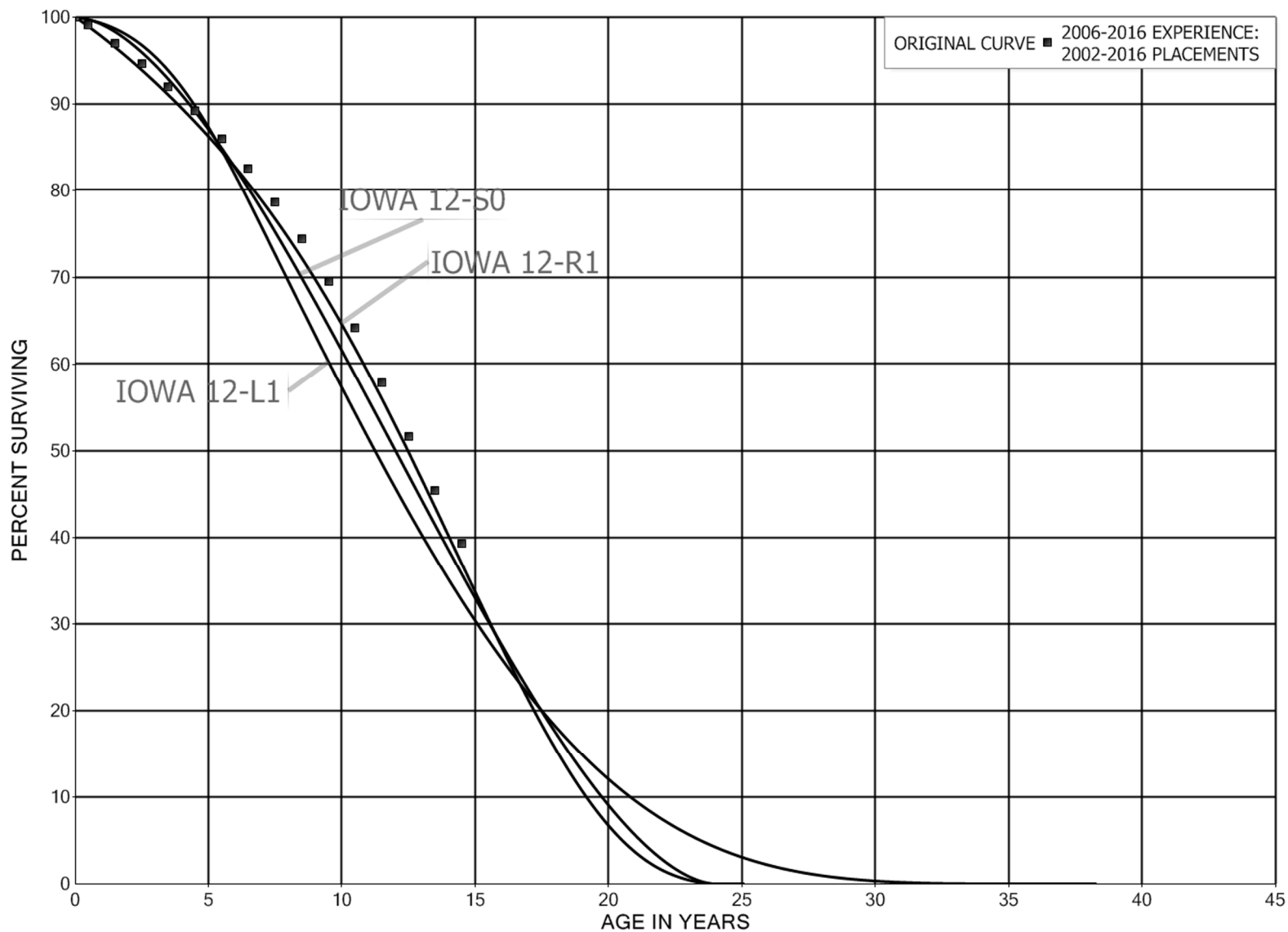


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



APPENDIX B – ESTIMATION OF NET SALVAGE

ESTIMATION OF NET SALVAGE

The estimates of net salvage were based primarily on the professional judgment of Concentric Advisors, in part on historical data for the years 2010 through 2016, and in part through a comparison to peer gas utility companies. Gross salvage and cost of removal as recorded to the depreciation reserve account and related to experienced retirements were used. Percentages of the cost of plant retired were calculated for each component of net salvage on both annual and five-year moving average bases. The net salvage percentages estimated in this study have been determined using the “Traditional Approach” for net salvage estimation. The estimates of net salvage were based in part on the database of historic transactions encompassing the period from 2010 through 2016.

When a utility retires plant, the plant may be: (1) sold to a third party; (2) reused by the utility for additional service; (3) abandoned in place; or (4) physically removed. In the circumstances where the plant is sold or re-used a salvage proceed (or positive salvage amount) is normally recognized. In circumstances where the plant is abandoned in place or physically removed, a cost of removal expenditure (or negative salvage) is incurred. The net of these estimated gross salvage proceeds and the estimated costs of removal are expressed as a percentage of the accounts original cost to determine a net salvage percentage. In the circumstances where the salvage proceeds exceed the costs of retirement a net positive salvage percentage exists. In the circumstances where the costs of removal exceed the salvage proceeds, a net negative salvage percentage results.

The estimation of the net salvage percentages developed using the traditional approach, included the following steps:

1. The annual retirement, gross salvage and cost of removal transactions for the period January 1, 2010 through December 31, 2016 were extracted from the plant accounting systems.
2. A net salvage amount (gross salvage proceeds less cost of retirement) was calculated for each historic year. Additionally, a net salvage amount was also calculated for each historic five-year.
3. The net salvage amount determined above was compared to the original booked costs retired for each period in the manner described, which resulted in a net salvage percentage of original costs retired for each year, in addition to five-year rolling bands.

4. The annual and five-year rolling average net salvage percentages were analyzed to determine a reasonable estimated net salvage percentage. At this point the net salvage percentage was based purely upon statistical analysis.
5. Each account was then analyzed based on the statistical analyses, were compared to a group of peer gas utilities, and with the professional judgment of Concentric Advisors. Based on this analysis, a net salvage percentage for each account was determined.
6. The net salvage percentage was then used in the depreciation rate calculations in the depreciation study.



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