

**EXPLICATION DES RÉSULTATS
DE L'ÉTUDE DES TAUX D'AMORTISSEMENT
ET DES MODIFICATIONS LIÉES AUX
IMMOBILISATION STABLE DES MATIÈRES**

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LEXIQUE DES ACRONYMES

ICCA Institut canadien des comptables agréés

ELG Méthode d'amortissement nommée « Equal Life Group »

INTRODUCTION

1 Ce document présente l'étude quinquennale des taux d'amortissement des principales catégories
2 d'immobilisations corporelles d'Énergir, s.e.c. (Énergir) en fonction des soldes aux livres au
3 30 septembre 2019. L'application des taux de la présente étude sera effectuée au 1^{er} octobre
4 2020 et, par conséquent, les taux de cette étude ont été intégrés à la Cause tarifaire 2020-2021.

5 L'étude des taux d'amortissement permet d'assurer une répartition équitable de la dépense
6 d'amortissement entre les générations de clients et favorise la juste récupération des
7 investissements. De plus, cet exercice permet l'ajustement de la dépense d'amortissement
8 d'Énergir en fonction de l'évolution de la réalité économique. En effet, la durée de vie résiduelle
9 des actifs et la projection des retraits peuvent évoluer différemment de ce qui avait été prévu lors
10 de la dernière étude.

11 Énergir utilise la méthode de l'amortissement linéaire, selon un taux spécifique par catégorie
12 d'actifs. Les taux d'amortissement sont établis en fonction de la durée de vie résiduelle des actifs.
13 Cette méthode prend en considération la valeur historique des investissements, les coûts des
14 retraits passés, la prévision des retraits futurs, les coûts d'abandon associés aux retraits, la valeur
15 de l'amortissement accumulé et la durée de vie résiduelle de l'actif.

16 La nouvelle étude des taux se traduit par une baisse sur la dépense d'amortissement annuelle
17 projetée pour la Cause tarifaire 2020-2021 de 13,8 M\$.

1 TRAITEMENT ACTUEL

1.1 PCGR DES ÉTATS-UNIS

1 Selon le traitement utilisé actuellement par Énergir, le coût des immobilisations corporelles est
2 ventilé entre les différentes catégories et est amorti selon les durées d'utilisation prévues de ces
3 catégories. Ces dernières sont établies selon une étude de taux pour les actifs de distribution, de
4 stockage et de transmission. Quant aux installations générales, les durées d'amortissement sont
5 déterminées à l'interne. Voici les extraits pertinents des principes comptables généralement
6 reconnus (PCGR) des États-Unis, provenant de la section *FASB ASC 360-10-35 – Property, plant
7 and equipment – Subsequent Measurement* :

8 « .35-3 Depreciation expense in financial statements for an asset shall be determined based on
9 the asset's useful life. »

10 « .35-4 The cost of a productive facility is one of the costs of the services it renders during its useful
11 economic life. Generally accepted accounting principles (GAAP) require that this cost be spread
12 over the expected useful life of the facility in such a way as to allocate it as equitably as possible to
13 the periods during which services are obtained from the use of the facility. This procedure is known
14 as depreciation accounting, a system of accounting which aims to distribute the cost or other basic
15 value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit (which
16 may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of
17 valuation. »¹

18 Les catégories d'immobilisations corporelles sont identifiées en considérant notamment les
19 caractéristiques des actifs, leur nature, leur durée d'utilisation prévue et les activités auxquelles
20 elles se rattachent. Un seul taux d'amortissement est déterminé pour chacune des catégories
21 d'immobilisations corporelles.

1.2 TRAITEMENT RÉGLEMENTAIRE

22 Les ordonnances GC-1 et GC-24 de la Régie de l'énergie du Canada suggèrent une charte de
23 comptes de grand livre, mais ne fournissent pas d'indication quant aux catégories d'actifs à
24 utiliser.

¹ La traduction française des PCGR des États-Unis n'est pas disponible.

- 1 La valeur historique, l'amortissement cumulé ainsi que la dépense annuelle d'amortissement –
- 2 établie à l'aide des taux approuvés par la Régie de l'énergie (la Régie) – sont présentés
- 3 annuellement, par catégorie, lors de l'élaboration de la cause tarifaire.

2 DÉMARCHE

2.1 ANALYSES – IDENTIFICATION DE NOUVELLES CATÉGORIES

1 Des ateliers de travail ont été réalisés à l'interne avec les responsables de chaque groupe d'actifs.
2 Ces rencontres avaient pour objectif de revoir les catégories actuelles des immobilisations
3 corporelles et d'établir si des modifications à ces catégories étaient nécessaires.

4 Les responsables se sont interrogés sur les différents éléments contenus dans une catégorie
5 ainsi que sur leur durée d'utilisation prévue afin de voir si ceux-ci ne devraient pas être séparés
6 en nouvelles catégories.

2.2 TAUX D'AMORTISSEMENT DES ACTIFS DE DISTRIBUTION, STOCKAGE ET DE TRANSMISSION

7 L'exécution de cette analyse statistique et prévisionnelle a été confiée à monsieur
8 Larry E. Kennedy, consultant spécialisé dans ce domaine, de la firme Concentric Advisors. Son
9 mandat consistait à revoir les taux d'amortissement des catégories d'actifs de distribution, de
10 stockage ainsi que de transmission en tenant compte des informations historiques.

11 Pour chacun des groupes d'actifs, une courbe de mortalité a été établie afin de déterminer une
12 durée de vie moyenne par catégorie d'actifs. Pour ce faire, Énergir a fourni à M. Kennedy les
13 soldes au 30 septembre 2019 de la valeur historique, de l'amortissement accumulé, des
14 additions, des retraits et des coûts d'abandon de toutes les catégories d'actifs ventilées selon
15 l'année de mise en service. À partir de ces informations, la durée de vie², la durée de vie
16 résiduelle³, ainsi que l'évaluation des coûts de retraits de chaque actif ont été déterminées.

17 Des simulations ont été effectuées pour permettre la sélection de la courbe de mortalité de la
18 catégorie d'actifs qui correspond le mieux aux données réelles de chaque groupe d'actifs étudié.
19 Ces courbes statistiques proviennent de l'Iowa State University.

20 M. Kennedy a discuté avec les ingénieurs responsables de la conception et de la gestion des
21 actifs de distribution, de stockage et de transmission d'Énergir. Ces discussions avaient pour but

² La durée de vie équivaut à l'espérance de vie d'un groupe d'actifs au moment de son acquisition.

³ La durée de vie résiduelle représente la durée de vie restante de l'ensemble d'un groupe d'actifs. Cette durée tient compte de l'âge moyen du groupe d'actifs par rapport à sa durée de vie établie au départ.

1 de connaître les pratiques opérationnelles d'Énergir et de discuter des impacts potentiels des
2 changements technologiques sur les actifs de distribution, de transmission et de stockage. De
3 même, il voulait connaître les projets d'investissements à venir qui pourraient influencer de façon
4 significative l'évaluation du niveau futur de la valeur historique, dû aux acquisitions ou dispositions
5 anticipées d'immobilisations corporelles.

2.2.1 Méthodes de détermination des taux d'amortissement

6 Énergir utilise la méthode ELG (*Equal Life Group*) pour la détermination de ses taux
7 d'amortissement. La méthode ELG prend en compte le fait que dans une catégorie d'actifs,
8 pour une année donnée, certains actifs sont retirés avant l'atteinte de la durée de vie projetée
9 et ce, pour diverses raisons. La durée de vie de la catégorie est donc établie à l'aide de la
10 somme des durées de vie moyennes, qui tient compte de l'historique des retraits par année
11 d'acquisition. Il en résulte un niveau plus élevé de dépenses d'amortissement plus tôt dans la
12 vie d'un groupe d'actifs. Cette méthode permet d'établir une charge d'amortissement qui
13 reflète mieux la durée d'utilisation des actifs.

2.3 TAUX D'AMORTISSEMENT DES ACTIFS DES INSTALLATIONS GÉNÉRALES

14 Pour les catégories relatives aux installations générales, les taux d'amortissement ont été
15 analysés à l'interne, comme effectué aux années précédentes. Compte tenu de la nature des
16 immobilisations incluses dans les catégories des installations générales, l'estimation de la durée
17 de vie de ces actifs est plus facilement déterminable et, conséquemment, l'implication d'un expert
18 en étude de taux n'est pas nécessaire. Des ateliers de travail ont été réalisés avec les
19 responsables à l'interne des actifs étudiés. Ces rencontres avaient pour objectif de revoir les
20 catégories, de définir les changements et d'évaluer les taux d'amortissement appropriés. La
21 durée de vie des actifs, la durée d'amortissement et les retraits passés ont aussi été validés au
22 cours de ces rencontres.

23 Outre la révision à la hausse de la durée de vie des camionnettes, véhicules tout terrain et
24 remorques – qui sont passées respectivement de 5 à 7 ans, 3 à 5 ans et 10 à 12 ans –, peu de
25 changements ayant des impacts significatifs ont été effectués sur ces catégories, puisque des
26 modifications importantes avaient déjà été apportées à celles-ci lors de l'étude des taux réalisée
27 dans le cadre de la Cause tarifaire 2015-2016.

3 RÉSULTAT

1 Les résultats de l'étude des taux d'amortissement se divisent en deux parties. D'une part, les
2 actifs étudiés par la firme Concentric Advisors sont constitués des actifs de distribution, de
3 stockage et de transmission. Les résultats de l'étude de la firme Concentric Advisors sont
4 présentés à l'annexe A. D'autre part, les résultats de l'étude des installations générales réalisée
5 par Énergir sont intégrés à l'annexe B.

6 Il faut noter que pour certains actifs, il ne fut pas nécessaire de procéder à une étude. C'est le
7 cas, entre autres, des actifs non amortissables comme les terrains, les droits de mutation et les
8 travaux en cours. Également, certains actifs, comme les contributions et les subventions, ont les
9 mêmes taux d'amortissement que les actifs auxquels ils sont reliés. Par conséquent, les taux
10 d'amortissement de ces actifs seront ajustés en fonction des nouveaux taux des catégories
11 d'actifs auxquels ils se rapportent.

12 Globalement, la dépense d'amortissement de l'année 2020-2021, toutes catégories
13 d'immobilisations confondues, aurait été de 143,3 M\$ selon les anciens taux, comparativement à
14 une prévision de 129,6 M\$ en fonction des taux de la nouvelle étude des taux réalisée.
15 L'annexe C présente l'analyse détaillée des impacts sur la dépense d'amortissement par
16 catégorie d'immobilisations.

3.1 LA MODIFICATION DES TAUX DES ACTIFS DE DISTRIBUTION, DE STOCKAGE ET DE TRANSMISSION

17 Une diminution des taux d'amortissement des branchements d'immeubles en plastique direct est
18 recommandée par le consultant. La durée de vie utile moyenne a été revue à la hausse, soit de
19 50 à 55 ans, à la suite de l'analyse des retraits passés qui a démontré une augmentation des
20 retraits de plus de 30 ans. Une diminution des taux d'amortissement des compteurs est
21 également recommandée, en raison d'un amortissement cumulé trop élevé pour ces actifs.
22 Finalement, une augmentation des taux d'amortissement des conduites principales en acier est
23 recommandée à la suite de l'augmentation des coûts d'abandon.

1 Voici un tableau récapitulatif des changements importants :

Catégorie	Description catégorie	Taux actuel	Estimation durée de vie utile actuelle	Taux proposé	Estimation durée de vie utile proposée	(Augmentation) / Diminution Dépense Amortissement 2021
Z1102	Distribution branchement plastique direct	5,15 %	50	4,30 %	55	8,3 M\$
Z1200	Compteurs	7,19 %	18	5,24 %	18	4,3 M\$
Z1150	Distribution conduite acier	3,13 %	45	3,25 %	45	(1,0 M\$)
Autres catégories	Autres catégories	divers	divers	divers	divers	2,2 M\$
Total						13,8 M\$

2 L'annexe C présente l'analyse détaillée des impacts sur la dépense d'amortissement des actifs
3 de distribution, de stockage et de transmission par catégorie d'immobilisations.

3.2 PROPOSITION D'ÉNERGIR – INSTALLATIONS GÉNÉRALES

4 Dans le but de maintenir une saine gestion de ses immobilisations, Énergir propose des
5 changements pour certains actifs des installations générales, qui sont présentés à l'annexe B.
6 Les impacts sur la dépense d'amortissement sont, pour leur part, présentés à l'annexe C.

7 Dans un premier temps, Énergir propose un mouvement interne entre les catégories des actifs
8 technologiques. Afin de refléter plus fidèlement la durée d'utilisation de ces actifs, les serveurs,
9 qui se retrouvent actuellement dans la catégorie Z2203 (4 ans), seront maintenant capitalisés
10 sous la catégorie Z2204 (5 ans).

11 Dans un deuxième temps, afin de refléter les changements de stratégie quant à l'utilisation de
12 certains actifs, Énergir demande un changement de taux pour certaines catégories d'installations
13 générales, toujours dans le but de mieux refléter les durées de vies de ces actifs. En premier lieu,
14 les voitures et camionnettes (Z2450), actuellement amorties sur une période de 5 ans, seront
15 désormais amorties sur une période de 7 ans. Ensuite, les véhicules tout terrain (Z2560),
16 actuellement amortis sur une période de 3 ans, seront désormais amortis sur une période de
17 5 ans. Finalement, les remorques (Z2650), dont la période d'amortissement actuelle est de
18 10 ans, sera dorénavant de 12 ans. Ces changements sont présentés à l'annexe B.

- 1 Les améliorations proposées ci-dessus permettraient une répartition équitable de la dépense
- 2 d'amortissement entre les générations de clients et favoriseraient la juste récupération des
- 3 investissements.

- 4 Globalement, les modifications aux catégories des installations générales ont un impact à la
- 5 baisse de 0,3 M\$ sur la dépense d'amortissement. L'annexe C présente l'analyse détaillée des
- 6 impacts sur la dépense d'amortissement des installations générales par catégorie
- 7 d'immobilisations.

CONCLUSION ET IMPACT DES MODIFICATIONS DES IMMOBILISATIONS CORPORELLES

1 La mise à jour de la présente étude des taux d'amortissement permettrait de refléter une dépense
2 annuelle d'amortissement conforme à la réalité économique actuelle et à l'application des normes
3 comptables en vigueur. Cette étude des taux d'amortissement d'Énergir se traduit par une baisse
4 de la dépense d'amortissement de 13,8 M\$, ce qui représente une diminution de 9,6 % par
5 rapport à la dépense d'amortissement calculée sur la base des taux actuellement en vigueur.

6 **Pour la Cause tarifaire 2020-2021, Énergir demande à la Régie :**

- 7 • de prendre acte de l'étude des taux d'amortissement réalisée par la firme Concentric
8 Advisors pour les actifs de distribution, de stockage et de transmission, comme
9 présenté à l'annexe A;
- 10 • d'autoriser la modification des taux d'amortissement des actifs de distribution, de
11 stockage, de transmission et d'installations générales qui seront en vigueur jusqu'à la
12 prochaine étude des taux, comme présenté à l'annexe C.



ÉNERGIR

2019 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES
APPLICABLE TO TRANSMISSION,
DISTRIBUTION AND STOCKING PLANT IN SERVICE
AS OF SEPTEMBER 30, 2019

Prepared April 2020

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April 7, 2020

Caroline Provencher
Chef de service – Comptabilité financière et DaQ
Énergir Limited Partnership
1717 rue du Havre,
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Attention: Mme. Caroline Provencher

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the natural gas, transmission, distribution and stocking plant assets of Énergir, as of September 30, 2019. Our report presents a description of the methods used in the estimation of depreciation and net salvage, the statistical analyses of service life and the summary and detailed tabulations of annual and accrued depreciation.

The calculated annual depreciation accrual rates presented in the report are applicable to plant in service as of September 30, 2019. The depreciation rates are based on the Straight - Line method, the remaining life basis, using the equal life group procedure. An annual review of the depreciation rates using the same estimates and methods is recommended.

Yours truly,

CONCENTRIC ADVISORS, ULC

A handwritten signature in blue ink, appearing to read "L. Kennedy", is written over a faint, light blue circular stamp or watermark.

Larry E. Kennedy
Vice President

Project: 70062.00
LEK/ta



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SECTION 1

1 EXECUTIVE SUMMARY

Pursuant to Énergir Limited Partnership’s (Énergir or the “Company”) request, Concentric Advisors, ULC (“Concentric”) conducted a depreciation study related to the natural gas transmission, distribution and stocking plant accounts, as of September 30, 2019. The purpose of this study was to determine the annual depreciation accrual rates and amounts applicable to the original cost of plant, as of September 30, 2019.

The depreciation rates are based on the Straight-Line method using the Equal Life Group (“ELG”) procedure and were applied on a remaining life basis. The calculations were based on attained ages and estimated average service life and forecasting net salvage characteristics for each depreciable group of assets. Variances between the calculated accrued depreciation and the book accumulated depreciation, as at September 30, 2019, are amortized over the remaining life of assets.

Énergir’s accounting policy has not changed since the last depreciation study was prepared. It continues to recognize the

recovery of future costs of removal over the average service of the assets, and therefore includes estimated costs of removal percentages into the depreciation rate calculations costs of removal.

These estimates of salvage values present the continuation of a moderated process to full cost recovery to avoid sharp increases in costs of removal recovery.

Concentric recommends the calculated annual depreciation accrual rates set forth herein apply specifically to natural gas plant in service as of September 30, 2019, as summarized by account detail in Tables 1, 1A and 1B (Section 5, pages 5-2 to 5-4), of this study. Supporting data and calculations are provided as well.

Finally, this study results in an annual depreciation expense accrual related to the recovery of original cost and net salvage requirement of \$113.0 million, when applied to depreciable plant balances as of September 30, 2019 of \$4.0 billion. The study results are summarized at an aggregate functional group level as follows:

SUMMARY OF ORIGINAL COST, ACCRUAL PERCENTAGES AND AMOUNTS

Plant Group	Original Cost	Annual Accrual
Distribution Plant	\$3,535,617,929	3.02% \$106,788,620
Distribution Biogaz	\$8,330,570	5.01% \$417,548
Transmission Plant	\$385,713,923	1.05% \$4,035,733
Stocking Plant	\$70,974,095	2.53% \$1,794,809
TOTAL PLANT IN SERVICE	\$4,000,636,516	2.83% \$113,036,710



SECTION 2

2 DEPRECIATION STUDY OVERVIEW

2.1 Scope

Concentric has been retained by Énergir to develop reasonable and appropriate depreciation accrual rates based on the original cost of plant in service as of September 30, 2019. This report sets forth the results of the depreciation study for Énergir to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of natural gas plant at September 30, 2019. The rates and amounts are based on the Straight-Line method of depreciation, incorporating the ELG procedure applied on a remaining life basis. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to natural gas plant in service as of September 30, 2019.

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 September 30, 2019;
- a review of Énergir practice and outlook as they relate to plant operation and retirement;
- review of Énergir’s recent internal view of the impact of changes in technology and natural gas, transmission and distribution design standards; and
- consideration of current practice in the natural gas distribution industry, including knowledge of service lives and net salvage estimates used for other natural gas distribution or transmission companies, where available.

2.2 Plan of Study

Section 1:	Executive Summary, presents a brief summary of the depreciation study and results
Section 2:	Depreciation Study Overview contains statements with respect to the plan and the basis of the study
Section 3:	Development of Depreciation Parameters presents descriptions of the methods used and factors considered in the service life study
Section 4:	Calculation of Annual and Accrued Depreciation presents the methods and procedures used in the calculation of depreciation
Section 5:	Results of Study presents summaries by depreciable group of annual and accrued depreciation in Tables 1, 1A and 1B
Section 6:	Retirement Rate Analysis shows retirement rates and lowa curves for the accounts analyzed
Section 7:	Net Salvage Calculations presents recent historical costs of removal to determine net salvage
Section 8:	Detailed Depreciation Calculations presents the results of the depreciation calculations using the ELG procedure



Section 9:	Estimation of Survivor Curves is an overview of Iowa curves and the Retirement Rate Analysis
Section 10:	Estimation of Net Salvage is an overview of the Net Salvage Analysis

2.3 Depreciation

For most accounts, the annual and accrued depreciation were calculated by the Straight-Line method using the Equal Life Group (“ELG”) procedure. For certain 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. Inherent in the remaining life calculations used in this study, variances between the calculated accrued depreciation or amortization and the book accumulated depreciation are amortized over the composite remaining life of each account. The Straight-Line method, Equal Life Group procedure is a commonly used depreciation calculation procedure that has been widely accepted in jurisdictions throughout North America and has been used by Énergir in previous depreciation studies. Concentric recommends its continued use. Amortization accounting is used for certain servitude (easement) accounts because of the disproportionate plant accounting effort required when compared to the minimal original cost of the large number of items in these accounts. Many gas distribution utilities in North America, including Énergir, have received approval to adopt amortization accounting for these accounts. A full and comprehensive depreciation study for Énergir includes the following components:

- fully justified recommendations regarding Average Service Life estimates for each account;
- fully justified recommendations regarding future net salvage requirements;
- detailed calculation of the depreciation rate utilizing the estimated Average Service Life and Net Salvage percentages, and;
- a document explaining the procedures followed and justifying the results in a format suitable for submission to senior management and regulatory authorities.

2.4 Service Life and Net Salvage Estimates

The service life and salvage estimates used in the depreciation and amortization calculations were based on informed judgment which incorporated a review of management’s plans, policies and outlook, a general knowledge of the natural gas utility industry, and available comparisons of service life and net salvage estimates from our studies of other gas utilities. The use of survivor curves to reflect the expected dispersion of retirement provides a consistent method of estimating depreciation for 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 using widely accepted techniques, and forecasting the survivor characteristics for each depreciable group on the basis of interpretations of



the historical data analyses and the probable future. The combination of the historical experience and the estimated future yielded estimated survivor curves from which the average service lives were derived. The resultant depreciation rates are summarized in Tables 1, 1A and 1B (Section 5, pages 5-2 to 5-4) of this study. 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.

2.5 Information Provided by Énergir

Énergir has provided Concentric with the required information, as of September 30, 2019, for all accounts being studied. This information has been compiled from the plant accounting records and includes the following:

- current balances by vintage year for each account (aged balances). The balances provide the amount of investment sorted by installation year currently in operation. This file is only inclusive of current plant in service and does not include any retirement information;
- detailed retirement transactions for all accounts. The transactions include information regarding the transaction year of the retirement, the installation year of the asset being retired as well as the original cost of the asset being retired.
- detailed cost of removal and gross salvage transactions for all accounts requiring the recovery of net salvage. The transactions include information regarding the transaction year of the retirement, the costs associated with the retirement, and any gross salvage proceeds from the sale or reuse of the property.
- Forecasted capital that has been budgeted and reviewed by regulatory authorities and presents a material addition to ongoing capital programs.

2.6 Data Reconciliation

The above data was reviewed and reconciled to Énergir control schedules to ensure accuracy and reasonableness in use of the calculations developed in this study. These checks include:

- that the surviving investment by account equals (or can be reconciled to) the Company's gross plant in service and accumulated depreciation ledger balances;
- that the surviving investment in each vintage is not negative. In other words, this check confirms that the sum of retirements from any given vintage have not exceeded the amount of plant additions to the vintage; and
- that the cost of removal, retirement and gross salvage data over time corresponds to plant and accounting records and their analyses reflects an accurate representation of net salvage.



SECTION 3

3 DEVELOPMENT OF DEPRECIATION PARAMETERS

3.1 Depreciation

Depreciation, as applied to depreciable utility plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among causes to be given consideration are:

- wear and tear;
- deterioration;
- action of the elements;
- inadequacy;
- obsolescence;
- decay;
- changes in the art;
- changes in demand; and
- the requirements of public authorities ¹.

When considering the action of the elements, the average service life calculations have considered 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;
- 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 below.

¹ The National Association of Railroad and Utilities Commissioners, Uniform System of Accounts for Class A and B Electric Utilities. The Definition used by the Federal

Energy Regulatory Commission for natural gas utilities is essentially the same.



3.2 Study Depreciation Methods and Procedures

This study calculates the annual and accrued depreciation using the Straight-Line method and Equal Life Group procedure for most accounts. For certain 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. Variances between the calculated accrued depreciation and the book accumulated depreciation are amortized over the composite remaining life of each account.

Continued monitoring and maintenance of the accumulated depreciation reserve at the account level is recommended. As such, Concentric recommends that full and comprehensive depreciation studies be performed every three to five years.

3.3 Estimation of Survivor Curves

3.3.1 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.”² 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 zero. 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 calculated as 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

² Robley Winfrey, *Statistical Analyses of Industrial Property Retirements*, Bulletin 125 revised (Engineering Research Institute, Iowa State University, 1935) p.65



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 the widely-used practice of providing increased weighting in the fitting Iowa curves up to one percent of the maximum exposures. This standard practice 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. A discussion of the general concept of survivor curves and retirement rate method is presented in Section 9 of the supporting document.

3.4 Estimation of Survivor Curves and Net Salvage

The development of the depreciation calculations requires the input of an Average Service Life, Iowa curve and Net Salvage recommendations (the “depreciation parameters”). Additionally, to complete the depreciation calculations, the calculation methods must be established. Specifically, the selection of the depreciation method must establish three types of additional input:

1. the choice of a depreciation method;
2. a basis upon which to apply the method, and
3. in the case of group assets, a procedure to use in grouping the assets.

In this study, the depreciation rates for Énergir have been calculated in accordance with the Straight - Line method, the ELG procedure and applied using the remaining life technique, with any accumulated depreciation variances trued-up over the composite remaining life of each account.

3.5 Survivor Curve and Net Salvage Judgements

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

The procedure for estimating service lives consisted of compiling and analyzing historical data for the plant accounts using widely accepted techniques and forecasting the survivor characteristics for each depreciable group based on interpretations of the historical data analyses and the probable future. This included the professional judgement of Concentric which incorporated any information gained from operational staff interviews regarding technical and general operations procedures. The combination of historical experience and the estimated future yielded estimated survivor curves from which the average service lives were derived. In addition, Concentric reviewed notes from prior



depreciation studies such as detailed notes taken during site tours conducted in the preparation of previous depreciation studies.

The estimates of net salvage were based in part on historical data related to historical retirement activity for most accounts up to September 30, 2019. The analysis of historic net salvage activity considered gross salvage and cost of removal as recorded to the depreciation reserve account. Percentages of the cost of plant retired were calculated for each component of net salvage on annual, historical, three-year and five-year moving average bases.

The following discussion, dealing with several accounts which comprise most of the investment analyzed, presents an overview of the factors considered by Concentric in the determination of the average service life. The survivor curve and net salvage estimates for the remainder of the accounts not discussed in the following sections were based on similar considerations.

ACCOUNT Z11.00 –DISTRIBUTION BRANCH (SERVICE) - STEEL

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$186,325,331	4.66%	43-R1.5	43-R1.5	-20%	-25%

The assets in this account relate to the low-pressure steel lines that serve individual residential or business customers from the point the service line taps into the main and through to the meter. All account transactions through September 30, 2019 were analyzed using the retirement rate method. The original survivor curve, as plotted on page 6-7 shows a steady rate of retirements beginning early in the life of these assets. The previously approved 43-R1.5 Iowa curve remains appropriate for this account as evidenced by the residual measure of 0.1377 as shown on page 6-7. As a result, Concentric recommends continuing with the 43-R1.5 Iowa curve as an appropriate indicator of retirement pattern for this account.

The cost of removal for service steel branch has started to increase as a percentage of retirements. Historical averages are trending about negative 30 percent (page 7-2) and moving three-year and five-year averages are trending more negative than negative 90 percent and negative 50 percent, respectively. While discussions with operations staff do not indicate that these recent and large net salvage trends may be indicative of future net salvage, it is appropriate to change the current negative 20 percent to a more representative percentage that reflects a moderate and gradual approach to historical numbers. Peer numbers for this account are not readily comparable for natural gas utilities since steel services are often combined with other material types. However, negative 25 percent is on the low end of the range of a broad category of service pipes for the industry. Concentric recommends changing the net salvage estimate from negative 20 percent to negative 25 percent.



ACCOUNT Z11.02 –DISTRIBUTION BRANCH (SERVICE) – DIRECT PLASTIC

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$892,996,147	22.32%	50-R2.5	55-R2.5	-100%	-100%

This account includes investment related to the low-pressure plastic service lines that extend from the mains to the customers' meters. Historical transactions for the period 1977 to 2019 were analyzed with the retirement rate method and plotted on page 6-13. The original survivor curve (page 6-11), shows consistent retirement ratios through to age 35. Concentric recommends a 55-R2.5 Iowa curve as more representative and a good statistical with a residual measure of 0.0873.

The cost of removal for this account continues at a high rate relative to retired original costs. While historical rates are around the negative 100 percent, (page 7-4), the most recent three-year and five-year averages, of negative 185 percent and negative 162 percent, respectively, exceed this amount. Concentric recommends maintaining the negative 100 percent net salvage estimate in the interests of a moderate approach to understand whether historical averages move beyond where it is trending.

ACCOUNT Z11.03 –DISTRIBUTION BRANCH (SERVICE) – INSERT PLASTIC

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$82,490,071	2.06%	50-R2.5	50-R2.5	-40%	-50%

This account accounts for the low-pressure plastic insert service lines running from the main to customers' meters. The retirement rate analysis included transactions from 1970 to 2019, with consistent retirement rates until about age 40, as shown in the original survivor curve on page 6-16. The previous Iowa curve approved for these assets was a 50-R2.5 Iowa curve and remains the best statistical and visual fit as shown on page 6-16. Accordingly, Concentric recommends with the continued use of the 50-R2.5 Iowa curve to best reflect future retirements for this account.

Cost of removal percentages for this account have become substantially more negative since 2014. As shown on the table on page 7-5 individual net salvage percentages since 2015 have been in the range of negative 100 percent to negative 240 percent. The latest three-year and five-year net salvage averages are negative 150 percent and negative 134 percent, respectively. While large swings in net salvage may be due to timing differences between large retirements and when the costs of removal are incurred, the data suggests that the previous negative 40 percent should be modified to negative 50 percent to gradually move towards more recent net salvage percentage levels. This figure remains within the range of a broad category of net salvage of peer natural gas utility service accounts.



ACCOUNT Z11.50 –DISTRIBUTION MAIN PIPE STEEL

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$863,437,743	21.58%	45-R4	45-R4	-25%	-30%

The assets in this account relate to the cost of natural gas distribution steel mains. Components include the cost of opening the trench, surveying, any valves and cathodic protection, in addition to the cost of pipe. The retirement rate analysis included all retirements, additions and transfers up to September 2019, with an original survivor curve plotted on page 6-23. The previous Iowa curve for these assets was a 45-R4 Iowa curve and this curve fits retirements between ages 0 and 30 years quite well. A 45-R4 Iowa curve appears to remain the best statistical and visual fit as shown on page 6-23, with a residual measure of 0.1865. As a result of these indicators, Concentric recommends continued use of the 45-R4 Iowa curve to best reflect future retirements for the assets in the distribution mains.

Net salvage since 2014 for this account has surpassed \$1 million per year and as a percentage of retirements have ranged from negative 34 percent to over negative 100 percent of capital retired, as shown on page 7-8. Three-year and five-year averages have been trending steadily more negative to the point where the latest figures are negative 45 and negative 39 percent for three-year and five-year averages, respectively. Changing the net salvage from negative 25 percent which was previously approved to negative 30 percent represents a gradual movement toward what we can reasonably expect in future net salvages for these assets. Comparable data for gas utility peers with steel mains is sparse, however negative 30 percent is in the range that exists for distribution mains in general.

ACCOUNT Z11.51 –DISTRIBUTION MAIN PIPE DIRECT PLASTIC

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$1,033,243,396	25.83%	65-R3	70-R4	-3%	-10%

The assets in this account relate to the costs associated with trenching, installing, controlling and protecting the plastic distribution mains that extend for natural gas transmission various service lines downstream. It represents the largest account bit in terms of cost (over \$1 billion) and portion of total investment being studied (25.83 percent). The retirement rate analyses considered all transactions for this account which encompassed the years 1970 to 2019. The observed life table on page 6-24 shows a gradual rate of retirements, caused by almost \$4 million of retirements since 2014. The additional retirements since 2014 provides more relevant retirement ratios for assets up to age 38. Based on this data the better statistically fitting curve would be the 70-R4 Iowa curve as opposed to the currently approved 65-R3 Iowa curve. The residual measure for this curve is 0.0460. Based



on visual and statistical fit as the main criteria, Concentric recommends using a 70-R4 Iowa curve for plastic distribution mains.

Salvage costs for this account have more than doubled in the 2017 to 2019 period, with net salvage percentages in the negative thirty percent range (page 7-9). The latest five-year net salvages are now over negative 13 to negative 17 percent, much higher than the negative three percent estimated in the last study. In order to be closer to the long run net salvage costs for this account, negative ten percent is recommended as a net salvage estimate. This is a marked increase in net salvage although still a moderate step. Future studies may indicate a need for a more negative net salvage percentage as shown by the negative 17 percent in the latest five-year period. Concentric recommends monitoring future cost of removals and further adjusting or maintaining net salvage as required.

ACCOUNT Z11.52 –DISTRIBUTION MAIN PIPE PLASTIC INSERTS

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$63,912,029	1.60%	65-R4	70-R4	-10%	-10%

This account represents the cost of flexible plastic insert liners inside the distribution main pipe. The components include pressure and temperature monitors, couplings, fittings and associated valves that control delivery to the service lines. These pipes may be subjected to lower operating pressures than ordinary plastic mains. The original life table on pages 6-27 to 6-28 shows all transactions from 1977 to 2019 with successive retirements accounting for very little of the amount of exposures. The percent surviving plotted against age of retirements on page 6-29 shows at least 95 percent surviving of this account. The previous Iowa curve of 65-R4 Iowa curve does not capture the retirements of almost \$1 million, as closely as the 70-R4, especially beyond 30 years of age. As a result, Concentric recommends extending the life estimate for this account to a 70-R4 Iowa curve.

The salvage data for main plastic inserts has yet to register any costs of removal, as shown on page 7-10. Directly comparable salvage costs for this type of account were not available. Barring any new information, the previous estimate based on past discussions and a reasonable evaluation of future net salvage continues to be the best estimate until there is cost of removal data. Concentric therefore recommends remaining with the negative ten percent net salvage estimate for this account.

ACCOUNT Z12.00 –DISTRIBUTION METER

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$199,907,715	5.00%	18-R2.5	18-L1.5	0%	0%

This account includes the costs of the meters used in measuring the quantity of gas consumed at the distribution level of the gas utility. These costs include connecting and original testing of the meters,



including any locks, seals and fittings. The retirement rate analysis considered all transactions from 1957 to 2019. The best estimates of life for distribution meters may be more applicable to the more recent technology of digital meters as compared to the historical retirement trends related technology and regulations that are no longer in place. After initial installation and revisions to applicable Measurement Canada and sampling requirements, meters are randomly sampled from homogenous lots at a prescribed frequency. Discussion with Énergir operations staff indicated that the acceptance rate for reverification was higher for the more robust commercial meters and that residential meters had a highly probable life of at least ten years. The results from ongoing testing programs validated the previous average life of 18 years with a low probability of some of the larger meters lasting as long as 40 years. By acknowledging this tendency to have a lingering tail of long-life meters while holding to the 18-year average, an Iowa curve of 18-L1.5 is recommended as a reasonable expectation of distribution meters, as shown in the original survivor curve on page 6-31. This life estimate is within the range of distribution meters of natural gas utility peers. As a result of these considerations, Concentric recommends an 18-L1.5 Iowa curve estimate for distribution meters.

Net salvage for distribution meters have been non-existent as shown on page 7-11, where no costs of removals have been recorded since 2002. As a result, salvage continues to be estimated as zero percent for distribution meters.

ACCOUNT Z12.50 –DISTRIBUTION DELIVERY STATION - EQUIPMENT

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$114,592,577	2.86%	37-R3	40-R2.5	-10%	-20%

The assets in this account include the station equipment used to distribute gas to mains and service lines. Components include any water handling, metering equipment along with associated piping and valves. All transactions for this account from 1959 to 2019 were analyzed using the retirement rate method and the results were plotted on the original life curve on page 6-34. While the most recent curve used to estimate life for this account was the 37-R3 Iowa curve, the retirement activity since the last study point to a higher average age and the 40 R2.5 Iowa curve, which was a better statistical and visual fit. This curve has a residual measure of 0.7430 and does a better job of representing retirements from ten to 25 years of age as well as retirements to assets after 30 years of life. In addition, the Iowa curve is within the range of directly comparable peer results. As a result, Concentric recommends changing the life estimate for distribution delivery station equipment to the 40 R2.5 Iowa curve.

Costs of removal have increased substantially for this account since 2014 as shown on page 7-12. Net salvage has seen large swings with a range from negative 21 percent to negative 191 percent in the same time period. The smoothing effect of using a multi-year moving average results in latest three-



year and five-year averages of negative 33 percent and negative 43 percent, respectively. Historical net salvage sits at negative 30 percent for this account. While it is difficult to predict exactly where net salvage will average over the next ten years, the last few years point to a need to move in step with increases in scope and costs of removal of these types of station equipment. In the interests of moderately moving towards a more accurate estimate of net salvage, Concentric recommends adjusting the estimate from negative ten percent to negative 20 percent.

ACCOUNT Z13.00 –DISTRIBUTION RELEASE STATION - EQUIPMENT

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$43,400,344	1.08%	34-R1.5	35-R1.5	-30%	-30%

This account is comprised of the equipment in the distribution of gas to the low-pressure service lines. Components include metering, valves and cathodic protection. The retirement rate analysis was applied to all transactions from 1959 to 2019. The original life table on page 6-38 shows a steady rate of retirements up until age 35 where it begins to slow. The original life curve on page 6-40 shows that an Iowa 35-R1.5 does a good visual fit of the retirements, particularly between ages 30 and 40, resulting in a residual measure for this curve of 0.3044. Concentric therefore recommends adjusting the Iowa curve to 35 R1.5 to better represent future retirements for this account.

Salvage activity for this account has been minimal since 2014 as shown on page 7-14. The net salvage numbers have not moved substantially from the estimate in the latest study. While the three-year and five-year estimates of net salvage are now negative 38 percent and negative 26 percent, respectively, there is not enough activity to warrant moving it from the last estimate. Concentric therefore recommends continuing to use negative 30 percent as a net salvage estimate for this account.

ACCOUNT Z31.00 –TRANSMISSION – MAIN PIPE

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$297,346,509	7.43%	65-R3	70-R4	-10%	-15%

This account includes the cost and installation of transmission main pipes which are high pressure lines that feed the lower pressure distribution system. It includes pipe casing, protective casing, cathodic protection and valves. Transmission main pipe assets began to be installed in 1983 and all transactions since then were analyzed with the retirement rate method. As shown on page 6-58, retirements have been few and sporadic in this time period, with 99 percent of original plant still surviving. There have been over \$900,000 of retirements since the last study, more than half of the total recorded, but over a total investment of over \$297 million, there is only a small decrease from



the percent surviving since the last study. The 70-R4 Iowa curve acknowledges more of the original investment surviving and presents a better visual fit than the previous life estimate based on the 65-R3 Iowa curve for this account. The statistical fit, represented by a residual measure of 0.0306, is of less importance at this time because of the relatively truncated observed life table. The recommended Iowa curve is on the higher side of the transmission main pipe peer range, however Concentric recommends the 70-R4 Iowa curve as a life estimate for this account for the reasons explained above.

The sporadic retirement activity for transmission mains pipe has been matched by volatile costs of removal as shown on page 7-16. While three-year and five-year averages are showing negative 245 percent and negative 67 percent, respectively, the trend is noticeably more negative than the previously approved net salvage of negative ten percent. While averages are not typically representative from a small sample set, Concentric notes that net salvage has costs much more than negative ten percent of retirements every year since 2016. Historical net salvage current stands at negative 53 percent. Retirement and decommissioning activity of transmission main pipe will involve large scale deactivations and reclamations of transmission segments, which will be far enough into the future that they will trigger associated inflationary and scope pressures. A more representative and moderate negative 15 percent is more likely a better estimate of net salvage. Negative 15 percent is closer to the middle of the range for peers of similar transmission main pipe. For these reasons, Concentric recommends negative 15 percent as a net salvage estimate for this account.

ACCOUNT Z31.20 –TRANSMISSION – COMPRESSION STATION - EQUIPMENT

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$37,632,962	0.94%	Not applicable	35-R3	Not applicable	-10%

This account includes the cost of purchasing and installing compressor equipment related to the transmission of natural gas on high pressure main lines. Associated components include the compressors, ducts, meter station equipment, regulators and piping. This account’s activity is solely comprised of new additions where approximately \$38 million of new additions have been invested since 2018. As a result, there are no retirements on which to fit a statistical pattern at the time of this study. Concentric assessed comparable peers in the natural gas utility industry and applied its judgement to arrive at an estimate of the 35-R3 Iowa curve to reflect expected retirement patterns. The same approach was used to assign a negative ten percent net salvage number. These estimates will be tested as actual retirement dispersion and cost of removal data becomes available.



ACCOUNT Z31.30 –TRANSMISSION – COMPRESSION STATION – CIVIL BUILDING

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$37,929,443	0.95%	Not applicable	45-R2.5	Not applicable	-5%

This account represents the cost of structures housing compressor equipment for gas transmission. It includes labour and materials for site preparation, fencing, drainage and hoisting equipment in addition to the buildings themselves. This account did not exist on Énergir's books in the last study with additions and transfers totaling \$37.9 million not starting until 2018. In the absence of retirement and salvage data, Concentric recommends a 45-R2.5 Iowa curve and a negative five percent net salvage based on similar installations and their operations in the natural gas utility industry.

ACCOUNT Z40.52 –STOCKING PLANT – BUILDING INFRASTRUCTURE

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$27,595,290	0.69%	44-R3	45-R3	-35%	-35%

This is a general account that captures buildings or structures used in the distribution, transmission or storage in a natural gas utility. The assets include lighting, site improvements, fencing and loading facilities. A retirement rate analysis looked at all the transactions in this account up to 2019. The results are tabulated on pages 6-67 to 6-68 and the original survivor curve is shown on page 6-69. Only approximately \$300,000 of retirements have occurred in this account of over \$25 million of original costs. These retirements have all occurred since 2017, leaving over 90 percent of the original cost surviving. While retirements incremental to the last study are sufficient enough to materially revise the last life estimate for this curve, the 45-R3 Iowa curve may be more appropriate than the 44-R3 in that it recognizes that lives for these types of structures in industry have a wide range and 45 years would be a better statistical and visual fit. As a result, Concentric recommends a 45-R3 Iowa curve for this account.

There is no recorded cost of removal data for building infrastructure stocking plant. The negative 35 percent approved in the last study, which was based on discussions with management and a reasonable assessment of similar assets in the peer group, remains relevant for this study. Concentric therefore recommends continuing to use negative 35 percent as a net salvage estimate for this account.



ACCOUNT Z41.01 –STOCKING PLANT – MECHANICAL EQUIPMENT

Investment \$	Investment %	Previously Approved Curves	Concentric Recommends Curves	Previously Approved Salvage	Concentric Recommends Salvage
\$25,553,183	0.64%	35-R3	40-R3	0%	0%

This is a general account that reflects mechanical equipment used in the distribution, transmission or storage in a natural gas utility. The components include mechanical tools such as detectors, pipe locators, pumps, motors and pipe cleaners. A retirement rate analysis looked at all the transactions in this account and the results are tabulated on pages 6-70 to 6-71 and the original survivor curve is illustrated on page 6-72. Approximately \$600,000 of retirements have occurred in this account, all since 2013. While these retirements are a small part of the total original cost, the 40-R3 Iowa curve is visually a better representation of life in this account as it recognizes the retirements between 30 and 40 years. As a result, Concentric recommends a 40-R3 Iowa curve for this account.

There is no recorded cost of removal data for mechanical equipment stocking plant. A zero percent net salvage was recommended in the last study, based on discussions with management and a reasonable assessment of similar assets in a peer group. There has been no data to provide any new insight in the intervening years since the last study. Concentric therefore recommends continuing to use zero percent as a net salvage estimate for this account.

The above analysis provides discussion on all major accounts that comprise at least 0.5 percent of the total utility capital analyzed. The judgment descriptions of all the accounts discussed cover almost 98 percent of the plant studied. All other accounts were analyzed using a similar approach.



SECTION 4

4 CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

4.1 Group Depreciation Procedures

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

In the Average Life Group procedure, the rate of annual depreciation is based on the average service life of the group - this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to the average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

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

In the determination of the depreciation rates in this study, the use of the Equal Life Group procedure has been continued. The Equal Life Group procedure provides an enhanced matching of depreciation expense to the consumption of service value, is commonly used in Canada, and has been previously approved for Énergir.

4.2 Calculation of Annual and Accrued Amortization

Amortization is the gradual extinguishment of an amount in an account by distributing such amounts over the life of the asset to which it is expected to apply. 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 that represent numerous units of property, but a very small portion of depreciable gas plant in service. The accounts and their amortization periods are as follows:



Account	Title	Amortization Period, Years
Z10.50	DISTRIBUTION SERVITUDE (EASEMENT)	70
Z15.01	DISTRIBUTION BIOGAZ SERVITUDE	70
Z30.50	TRANSMISSION SERVITUDES	70

For the purpose of calculating annual amortization amounts, as of September 30, 2019, 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.



SECTION 5

5 RESULTS OF STUDY

ÉNERGIR

**TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
BASED ON SURVIVING PLANT AS OF SEPTEMBER 30, 2019
"COMBINED LIFE AND NET SALVAGE ANALYSIS"**

Account	Description	Truncation Date	Survivor Curve	Net Salvage	Original Cost as of September 30, 2019	Book Reserve as of September 30, 2019	Future Accruals	Annual Accrual Amount	Composite Remaining Life	Annual Accrual Rate %
Z10.50	DISTRIBUTION SERVITUDE (EASEMENT)		70-SQ	0.0%	\$17,934,280	\$4,677,338	\$13,256,942	\$253,296	52.2	1.41
Z11.00	DISTRIBUTION BRANCH (SERVICE) - STEEL		43-R1.5	-25.0%	\$186,325,331	\$108,561,583	\$124,345,080	\$5,476,176	21.3	2.94
Z11.01	DISTRIBUTION BRANCH (SERVICE) COPPER INSERTS		16-L1	-70.0%	\$1,077,538	\$1,843,056	\$0	\$0	2.1	0.00
Z11.02	DISTRIBUTION BRANCH (SERVICE) DIRECT PLASTIC		55-R2.5	-100.0%	\$892,996,147	\$432,239,698	\$1,353,752,597	\$38,474,060	35.0	4.31
Z11.03	DISTRIBUTION BRANCH (SERVICE) INSERT PLASTIC		50-R2.5	-50.0%	\$82,490,071	\$67,558,965	\$56,176,141	\$2,329,028	23.1	2.82
Z11.04	DISTRIBUTION BRANCH (SERVICE) PRE-RELEASE PLASTIC		35-R4	-40.0%	\$1,971,597	\$1,360,446	\$1,399,790	\$101,089	14.6	5.13
Z11.05	DISTRIBUTION BRANCH (SERVICE) PRE-RELEASE STEEL		35-R4	-40.0%	\$716,089	\$291,568	\$710,956	\$42,891	18.9	5.99
Z11.50	DISTRIBUTION MAIN PIPE STEEL		45-R4	-30.0%	\$863,437,743	\$469,573,746	\$652,895,320	\$28,056,180	23.8	3.25 *
Z11.51	DISTRIBUTION MAIN PIPE DIRECT PLASTIC		70-R4	-10.0%	\$1,033,243,396	\$356,528,665	\$780,039,070	\$15,665,829	48.8	1.52 *
Z11.52	DISTRIBUTION MAIN PIPE PLASTIC INSERTS		70-R4	-10.0%	\$63,912,029	\$41,170,538	\$29,132,694	\$785,765	36.4	1.23
Z12.00	DISTRIBUTION METER		18-L1.5	0.0%	\$199,907,715	\$96,936,514	\$102,971,200	\$10,488,093	9.0	5.25
Z12.50	DISTRIBUTION DELIVERY STATION - EQUIPMENT		40-R2.5	-20.0%	\$114,592,577	\$65,390,891	\$72,120,201	\$3,163,116	20.4	2.76 *
Z12.51	DISTRIBUTION DELIVERY STATION - CIVIL BUILDING		45-R3	-5.0%	\$23,266,533	\$9,607,013	\$14,822,847	\$460,310	27.8	1.98 *
Z13.00	DISTRIBUTION RELEASE STATION - EQUIPMENT		35-R1.5	-30.0%	\$43,400,344	\$32,622,263	\$23,798,184	\$1,279,821	16.3	2.95
Z13.01	DISTRIBUTION RELEASE STATION - CIVIL BUILDING		40-R3	-10.0%	\$10,346,542	\$5,589,016	\$5,792,180	\$212,969	22.0	2.06
DISTRIBUTION PLANT					\$3,535,617,929	\$1,693,951,299	\$3,231,213,203	\$106,788,620		3.02
Z15.01	DISTRIBUTION BIOGAZ - SERVITUDE	2031	70-SQ	0.0%	\$3,415	\$1,814	\$1,601	\$139	11.5	4.08
Z15.50	DISTRIBUTION BIOGAZ - MAIN PIPE STEEL	2031	65-R3	-25.0%	\$1,972,812	\$1,256,054	\$1,209,961	\$106,636	11.3	5.41
Z15.60	DISTRIBUTION BIOGAZ - COMPRESSION STATION - EQUIPMENT	2031	25-R3	-10.0%	\$4,035,633	\$2,602,523	\$1,836,673	\$199,778	9.2	4.95
Z15.61	DISTRIBUTION BIOGAZ COMPRESSION STATION - BUILDING	2031	40-R3	-10.0%	\$1,853,683	\$1,086,848	\$952,204	\$86,946	10.9	4.69
Z15.70	DISTRIBUTION BIOGAZ - METER STATION - EQUIPMENT	2031	25-R4	-25.0%	\$294,902	\$220,162	\$148,465	\$16,454	9.0	5.58
Z15.71	DISTRIBUTION BIOGAZ - METER STATION - BUILDING	2031	40-R3	-10.0%	\$170,125	\$104,295	\$82,842	\$7,594	10.9	4.46
DISTRIBUTION BIOGAZ					\$8,330,570	\$5,271,696	\$4,231,746	\$417,548		5.01
Z30.50	TRANSMISSION - SERVITUDES		70-SQ	0.0%	\$12,805,008	\$12,449,453	\$355,556	\$7,551	35.8	0.06
Z31.00	TRANSMISSION - MAIN PIPE		70-R4	-15.0%	\$297,346,509	\$278,360,199	\$63,588,286	\$1,626,990	34.8	0.55
Z31.20	TRANSMISSION - COMPRESSION STATION - EQUIPMENT		35-R3	-10.0%	\$37,632,962	\$3,086,233	\$38,310,025	\$1,326,252	28.9	3.52
Z31.30	TRANSMISSION - COMPRESSION STATION - CIVIL BUILDING		45-R2.5	-5.0%	\$37,929,443	\$3,017,610	\$36,808,305	\$1,074,941	34.2	2.83
TRANSMISSION PLANT					\$385,713,923	\$296,913,496	\$139,062,172	\$4,035,733		1.05
Z40.51	STOCKING - ADMINISTRATIVE BUILDING		40-R3	0.0%	\$7,475,494	\$1,751,764	\$5,723,730	\$200,116	27.7	2.68 *
Z40.52	STOCKING - BUILDING INFRASTRUCTURE		45-R3	-35.0%	\$27,595,290	\$17,774,420	\$19,479,221	\$738,081	23.7	2.67 *
Z41.01	STOCKING - MECHANICAL EQUIPMENT		40-R3	0.0%	\$25,553,183	\$6,714,485	\$18,838,698	\$607,804	27.1	2.38 *
Z41.02	STOCKING - ELECTRONIC EQUIPMENT		15-R3	0.0%	\$2,546,501	\$2,133,731	\$412,770	\$35,992	4.3	4.34 ¹
Z41.03	STOCKING - SPECIALIZED EQUIPMENT		30-R4	0.0%	\$7,803,626	\$2,316,254	\$5,487,373	\$212,817	21.3	2.73 *
STOCKING PLANT					\$70,974,095	\$30,690,654	\$49,941,792	\$1,794,809		2.53
TOTAL PLANT					\$4,000,636,516	\$2,026,827,144	\$3,424,448,913	\$113,036,710		2.83

Notes

* Includes forecasted capital.

¹ Rate only applied to assets after 2012.

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**TABLE 1A. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
BASED ON SURVIVING PLANT AS OF SEPTEMBER 30, 2019
"LIFE ANALYSIS"**

Account	Description	Truncation Date	Survivor Curve	Net Salvage	Original Cost as of September 30, 2019	Book Reserve as of September 30, 2019	Future Accruals	Annual Accrual Amount	Composite Remaining Life	Annual Accrual Rate %
Z10.50	DISTRIBUTION SERVITUDE (EASEMENT)		70-SQ	0.0%	\$17,934,280	\$4,677,338	\$13,256,942	\$253,296	52.19	1.41
Z11.00	DISTRIBUTION BRANCH (SERVICE) - STEEL		43-R1.5	0.0%	\$186,325,331	\$90,337,315	\$95,988,016	\$4,174,090	21.33	2.24
Z11.01	DISTRIBUTION BRANCH (SERVICE) COPPER INSERTS		16-L1	0.0%	\$1,077,538	\$1,187,043	\$0	\$0	2.08	0.00
Z11.02	DISTRIBUTION BRANCH (SERVICE) DIRECT PLASTIC		55-R2.5	0.0%	\$892,996,147	\$285,233,567	\$607,762,580	\$16,834,810	34.95	1.89
Z11.03	DISTRIBUTION BRANCH (SERVICE) INSERT PLASTIC		50-R2.5	0.0%	\$82,490,071	\$49,875,658	\$32,614,413	\$1,305,838	23.13	1.58
Z11.04	DISTRIBUTION BRANCH (SERVICE) PRE-RELEASE PLASTIC		35-R4	0.0%	\$1,971,597	\$1,176,075	\$795,522	\$1,854	14.60	2.63
Z11.05	DISTRIBUTION BRANCH (SERVICE) PRE-RELEASE STEEL		35-R4	0.0%	\$716,089	\$379,650	\$336,439	\$14,712	18.91	2.05
Z11.50	DISTRIBUTION MAIN PIPE STEEL		45-R4	0.0%	\$863,437,743	\$386,162,335	\$477,275,408	\$19,744,111	23.80	2.29 *
Z11.51	DISTRIBUTION MAIN PIPE DIRECT PLASTIC		70-R4	0.0%	\$1,033,243,396	\$329,777,387	\$703,466,009	\$14,097,512	48.79	1.36 *
Z11.52	DISTRIBUTION MAIN PIPE PLASTIC INSERTS		70-R4	0.0%	\$63,912,029	\$37,562,483	\$26,349,546	\$710,464	36.44	1.11
Z12.00	DISTRIBUTION METER		18-L1.5	0.0%	\$199,907,715	\$96,936,514	\$102,971,201	\$10,488,093	9.04	5.25
Z12.50	DISTRIBUTION DELIVERY STATION - EQUIPMENT		40-R2.5	0.0%	\$114,592,577	\$58,208,786	\$56,383,791	\$2,352,511	20.40	2.05 *
Z12.51	DISTRIBUTION DELIVERY STATION - CIVIL BUILDING		45-R3	0.0%	\$23,266,533	\$8,975,630	\$14,290,903	\$449,323	27.77	1.93 *
Z13.00	DISTRIBUTION RELEASE STATION - EQUIPMENT		35-R1.5	0.0%	\$43,400,344	\$26,971,407	\$16,428,937	\$835,727	16.27	1.93
Z13.01	DISTRIBUTION RELEASE STATION - CIVIL BUILDING		40-R3	0.0%	\$10,346,542	\$5,577,780	\$4,768,762	\$165,192	22.00	1.60
DISTRIBUTION PLANT					\$3,535,617,929	\$1,383,038,968	\$2,152,688,467	\$71,477,532		2.02
Z15.01	DISTRIBUTION BIOGAZ - SERVITUDE	2031	70-SQ	0.0%	\$3,415	\$1,814	\$1,601	\$139	11.50	4.08
Z15.50	DISTRIBUTION BIOGAZ - MAIN PIPE STEEL	2031	65-R3	0.0%	\$1,972,812	\$1,060,732	\$912,080	\$80,383	11.35	4.07
Z15.60	DISTRIBUTION BIOGAZ - COMPRESSION STATION - EQUIPMENT	2031	25-R3	0.0%	\$4,035,633	\$2,399,099	\$1,636,534	\$177,972	9.16	4.41
Z15.61	DISTRIBUTION BIOGAZ COMPRESSION STATION - BUILDING	2031	40-R3	0.0%	\$1,853,683	\$1,009,056	\$844,627	\$77,118	10.94	4.16
Z15.70	DISTRIBUTION BIOGAZ - METER STATION - EQUIPMENT	2031	25-R4	0.0%	\$294,902	\$183,198	\$111,704	\$12,380	9.02	4.20
Z15.71	DISTRIBUTION BIOGAZ - METER STATION - BUILDING	2031	40-R3	0.0%	\$170,125	\$96,857	\$73,268	\$6,717	10.91	3.95
DISTRIBUTION BIOGAZ					\$8,330,570	\$4,750,756	\$3,579,814	\$354,709		4.26
Z30.50	TRANSMISSION - SERVITUDES		70-SQ	0.0%	\$12,805,008	\$12,449,453	\$355,555	\$7,551	35.81	0.06
Z31.00	TRANSMISSION - MAIN PIPE		70-R4	0.0%	\$297,346,509	\$272,708,757	\$24,637,752	\$481,570	34.78	0.16
Z31.20	TRANSMISSION - COMPRESSION STATION - EQUIPMENT		35-R3	0.0%	\$37,632,962	\$2,842,828	\$34,790,134	\$1,204,397	28.89	3.20
Z31.30	TRANSMISSION - COMPRESSION STATION - CIVIL BUILDING		45-R2.5	0.0%	\$37,929,443	\$2,775,311	\$35,154,132	\$1,026,633	34.24	2.71
TRANSMISSION PLANT					\$385,713,923	\$290,776,349	\$94,937,574	\$2,720,150		0.71
Z40.51	STOCKING - ADMINISTRATIVE BUILDING		40-R3	0.0%	\$7,475,494	\$1,751,764	\$5,723,730	\$200,116	27.66	2.68 *
Z40.52	STOCKING - BUILDING INFRASTRUCTURE		45-R3	0.0%	\$27,595,290	\$11,965,033	\$15,630,257	\$632,277	23.72	2.29 *
Z41.01	STOCKING - MECHANICAL EQUIPMENT		40-R3	0.0%	\$25,553,183	\$6,714,485	\$18,838,698	\$607,804	27.15	2.38 *
Z41.02	STOCKING - ELECTRONIC EQUIPMENT		15-R3	0.0%	\$2,546,501	\$2,133,731	\$412,770	\$35,992	4.34	4.34 ¹
Z41.03	STOCKING - SPECIALIZED EQUIPMENT*		30-R4	0.0%	\$7,803,626	\$2,316,254	\$5,487,373	\$212,817	21.32	2.73 *
STOCKING PLANT					\$70,974,095	\$24,881,267	\$46,092,828	\$1,689,005		2.38
TOTAL PLANT					\$4,000,636,516	\$1,703,447,340	\$2,297,298,681	\$76,241,397		1.91

Notes

* Includes forecasted capital.

¹ Rate only applied to assets after 2012.

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TABLE 1B. ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENTS, ORIGINAL COST AND ANNUAL ACCRUALS
BASED ON SURVIVING PLANT AS OF SEPTEMBER 30, 2019
"NET SALVAGE ANALYSIS"

Account	Description	Truncation Date	Survivor Curve	Net Salvage	Original Cost as of September 30, 2019	Book Reserve as of September 30, 2019	Future Accruals	Annual Accrual Amount	Composite Remaining Life	Annual Accrual Rate %
Z10.50	DISTRIBUTION SERVITUDE (EASEMENT)		70-SQ	0.0%	\$17,934,280	\$0	\$0	\$0	52.2	0.00
Z11.00	DISTRIBUTION BRANCH (SERVICE) - STEEL		43-R1.5	-25.0%	\$186,325,331	\$18,224,268	\$28,357,065	\$1,302,086	21.3	0.70
Z11.01	DISTRIBUTION BRANCH (SERVICE) COPPER INSERTS		16-L1	-70.0%	\$1,077,538	\$656,013	\$0	\$0	2.1	0.00
Z11.02	DISTRIBUTION BRANCH (SERVICE) DIRECT PLASTIC		55-R2.5	-100.0%	\$892,996,147	\$147,006,131	\$745,990,017	\$21,639,250	35.0	2.42
Z11.03	DISTRIBUTION BRANCH (SERVICE) INSERT PLASTIC		50-R2.5	-50.0%	\$82,490,071	\$17,683,307	\$23,561,729	\$1,023,190	23.1	1.24
Z11.04	DISTRIBUTION BRANCH (SERVICE) PRE-RELEASE PLASTIC		35-R4	-40.0%	\$1,971,597	\$184,371	\$604,268	\$49,234	14.6	2.50
Z11.05	DISTRIBUTION BRANCH (SERVICE) PRE-RELEASE STEEL		35-R4	-40.0%	\$716,089	-\$88,082	\$374,517	\$28,179	18.9	3.94
Z11.50	DISTRIBUTION MAIN PIPE STEEL		45-R4	-30.0%	\$863,437,743	\$83,411,411	\$175,619,912	\$8,312,069	23.8	0.96 *
Z11.51	DISTRIBUTION MAIN PIPE DIRECT PLASTIC		70-R4	-10.0%	\$1,033,243,396	\$26,751,278	\$76,573,061	\$1,568,317	48.8	0.15 *
Z11.52	DISTRIBUTION MAIN PIPE PLASTIC INSERTS		70-R4	-10.0%	\$63,912,029	\$3,608,055	\$2,783,148	\$75,301	36.4	0.12
Z12.00	DISTRIBUTION METER		18-L1.5	0.0%	\$199,907,715	\$0	\$0	\$0	9.0	0.00
Z12.50	DISTRIBUTION DELIVERY STATION - EQUIPMENT		40-R2.5	-20.0%	\$114,592,577	\$7,182,105	\$15,736,410	\$810,605	20.4	0.71 *
Z12.51	DISTRIBUTION DELIVERY STATION - CIVIL BUILDING		45-R3	-5.0%	\$23,266,533	\$631,383	\$531,944	\$10,987	27.8	0.05 *
Z13.00	DISTRIBUTION RELEASE STATION - EQUIPMENT		35-R1.5	-30.0%	\$43,400,344	\$5,650,856	\$7,369,248	\$444,094	16.3	1.02
Z13.01	DISTRIBUTION RELEASE STATION - CIVIL BUILDING		40-R3	-10.0%	\$10,346,542	\$11,236	\$1,023,418	\$47,777	22.0	0.46
DISTRIBUTION PLANT					\$3,535,617,929	\$310,912,331	\$1,078,524,736	\$35,311,087		1.00
Z15.01	DISTRIBUTION BIOGAZ - SERVITUDE	2031	70-SQ	0.0%	\$3,415	\$0	\$0	\$0	11.5	0.00
Z15.50	DISTRIBUTION BIOGAZ - MAIN PIPE STEEL	2031	65-R3	-25.0%	\$1,972,812	\$195,322	\$297,881	\$26,253	11.3	1.33
Z15.60	DISTRIBUTION BIOGAZ - COMPRESSION STATION - EQUIPMENT	2031	25-R3	-10.0%	\$4,035,633	\$203,424	\$200,140	\$21,806	9.2	0.54
Z15.61	DISTRIBUTION BIOGAZ COMPRESSION STATION - BUILDING	2031	40-R3	-10.0%	\$1,853,683	\$77,792	\$107,577	\$9,828	10.9	0.53
Z15.70	DISTRIBUTION BIOGAZ - METER STATION - EQUIPMENT	2031	25-R4	-25.0%	\$294,902	\$36,964	\$36,762	\$4,075	9.0	1.38
Z15.71	DISTRIBUTION BIOGAZ - METER STATION - BUILDING	2031	40-R3	-10.0%	\$170,125	\$7,438	\$9,574	\$878	10.9	0.52
DISTRIBUTION BIOGAZ					\$8,330,570	\$520,940	\$651,933	\$62,839		0.75
Z30.50	TRANSMISSION - SERVITUDES		70-SQ	0.0%	\$12,805,008	\$0	\$0	\$0	35.8	0.00
Z31.00	TRANSMISSION - MAIN PIPE		70-R4	-15.0%	\$297,346,509	\$5,651,442	\$38,950,534	\$1,145,420	34.8	0.39
Z31.20	TRANSMISSION - COMPRESSION STATION - EQUIPMENT		35-R3	-10.0%	\$37,632,962	\$243,405	\$3,519,891	\$121,855	28.9	0.32
Z31.30	TRANSMISSION - COMPRESSION STATION - CIVIL BUILDING		45-R2.5	-5.0%	\$37,929,443	\$242,299	\$1,654,173	\$48,308	34.2	0.13
TRANSMISSION PLANT					\$385,713,923	\$6,137,147	\$44,124,598	\$1,315,583		0.34
Z40.51	STOCKING - ADMINISTRATIVE BUILDING		40-R3	0.0%	\$7,475,494	\$0	\$0	\$0	27.7	0.00 *
Z40.52	STOCKING - BUILDING INFRASTRUCTURE		45-R3	-35.0%	\$27,595,290	\$5,809,387	\$3,848,964	\$105,804	23.7	0.38 *
Z41.01	STOCKING - MECHANICAL EQUIPMENT		40-R3	0.0%	\$25,553,183	\$0	\$0	\$0	27.1	0.00 *
Z41.02	STOCKING - ELECTRONIC EQUIPMENT		15-R3	0.0%	\$2,546,501	\$0	\$0	\$0	4.3	0.00
Z41.03	STOCKING - SPECIALIZED EQUIPMENT		30-R4	0.0%	\$7,803,626	\$0	\$0	\$0	21.3	0.00 *
STOCKING PLANT					\$70,974,095	\$5,809,387	\$3,848,964	\$105,804		0.15
TOTAL PLANT					\$4,000,636,516	\$323,379,804	\$1,127,150,231	\$36,795,313		0.92

Notes

* Includes forecasted capital.



SECTION 6

6 RETIREMENT RATE ANALYSIS

Énergir

Account Z1050 - DISTRIBUTION SERVITUDE (EASEMENT)

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	17,953,367	3	0.00000	1.00000	100.00
0.5	17,350,643	17	0.00000	1.00000	100.00
1.5	16,951,033	16	0.00000	1.00000	100.00
2.5	16,198,258	24	0.00000	1.00000	100.00
3.5	15,767,140	3	0.00000	1.00000	100.00
4.5	14,932,922	27	0.00000	1.00000	100.00
5.5	14,265,846	46	0.00000	1.00000	100.00
6.5	13,655,551	90	0.00001	0.99999	100.00
7.5	13,256,853	19	0.00000	1.00000	100.00
8.5	12,961,256	22	0.00000	1.00000	100.00
9.5	12,708,916	13	0.00000	1.00000	100.00
10.5	12,496,796	38	0.00000	1.00000	100.00
11.5	12,241,570	259	0.00002	0.99998	100.00
12.5	11,999,497	110	0.00001	0.99999	100.00
13.5	9,794,192	38	0.00000	1.00000	100.00
14.5	8,618,330	105	0.00001	0.99999	100.00
15.5	8,575,520	52	0.00001	0.99999	100.00
16.5	7,821,436	164	0.00002	0.99998	100.00
17.5	7,598,943	225	0.00003	0.99997	100.00
18.5	6,509,789	100	0.00002	0.99998	100.00
19.5	6,316,398	243	0.00004	0.99996	100.00
20.5	6,199,145	389	0.00006	0.99994	100.00
21.5	6,141,968	191	0.00003	0.99997	99.99
22.5	5,997,523	434	0.00007	0.99993	99.99
23.5	4,793,443	336	0.00007	0.99993	99.98
24.5	4,369,599	144	0.00003	0.99997	99.97
25.5	4,320,439	384	0.00009	0.99991	99.97
26.5	4,146,347	193	0.00005	0.99995	99.96
27.5	4,059,269	413	0.00010	0.99990	99.96
28.5	3,822,807	134	0.00004	0.99996	99.95
29.5	3,494,616	447	0.00013	0.99987	99.95
30.5	3,315,260	64	0.00002	0.99998	99.94
31.5	3,017,448	35	0.00001	0.99999	99.94
32.5	2,723,466	838	0.00031	0.99969	99.94
33.5	2,547,826	467	0.00018	0.99982	99.91
34.5	2,244,319	1,162	0.00052	0.99948	99.89
35.5	2,019,079	3,249	0.00161	0.99839	99.84
36.5	1,933,006	379	0.00020	0.99980	99.68
37.5	1,731,115	191	0.00011	0.99989	99.66
38.5	1,684,687	1,578	0.00094	0.99906	99.65
39.5	1,535,365	1,386	0.00090	0.99910	99.56

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Account Z1050 - DISTRIBUTION SERVITUDE (EASEMENT)

RETIREMENT RATE ANALYSIS

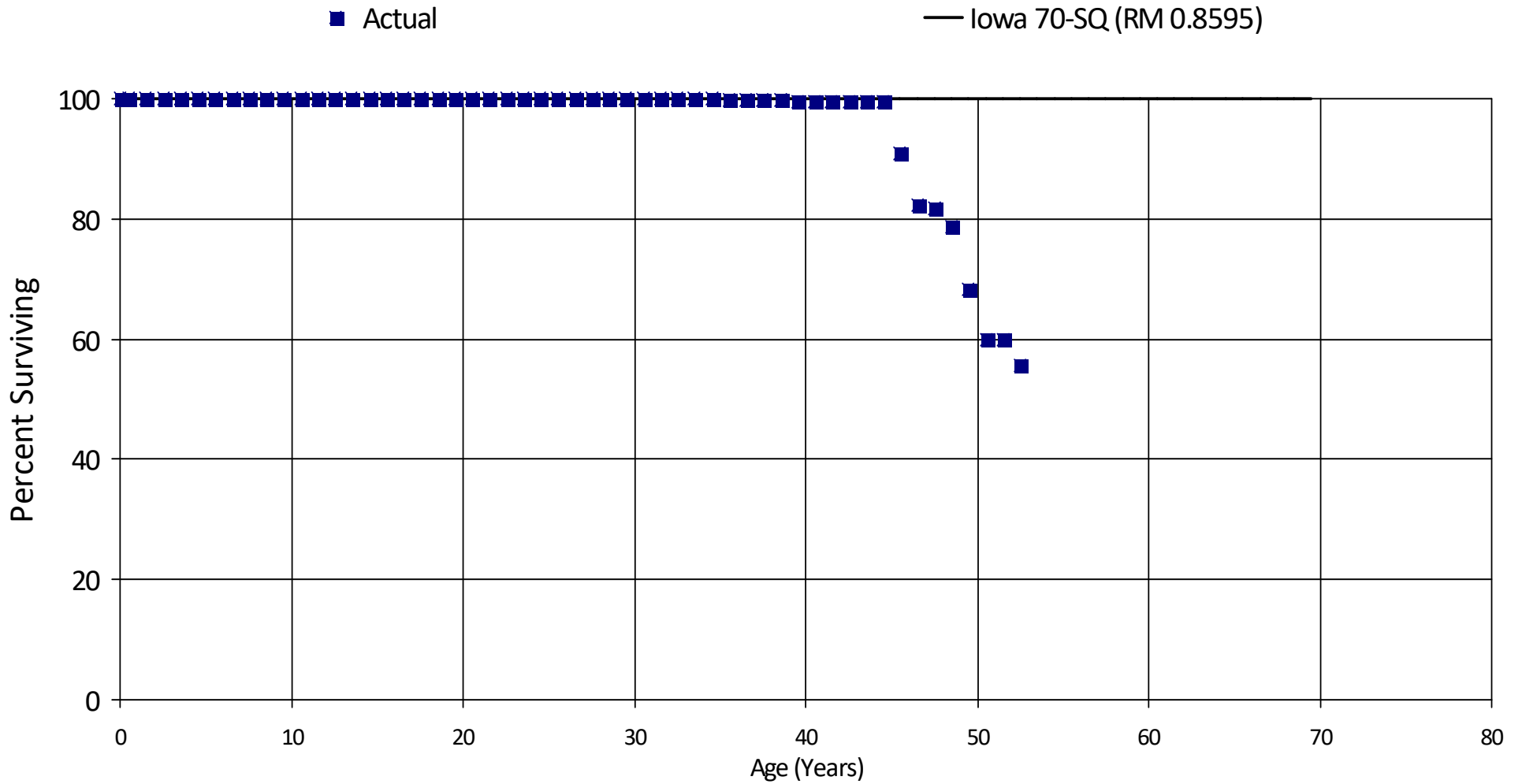
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	1,532,076	208	0.00014	0.99986	99.47
41.5	1,504,841	390	0.00026	0.99974	99.46
42.5	1,501,348	493	0.00033	0.99967	99.43
43.5	1,497,025	272	0.00018	0.99982	99.40
44.5	8,382	723	0.08626	0.91374	99.38
45.5	7,658	733	0.09571	0.90429	90.81
46.5	6,926	33	0.00476	0.99524	82.12
47.5	6,893	247	0.03583	0.96417	81.73
48.5	6,646	885	0.13316	0.86684	78.80
49.5	5,761	709	0.12306	0.87694	68.31
50.5	5,052	2	0.00040	0.99960	59.90
51.5	5,050	365	0.07228	0.92772	59.88
52.5	0	0	0.00000	0.00000	55.55
Totals:	334,158,640	19,088			

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Account Z1050 - DISTRIBUTION SERVITUDE (EASEMENT)

Placement Band - 1956 - 2019 Experience Band - 2002 - 2019

Actual and Smooth Survivor Curves



Énergir

Account Z1100 - DISTRIBUTION BRANCH (SERVICE) - STEEL

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	230,131,070	441,025	0.00192	0.99808	100.00
0.5	225,716,188	890,709	0.00395	0.99605	99.81
1.5	217,508,130	1,155,707	0.00531	0.99469	99.42
2.5	209,009,648	916,552	0.00439	0.99561	98.89
3.5	201,576,054	887,687	0.00440	0.99560	98.46
4.5	191,732,476	1,417,118	0.00739	0.99261	98.03
5.5	183,757,886	1,124,476	0.00612	0.99388	97.31
6.5	177,673,176	988,021	0.00556	0.99444	96.71
7.5	170,815,540	1,081,146	0.00633	0.99367	96.17
8.5	163,685,276	1,012,190	0.00618	0.99382	95.56
9.5	158,131,192	1,038,370	0.00657	0.99343	94.97
10.5	153,826,853	2,374,785	0.01544	0.98456	94.35
11.5	149,032,370	1,197,004	0.00803	0.99197	92.89
12.5	146,265,343	1,166,692	0.00798	0.99202	92.14
13.5	141,024,417	1,252,007	0.00888	0.99112	91.40
14.5	137,486,367	1,049,497	0.00763	0.99237	90.59
15.5	133,600,481	1,104,246	0.00827	0.99173	89.90
16.5	125,619,996	1,106,126	0.00881	0.99119	89.16
17.5	120,501,583	1,137,879	0.00944	0.99056	88.37
18.5	117,715,642	2,467,428	0.02096	0.97904	87.54
19.5	113,054,922	1,105,862	0.00978	0.99022	85.71
20.5	109,912,339	1,271,190	0.01157	0.98843	84.87
21.5	107,010,154	1,195,920	0.01118	0.98882	83.89
22.5	103,140,702	1,171,763	0.01136	0.98864	82.95
23.5	100,551,884	891,499	0.00887	0.99113	82.01
24.5	97,798,195	961,513	0.00983	0.99017	81.28
25.5	95,244,398	1,116,202	0.01172	0.98828	80.48
26.5	93,125,606	1,587,927	0.01705	0.98295	79.54
27.5	90,298,322	960,656	0.01064	0.98936	78.18
28.5	86,961,288	1,069,364	0.01230	0.98770	77.35
29.5	84,701,408	1,123,949	0.01327	0.98673	76.40
30.5	81,006,393	553,262	0.00683	0.99317	75.39
31.5	78,846,006	1,019,974	0.01294	0.98706	74.88
32.5	75,206,520	1,933,582	0.02571	0.97429	73.91
33.5	72,115,507	832,614	0.01155	0.98845	72.01
34.5	64,188,296	603,589	0.00940	0.99060	71.18
35.5	52,089,432	514,886	0.00988	0.99012	70.51
36.5	43,011,618	679,210	0.01579	0.98421	69.81
37.5	38,129,853	236,564	0.00620	0.99380	68.71
38.5	30,050,019	262,612	0.00874	0.99126	68.28
39.5	23,881,755	141,765	0.00594	0.99406	67.68

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Account Z1100 - DISTRIBUTION BRANCH (SERVICE) - STEEL

RETIREMENT RATE ANALYSIS

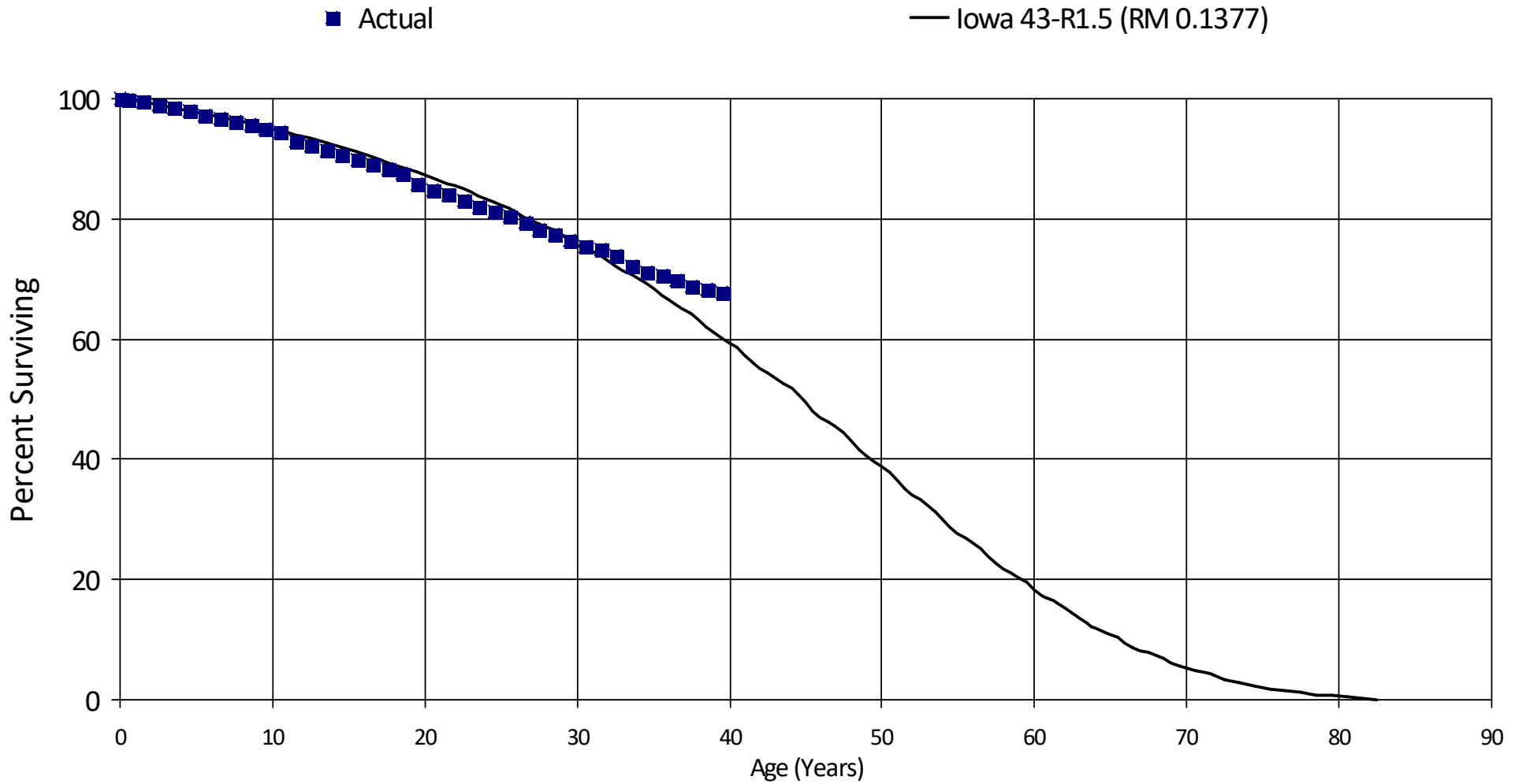
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
Totals:	4,995,134,303	43,042,568			

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Account Z1100 - DISTRIBUTION BRANCH (SERVICE) - STEEL

Placement Band - 1957 - 2019 Experience Band - 1962 - 2019

Actual and Smooth Survivor Curves



Énergir

Account Z1101 - DISTRIBUTION BRANCH (SERVICE) - COPPER INSERTS

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	10,347,117	79,945	0.00773	0.99227	100.00
0.5	10,267,172	161,226	0.01570	0.98430	99.23
1.5	10,105,946	172,293	0.01705	0.98295	97.67
2.5	9,933,653	200,540	0.02019	0.97981	96.00
3.5	9,733,113	251,707	0.02586	0.97414	94.06
4.5	9,481,406	313,050	0.03302	0.96698	91.63
5.5	9,168,356	317,040	0.03458	0.96542	88.60
6.5	8,851,316	371,467	0.04197	0.95803	85.54
7.5	8,479,848	383,341	0.04521	0.95479	81.95
8.5	8,096,507	429,532	0.05305	0.94695	78.25
9.5	7,666,975	414,216	0.05403	0.94597	74.10
10.5	7,252,759	435,687	0.06007	0.93993	70.10
11.5	6,817,072	491,929	0.07216	0.92784	65.89
12.5	6,325,143	631,998	0.09992	0.90008	61.14
13.5	5,693,145	643,657	0.11306	0.88694	55.03
14.5	5,049,488	572,701	0.11342	0.88658	48.81
15.5	4,476,787	577,651	0.12903	0.87097	43.27
16.5	3,899,136	593,358	0.15218	0.84782	37.69
17.5	3,305,778	510,461	0.15441	0.84559	31.95
18.5	2,795,318	359,034	0.12844	0.87156	27.02
19.5	2,436,284	306,952	0.12599	0.87401	23.55
20.5	2,129,332	236,570	0.11110	0.88890	20.58
21.5	1,892,762	252,523	0.13342	0.86658	18.29
22.5	1,640,240	148,315	0.09042	0.90958	15.85
23.5	1,491,925	71,734	0.04808	0.95192	14.42
24.5	1,420,191	59,962	0.04222	0.95778	13.73
25.5	1,360,229	98,494	0.07241	0.92759	13.15
26.5	1,261,736	92,344	0.07319	0.92681	12.20
27.5	1,169,391	39,359	0.03366	0.96634	11.31
28.5	1,130,032	14,458	0.01279	0.98721	10.93
29.5	1,115,575	12,206	0.01094	0.98906	10.79
30.5	1,101,914	11,712	0.01063	0.98937	10.67
31.5	1,090,202	8,027	0.00736	0.99264	10.56
32.5	1,082,175	1,985	0.00183	0.99817	10.48
33.5	1,080,191	565	0.00052	0.99948	10.46
34.5	1,079,626	1,921	0.00178	0.99822	10.45
35.5	1,077,705	46	0.00004	0.99996	10.43
36.5	1,077,659	1,239	0.00115	0.99885	10.43
37.5	1,076,420	231	0.00021	0.99979	10.42
38.5	308,482	58	0.00019	0.99981	10.42
39.5	65,573	0	0.00000	1.00000	10.42

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Account Z1101 - DISTRIBUTION BRANCH (SERVICE) - COPPER INSERTS

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	48	48	0.99709	0.00291	10.42
41.5	0	0	0.00000	0.00000	0.03
Totals:	173,833,726	9,269,582			

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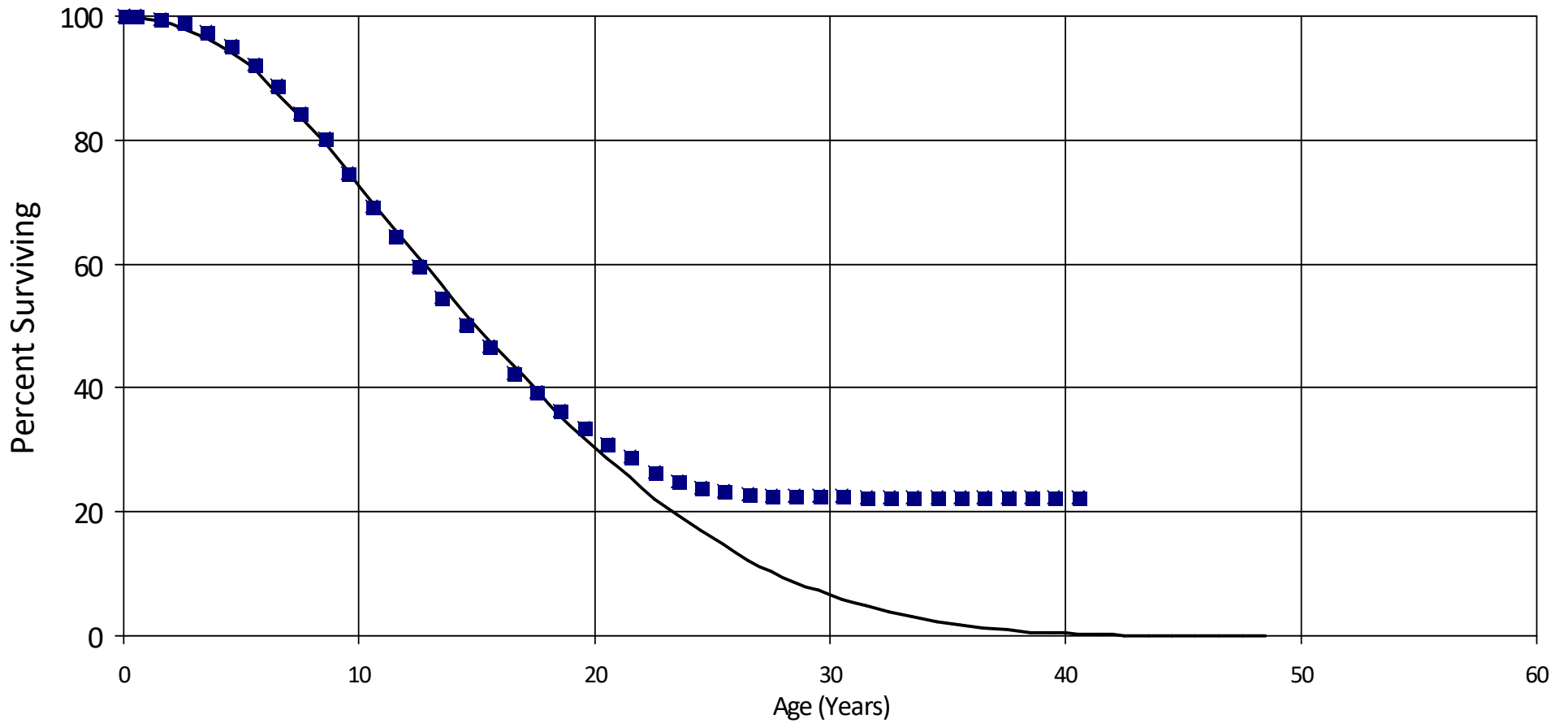
Account Z1101 - DISTRIBUTION BRANCH (SERVICE) - COPPER INSERTS

Actual and Smooth Survivor Curves

Placement Band - 1970 - 2019 Experience Band - 1982 - 2019

■ Actual

— Iowa 16-L1 (RM 0.7339)



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Account Z1102 - DISTRIBUTION BRANCH (SERVICE) - DIRECT PLASTIC

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	932,036,504	565,394	0.00061	0.99939	100.00
0.5	883,495,971	1,249,047	0.00141	0.99859	99.94
1.5	834,710,532	1,267,574	0.00152	0.99848	99.80
2.5	788,982,737	1,366,780	0.00173	0.99827	99.65
3.5	741,967,988	1,250,142	0.00168	0.99832	99.48
4.5	698,991,706	1,372,515	0.00196	0.99804	99.31
5.5	658,430,535	1,355,310	0.00206	0.99794	99.12
6.5	617,240,061	1,258,350	0.00204	0.99796	98.92
7.5	577,168,556	1,372,524	0.00238	0.99762	98.72
8.5	545,139,263	1,284,827	0.00236	0.99764	98.49
9.5	514,295,628	1,288,124	0.00250	0.99750	98.26
10.5	486,405,954	1,442,977	0.00297	0.99703	98.01
11.5	456,916,218	1,345,039	0.00294	0.99706	97.72
12.5	426,939,985	1,326,529	0.00311	0.99689	97.43
13.5	394,634,820	1,359,193	0.00344	0.99656	97.13
14.5	362,906,395	1,330,723	0.00367	0.99633	96.80
15.5	342,604,122	1,438,407	0.00420	0.99580	96.44
16.5	328,001,867	1,690,186	0.00515	0.99485	96.03
17.5	312,000,078	1,630,403	0.00523	0.99477	95.54
18.5	293,155,819	1,598,764	0.00545	0.99455	95.04
19.5	273,636,488	1,271,593	0.00465	0.99535	94.52
20.5	257,327,041	1,106,114	0.00430	0.99570	94.08
21.5	242,433,549	946,007	0.00390	0.99610	93.68
22.5	227,303,448	985,835	0.00434	0.99566	93.31
23.5	211,913,708	948,910	0.00448	0.99552	92.91
24.5	195,978,271	883,643	0.00451	0.99549	92.49
25.5	179,523,509	924,610	0.00515	0.99485	92.07
26.5	165,011,358	800,695	0.00485	0.99515	91.60
27.5	152,703,355	775,001	0.00508	0.99492	91.16
28.5	142,270,397	718,837	0.00505	0.99495	90.70
29.5	132,854,884	734,924	0.00553	0.99447	90.24
30.5	122,296,855	466,405	0.00381	0.99619	89.74
31.5	109,446,168	601,777	0.00550	0.99450	89.40
32.5	94,555,041	402,384	0.00426	0.99574	88.91
33.5	83,745,636	321,523	0.00384	0.99616	88.53
34.5	63,557,548	165,037	0.00260	0.99740	88.19
35.5	33,352,870	119,464	0.00358	0.99642	87.96
36.5	12,431,236	72,846	0.00586	0.99414	87.65
37.5	1,697,907	1,943	0.00114	0.99886	87.14
38.5	0	0	0.00000	0.00000	87.04

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Account Z1102 - DISTRIBUTION BRANCH (SERVICE) - DIRECT PLASTIC

RETIREMENT RATE ANALYSIS

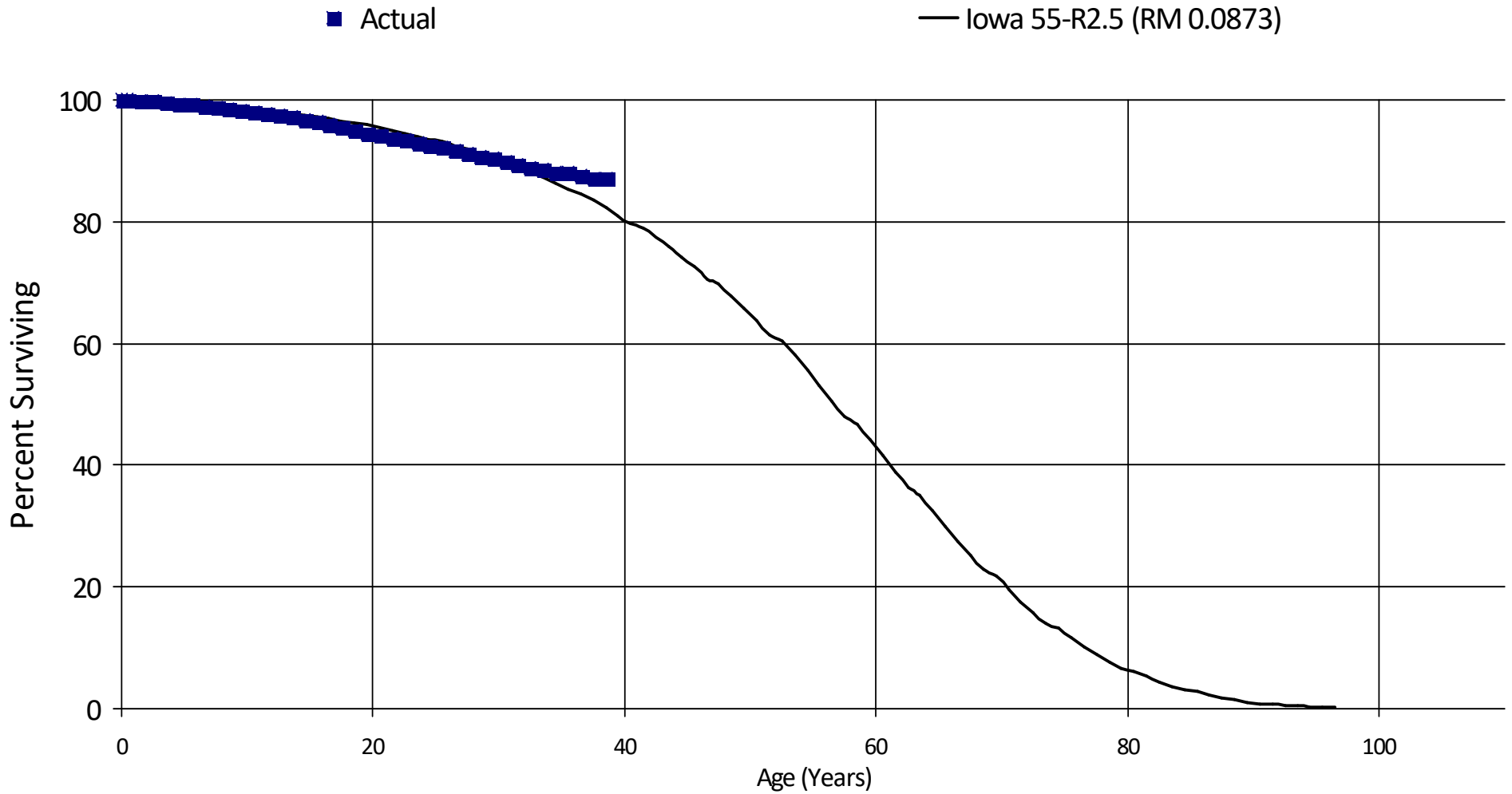
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
Totals:	13,898,064,013	39,040,356			

Énergir

Account Z1102 - DISTRIBUTION BRANCH (SERVICE) - DIRECT PLASTIC

Placement Band - 1977 - 2019 Experience Band - 1981 - 2019

Actual and Smooth Survivor Curves



Énergir

Account Z1103 - DISTRIBUTION BRANCH (SERVICE) - INSERT PLASTIC

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	91,116,253	66,642	0.00073	0.99927	100.00
0.5	90,329,648	141,490	0.00157	0.99843	99.93
1.5	88,143,418	155,625	0.00177	0.99823	99.77
2.5	85,986,101	176,903	0.00206	0.99794	99.59
3.5	84,533,142	193,715	0.00229	0.99771	99.38
4.5	82,138,979	211,807	0.00258	0.99742	99.15
5.5	80,753,045	207,009	0.00256	0.99744	98.89
6.5	79,597,566	220,185	0.00277	0.99723	98.64
7.5	78,070,168	229,187	0.00294	0.99706	98.37
8.5	76,987,518	227,726	0.00296	0.99704	98.08
9.5	76,145,661	220,125	0.00289	0.99711	97.79
10.5	75,376,039	268,550	0.00356	0.99644	97.51
11.5	74,777,391	247,447	0.00331	0.99669	97.16
12.5	74,244,034	251,869	0.00339	0.99661	96.84
13.5	73,685,969	258,522	0.00351	0.99649	96.51
14.5	73,166,377	272,033	0.00372	0.99628	96.17
15.5	72,894,344	245,910	0.00337	0.99663	95.81
16.5	72,648,434	317,484	0.00437	0.99563	95.49
17.5	72,330,949	295,840	0.00409	0.99591	95.07
18.5	70,916,347	289,343	0.00408	0.99592	94.68
19.5	69,290,824	257,874	0.00372	0.99628	94.29
20.5	67,430,140	258,037	0.00383	0.99617	93.94
21.5	66,088,288	237,664	0.00360	0.99640	93.58
22.5	64,225,479	252,471	0.00393	0.99607	93.24
23.5	62,296,574	325,863	0.00523	0.99477	92.87
24.5	59,629,891	369,740	0.00620	0.99380	92.38
25.5	57,015,875	278,110	0.00488	0.99512	91.81
26.5	53,764,928	243,092	0.00452	0.99548	91.36
27.5	51,634,682	271,655	0.00526	0.99474	90.95
28.5	49,935,896	262,713	0.00526	0.99474	90.47
29.5	49,160,016	261,629	0.00532	0.99468	89.99
30.5	47,140,183	225,962	0.00479	0.99521	89.51
31.5	41,031,822	313,999	0.00765	0.99235	89.08
32.5	35,326,660	204,913	0.00580	0.99420	88.40
33.5	30,297,506	97,156	0.00321	0.99679	87.89
34.5	25,553,305	61,139	0.00239	0.99761	87.61
35.5	19,947,033	85,539	0.00429	0.99571	87.40
36.5	14,454,399	57,207	0.00396	0.99604	87.03
37.5	7,545,639	23,094	0.00306	0.99694	86.69
38.5	5,660,158	11,996	0.00212	0.99788	86.42
39.5	3,822,355	8,016	0.00210	0.99790	86.24

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Account Z1103 - DISTRIBUTION BRANCH (SERVICE) - INSERT PLASTIC

RETIREMENT RATE ANALYSIS

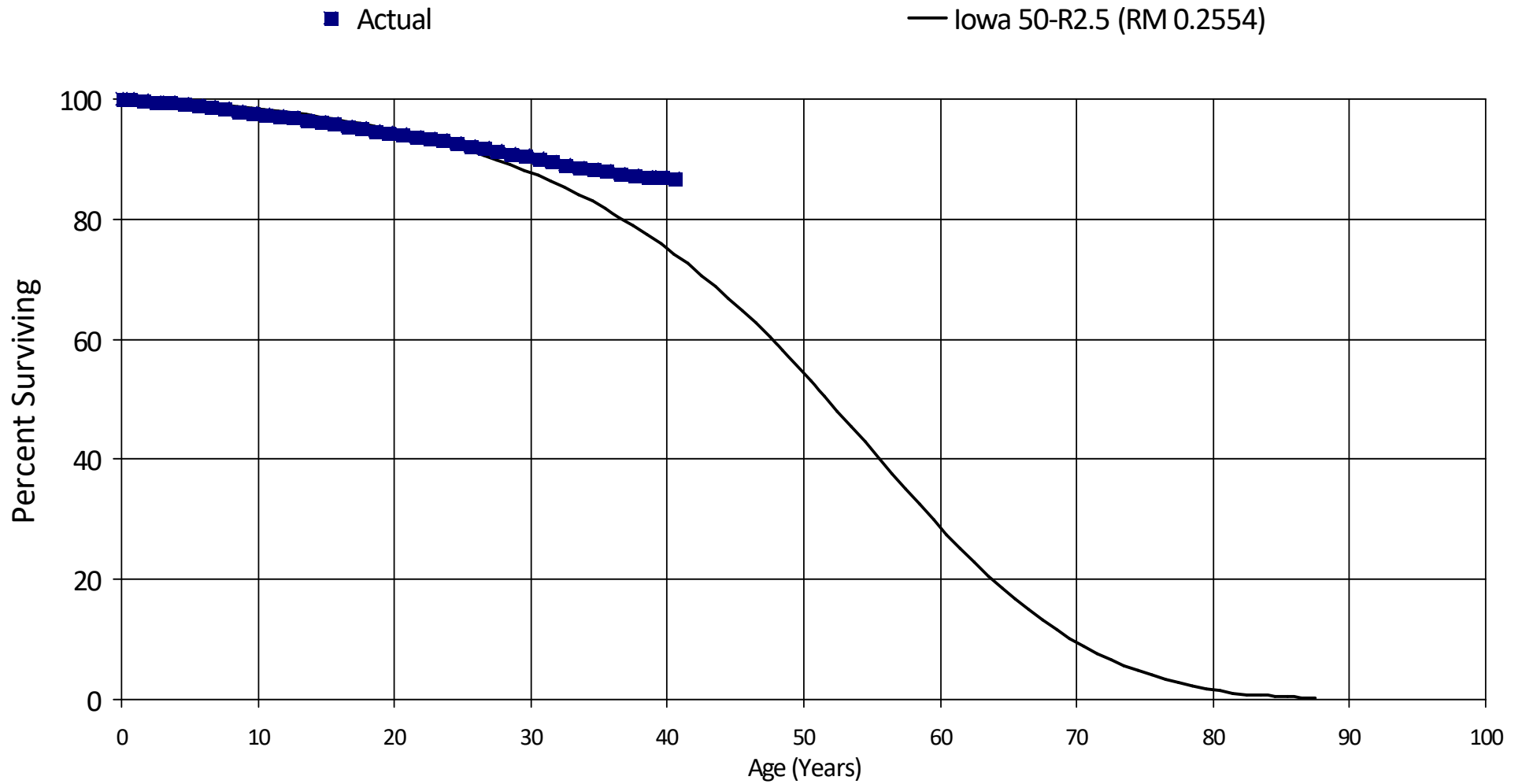
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	20,899	3,166	0.15149	0.84851	86.06
41.5	17,733	2,277	0.12840	0.87160	73.02
42.5	15,456	2,691	0.17410	0.82590	63.64
43.5	12,766	5,213	0.40836	0.59164	52.56
44.5	7,553	1,073	0.14207	0.85793	31.10
45.5	6,480	2,973	0.45883	0.54117	26.68
46.5	3,507	613	0.17480	0.82520	14.44
47.5	2,893	449	0.15518	0.84482	11.92
48.5	2,445	530	0.21681	0.78319	10.07
49.5	1,915	490	0.25587	0.74413	7.89
50.5	1,425	1,270	0.89146	0.10854	5.87
51.5	154	154	0.99896	0.00104	0.64
52.5	0	0	0.00000	0.00000	0.00
Totals:	2,455,186,262	8,626,180			

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Account Z1103 - DISTRIBUTION BRANCH (SERVICE) - INSERT PLASTIC

Actual and Smooth Survivor Curves

Placement Band - 1970 - 2019 Experience Band - 1973 - 2019



Énergir

Account Z1104 - DISTRIBUTION BRANCH (SERVICE) - PRE-RELEASE PLASTIC

RETIREMENT RATE ANALYSIS

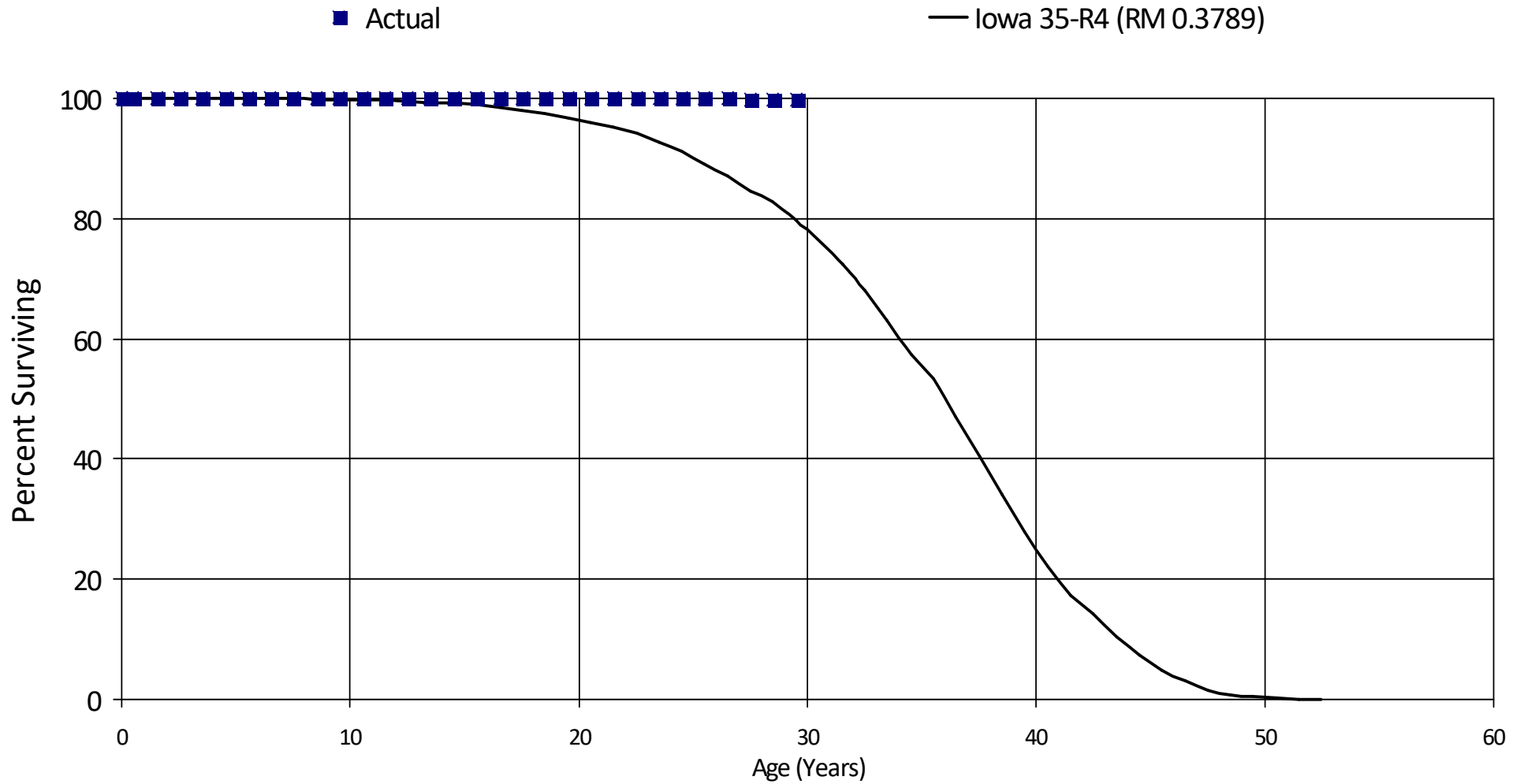
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	1,974,641	0	0.00000	1.00000	100.00
0.5	1,953,979	0	0.00000	1.00000	100.00
1.5	1,909,628	0	0.00000	1.00000	100.00
2.5	1,898,151	0	0.00000	1.00000	100.00
3.5	1,849,116	0	0.00000	1.00000	100.00
4.5	1,832,627	0	0.00000	1.00000	100.00
5.5	1,832,627	0	0.00000	1.00000	100.00
6.5	1,832,627	0	0.00000	1.00000	100.00
7.5	1,832,627	0	0.00000	1.00000	100.00
8.5	1,832,627	0	0.00000	1.00000	100.00
9.5	1,832,627	0	0.00000	1.00000	100.00
10.5	1,727,870	0	0.00000	1.00000	100.00
11.5	1,652,374	0	0.00000	1.00000	100.00
12.5	1,443,718	0	0.00000	1.00000	100.00
13.5	1,273,834	0	0.00000	1.00000	100.00
14.5	1,111,380	0	0.00000	1.00000	100.00
15.5	1,111,380	0	0.00000	1.00000	100.00
16.5	1,111,380	0	0.00000	1.00000	100.00
17.5	1,111,380	0	0.00000	1.00000	100.00
18.5	1,111,380	0	0.00000	1.00000	100.00
19.5	1,111,380	0	0.00000	1.00000	100.00
20.5	1,111,380	714	0.00064	0.99936	100.00
21.5	1,110,665	0	0.00000	1.00000	99.94
22.5	1,110,665	0	0.00000	1.00000	99.94
23.5	1,102,787	0	0.00000	1.00000	99.94
24.5	1,102,787	0	0.00000	1.00000	99.94
25.5	1,092,767	0	0.00000	1.00000	99.94
26.5	917,386	2,330	0.00254	0.99746	99.94
27.5	634,485	0	0.00000	1.00000	99.69
28.5	302,661	0	0.00000	1.00000	99.69
29.5	21,403	0	0.00000	1.00000	99.69
30.5	0	0	0.00000	0.00000	99.69
Totals:	41,854,336	3,044			

Énergir

Account Z1104 - DISTRIBUTION BRANCH (SERVICE) - PRE-RELEASE PLASTIC

Actual and Smooth Survivor Curves

Placement Band - 1989 - 2019 Experience Band - 1989 - 2019



Énergir

Account Z1105 - DISTRIBUTION BRANCH (SERVICE) - PRE-RELEASE STEEL

RETIREMENT RATE ANALYSIS

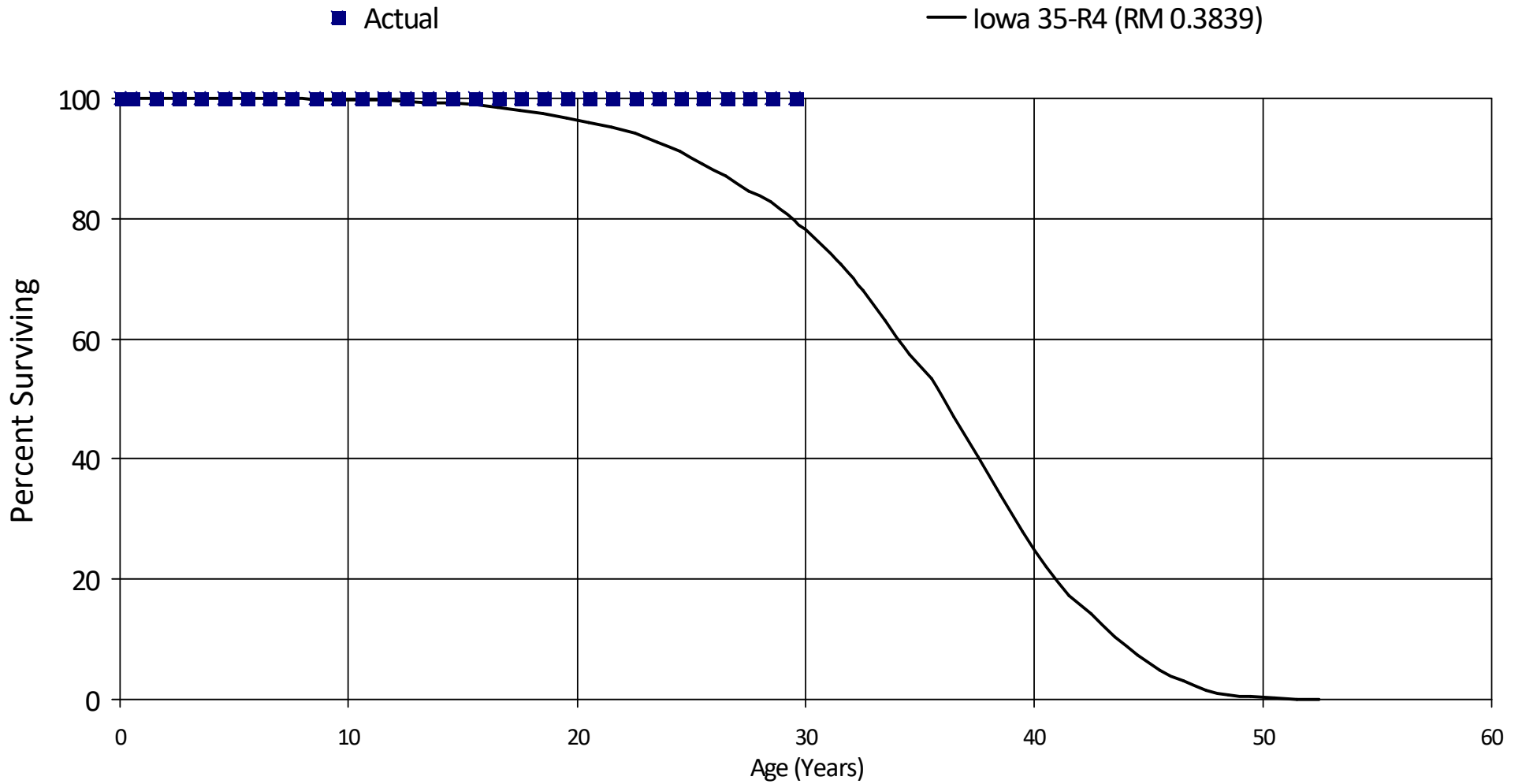
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	716,089	1	0.00000	1.00000	100.00
0.5	703,568	-1	0.00000	1.00000	100.00
1.5	657,137	0	0.00000	1.00000	100.00
2.5	578,182	0	0.00000	1.00000	100.00
3.5	578,182	0	0.00000	1.00000	100.00
4.5	572,322	0	0.00000	1.00000	100.00
5.5	572,322	0	0.00000	1.00000	100.00
6.5	572,322	0	0.00000	1.00000	100.00
7.5	569,884	0	0.00000	1.00000	100.00
8.5	445,860	0	0.00000	1.00000	100.00
9.5	445,860	0	0.00000	1.00000	100.00
10.5	445,860	0	0.00000	1.00000	100.00
11.5	435,516	0	0.00000	1.00000	100.00
12.5	425,004	0	0.00000	1.00000	100.00
13.5	392,202	0	0.00000	1.00000	100.00
14.5	235,371	0	0.00000	1.00000	100.00
15.5	235,371	0	0.00000	1.00000	100.00
16.5	235,371	0	0.00000	1.00000	100.00
17.5	235,371	0	0.00000	1.00000	100.00
18.5	235,371	0	0.00000	1.00000	100.00
19.5	235,371	0	0.00000	1.00000	100.00
20.5	235,371	0	0.00000	1.00000	100.00
21.5	235,371	0	0.00000	1.00000	100.00
22.5	235,371	0	0.00000	1.00000	100.00
23.5	235,371	0	0.00000	1.00000	100.00
24.5	235,371	0	0.00000	1.00000	100.00
25.5	235,371	0	0.00000	1.00000	100.00
26.5	231,939	0	0.00000	1.00000	100.00
27.5	213,768	0	0.00000	1.00000	100.00
28.5	142,564	0	0.00000	1.00000	100.00
29.5	20,389	0	0.00000	1.00000	100.00
30.5	0	0	0.00000	0.00000	100.00
Totals:	11,543,418	0			

Énergir

Account Z1105 - DISTRIBUTION BRANCH (SERVICE) - PRE-RELEASE STEEL

Actual and Smooth Survivor Curves

Placement Band - 1989 - 2019 Experience Band - 2000 - 2019



Énergir

Account Z1150 - DISTRIBUTION - MAIN PIPE STEEL

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	878,865,100	86,430	0.00010	0.99990	100.00
0.5	848,243,799	176,035	0.00021	0.99979	99.99
1.5	834,875,326	864,348	0.00104	0.99896	99.97
2.5	777,274,989	983,128	0.00126	0.99874	99.87
3.5	764,569,114	2,386,248	0.00312	0.99688	99.74
4.5	731,025,551	530,067	0.00073	0.99927	99.43
5.5	695,946,556	467,904	0.00067	0.99933	99.36
6.5	667,074,366	665,750	0.00100	0.99900	99.29
7.5	653,535,940	674,568	0.00103	0.99897	99.19
8.5	640,755,147	1,448,500	0.00226	0.99774	99.09
9.5	625,072,168	631,782	0.00101	0.99899	98.87
10.5	616,676,521	791,686	0.00128	0.99872	98.77
11.5	611,165,068	530,461	0.00087	0.99913	98.64
12.5	606,041,690	1,121,058	0.00185	0.99815	98.55
13.5	563,158,199	710,237	0.00126	0.99874	98.37
14.5	561,588,713	633,447	0.00113	0.99887	98.25
15.5	559,296,386	838,965	0.00150	0.99850	98.14
16.5	555,939,035	2,743,534	0.00493	0.99507	97.99
17.5	552,140,905	1,266,362	0.00229	0.99771	97.51
18.5	532,140,485	885,326	0.00166	0.99834	97.29
19.5	520,023,125	1,291,989	0.00248	0.99752	97.13
20.5	511,890,729	1,035,982	0.00202	0.99798	96.89
21.5	500,539,901	1,544,548	0.00309	0.99691	96.69
22.5	489,432,395	1,992,878	0.00407	0.99593	96.39
23.5	440,968,181	1,404,357	0.00318	0.99682	96.00
24.5	372,604,374	714,534	0.00192	0.99808	95.69
25.5	367,555,800	896,684	0.00244	0.99756	95.51
26.5	351,973,359	2,904,039	0.00825	0.99175	95.28
27.5	341,917,667	3,073,560	0.00899	0.99101	94.49
28.5	318,835,658	1,285,660	0.00403	0.99597	93.64
29.5	309,639,005	2,927,415	0.00945	0.99055	93.26
30.5	281,096,938	1,587,366	0.00565	0.99435	92.38
31.5	276,591,561	1,362,983	0.00493	0.99507	91.86
32.5	261,086,611	3,136,482	0.01201	0.98799	91.41
33.5	248,651,513	1,944,171	0.00782	0.99218	90.31
34.5	213,743,487	1,410,587	0.00660	0.99340	89.60
35.5	161,326,486	1,304,566	0.00809	0.99191	89.01
36.5	114,175,277	1,233,926	0.01081	0.98919	88.29
37.5	90,298,047	938,537	0.01039	0.98961	87.34
38.5	83,781,726	858,903	0.01025	0.98975	86.43
39.5	75,881,360	506,254	0.00667	0.99333	85.54

Énergir

Account Z1150 - DISTRIBUTION - MAIN PIPE STEEL

RETIREMENT RATE ANALYSIS

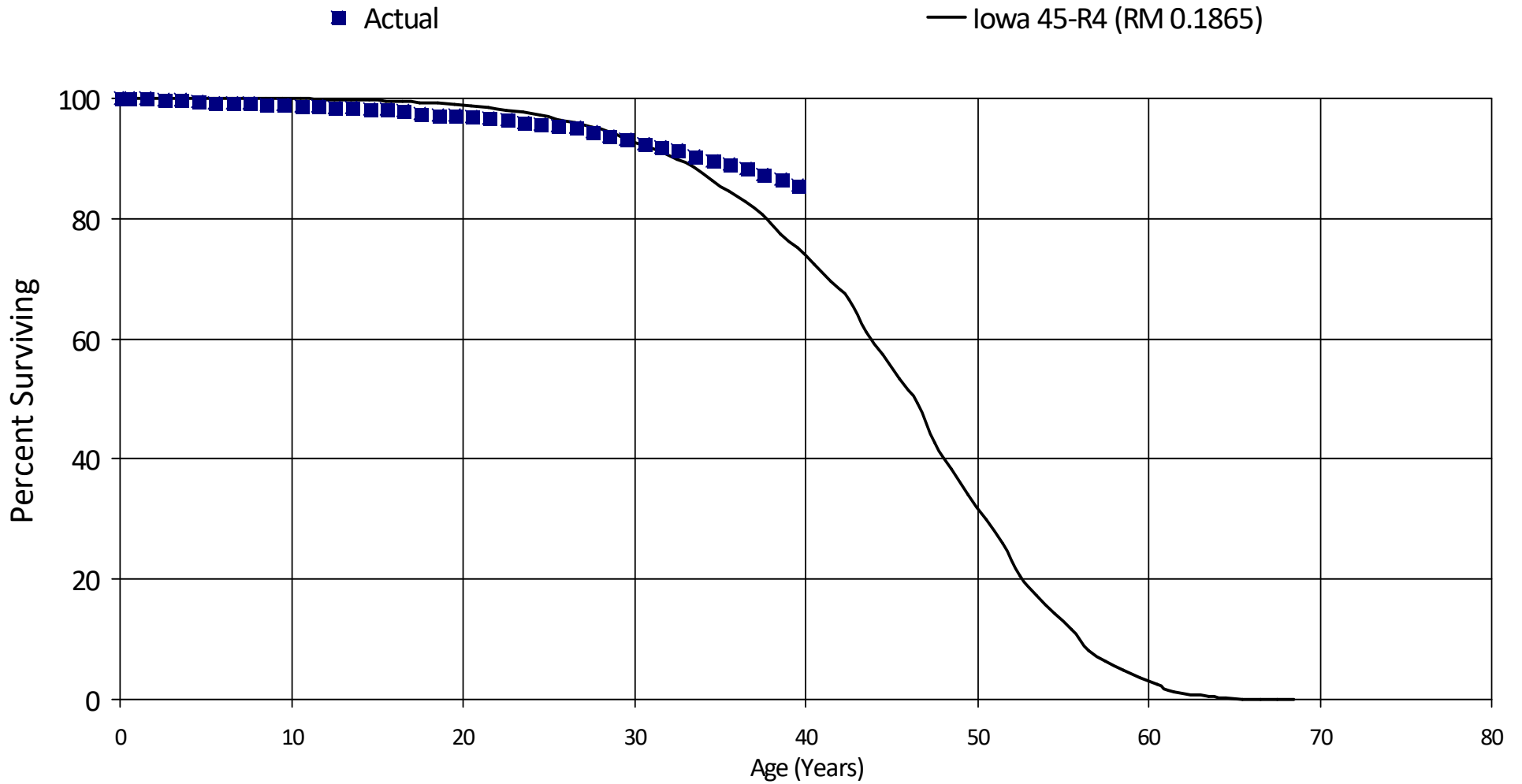
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
Totals:	19,607,398,260	51,791,257			

Énergir

Account Z1150 - DISTRIBUTION - MAIN PIPE STEEL

Actual and Smooth Survivor Curves

Placement Band - 1957 - 2019 Experience Band - 1965 - 2019



Énergir

Account Z1151 - DISTRIBUTION - MAIN PIPE DIRECT PLASTIC

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	1,022,986,174	55,899	0.00005	0.99995	100.00
0.5	982,890,712	114,515	0.00012	0.99988	100.00
1.5	943,657,843	349,939	0.00037	0.99963	99.99
2.5	899,740,160	760,861	0.00085	0.99915	99.95
3.5	861,880,531	617,504	0.00072	0.99928	99.87
4.5	828,509,284	268,958	0.00032	0.99968	99.80
5.5	799,486,019	276,438	0.00035	0.99965	99.77
6.5	762,587,791	221,341	0.00029	0.99971	99.74
7.5	730,686,773	211,317	0.00029	0.99971	99.71
8.5	706,236,736	272,551	0.00039	0.99961	99.68
9.5	688,741,623	267,747	0.00039	0.99961	99.64
10.5	666,489,408	958,185	0.00144	0.99856	99.60
11.5	646,861,513	301,823	0.00047	0.99953	99.46
12.5	628,364,344	172,539	0.00027	0.99973	99.41
13.5	601,962,082	308,760	0.00051	0.99949	99.38
14.5	567,909,948	315,916	0.00056	0.99944	99.33
15.5	537,596,565	187,466	0.00035	0.99965	99.27
16.5	509,513,083	197,123	0.00039	0.99961	99.24
17.5	485,864,768	321,216	0.00066	0.99934	99.20
18.5	456,582,124	369,115	0.00081	0.99919	99.13
19.5	432,150,713	368,202	0.00085	0.99915	99.05
20.5	414,159,425	325,401	0.00079	0.99921	98.97
21.5	399,762,243	518,455	0.00130	0.99870	98.89
22.5	388,002,074	463,676	0.00120	0.99880	98.76
23.5	371,140,098	586,944	0.00158	0.99842	98.64
24.5	344,688,234	574,826	0.00167	0.99833	98.48
25.5	320,899,598	345,185	0.00108	0.99892	98.32
26.5	292,040,347	452,588	0.00155	0.99845	98.21
27.5	276,516,866	266,137	0.00096	0.99904	98.06
28.5	261,495,345	188,263	0.00072	0.99928	97.97
29.5	247,757,412	416,646	0.00168	0.99832	97.90
30.5	236,469,860	248,455	0.00105	0.99895	97.74
31.5	214,695,295	100,850	0.00047	0.99953	97.64
32.5	193,563,591	229,827	0.00119	0.99881	97.59
33.5	174,670,720	322,466	0.00185	0.99815	97.47
34.5	141,403,052	135,740	0.00096	0.99904	97.29
35.5	71,949,867	125,207	0.00174	0.99826	97.20
36.5	33,691,508	22,794	0.00068	0.99932	97.03
37.5	2,221,942	140	0.00006	0.99994	96.96
38.5	265,485	0	0.00000	1.00000	96.95
39.5	1,761	0	0.00000	1.00000	96.95

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Account Z1151 - DISTRIBUTION - MAIN PIPE DIRECT PLASTIC

RETIREMENT RATE ANALYSIS

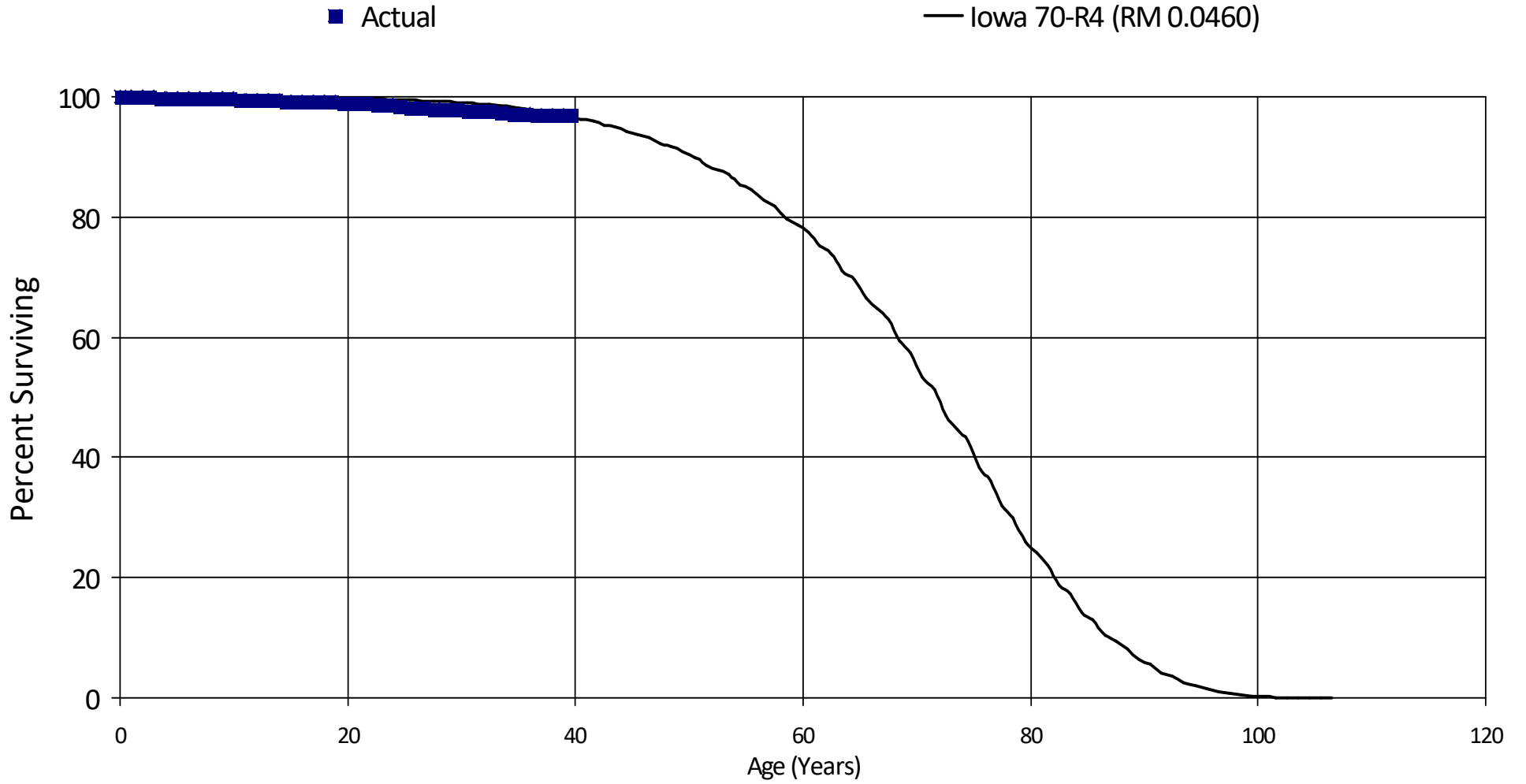
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	1,761	0	0.00000	1.00000	96.95
Totals:	19,146,094,681	12,241,015			

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Account Z1151 - DISTRIBUTION - MAIN PIPE DIRECT PLASTIC

Actual and Smooth Survivor Curves

Placement Band - 1970 - 2019 Experience Band - 1982 - 2019



Énergir

Account Z1152 - DISTRIBUTION - MAIN PIPE PLASTIC INSERTS

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	64,816,189	97,288	0.00150	0.99850	100.00
0.5	64,718,901	-60,517	-0.00094	1.00094	99.85
1.5	64,779,418	20,038	0.00031	0.99969	99.94
2.5	64,759,379	21,852	0.00034	0.99966	99.91
3.5	64,737,464	17,104	0.00026	0.99974	99.88
4.5	64,718,830	14,596	0.00023	0.99977	99.85
5.5	64,704,234	20,466	0.00032	0.99968	99.83
6.5	64,683,768	14,343	0.00022	0.99978	99.80
7.5	64,669,426	13,529	0.00021	0.99979	99.78
8.5	64,655,897	12,914	0.00020	0.99980	99.76
9.5	64,642,983	10,945	0.00017	0.99983	99.74
10.5	64,632,037	6,489	0.00010	0.99990	99.72
11.5	64,625,549	5,698	0.00009	0.99991	99.71
12.5	64,619,851	5,380	0.00008	0.99992	99.70
13.5	64,614,471	6,936	0.00011	0.99989	99.69
14.5	64,607,535	5,557	0.00009	0.99991	99.68
15.5	64,601,977	6,236	0.00010	0.99990	99.67
16.5	64,595,742	195,657	0.00303	0.99697	99.66
17.5	64,400,084	10,807	0.00017	0.99983	99.36
18.5	63,630,617	5,078	0.00008	0.99992	99.34
19.5	61,782,415	3,255	0.00005	0.99995	99.33
20.5	60,579,934	1,547	0.00003	0.99997	99.33
21.5	58,957,411	4,996	0.00008	0.99992	99.33
22.5	56,983,692	11,938	0.00021	0.99979	99.32
23.5	54,088,717	10,712	0.00020	0.99980	99.30
24.5	50,257,910	1,210	0.00002	0.99998	99.28
25.5	47,298,116	14,811	0.00031	0.99969	99.28
26.5	44,905,938	81,743	0.00182	0.99818	99.25
27.5	42,985,829	25,325	0.00059	0.99941	99.07
28.5	41,804,480	47,138	0.00113	0.99887	99.01
29.5	41,032,308	42,029	0.00102	0.99898	98.90
30.5	38,805,866	42,759	0.00110	0.99890	98.80
31.5	33,576,616	36,605	0.00109	0.99891	98.69
32.5	29,064,442	34,611	0.00119	0.99881	98.58
33.5	23,453,690	68,934	0.00294	0.99706	98.46
34.5	18,944,347	30,734	0.00162	0.99838	98.17
35.5	14,086,830	8,624	0.00061	0.99939	98.01
36.5	11,826,961	1,424	0.00012	0.99988	97.95
37.5	7,471,645	3,491	0.00047	0.99953	97.94
38.5	6,183,673	167	0.00003	0.99997	97.89
39.5	4,601,454	0	0.00000	1.00000	97.89

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Account Z1152 - DISTRIBUTION - MAIN PIPE PLASTIC INSERTS

RETIREMENT RATE ANALYSIS

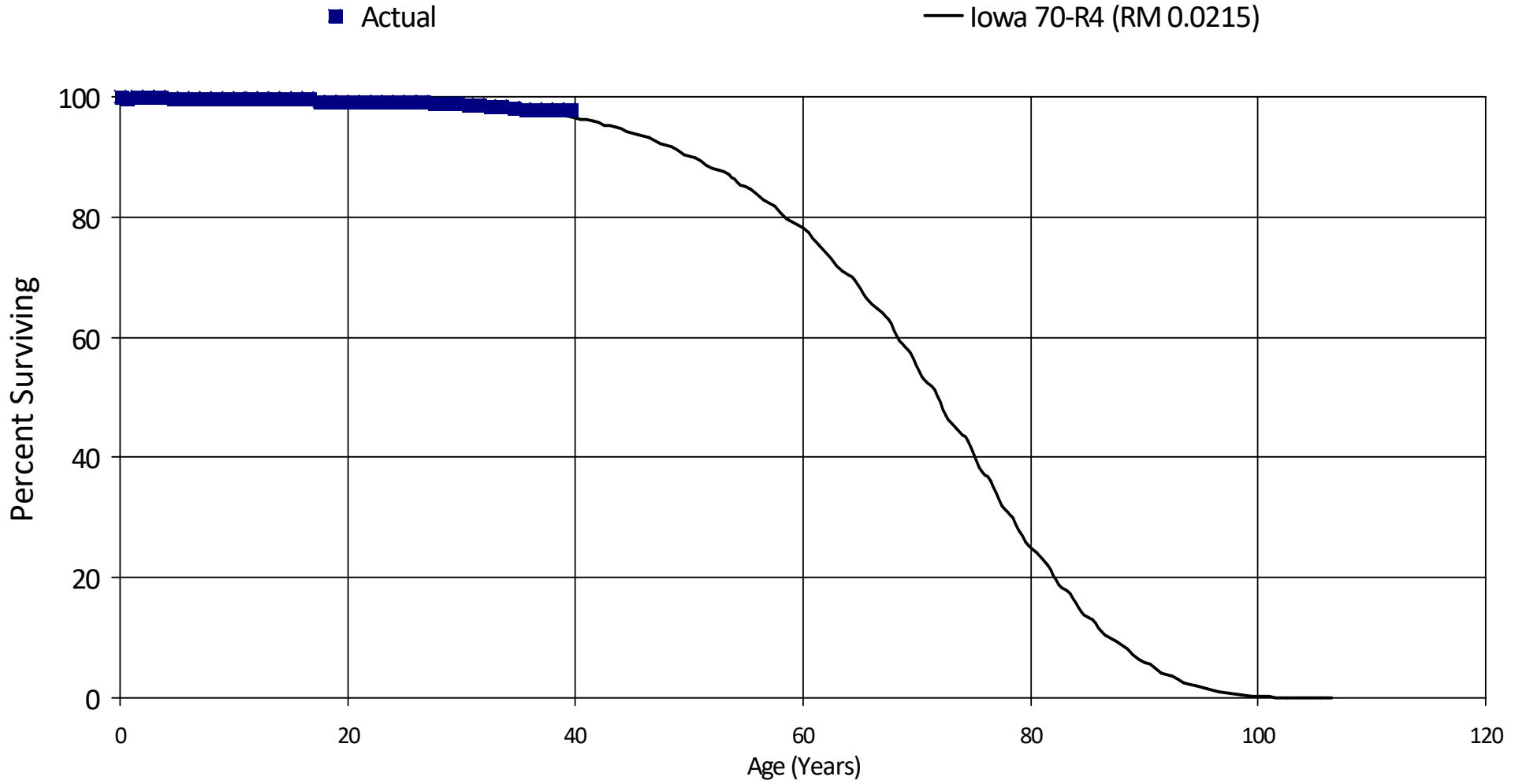
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
Totals:	2,040,906,627	902,449			

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Account Z1152 - DISTRIBUTION - MAIN PIPE PLASTIC INSERTS

Actual and Smooth Survivor Curves

Placement Band - 1957 - 2019 Experience Band - 1977 - 2019



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Account Z1200 - DISTRIBUTION METER

RETIREMENT RATE ANALYSIS

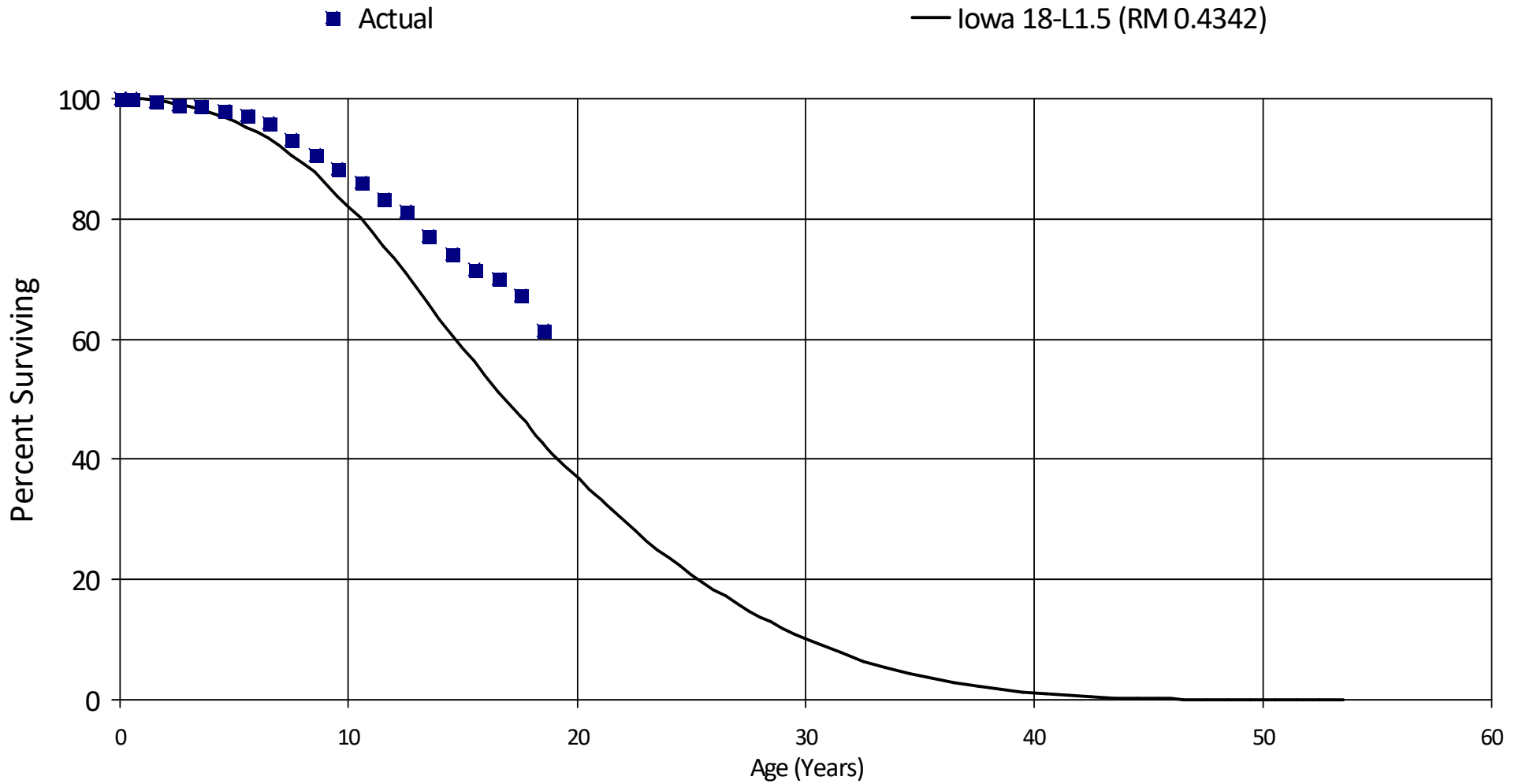
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	205,563,656	204,186	0.00099	0.99901	100.00
0.5	187,893,953	673,940	0.00359	0.99641	99.90
1.5	170,320,815	738,847	0.00434	0.99566	99.54
2.5	155,862,598	780,943	0.00501	0.99499	99.11
3.5	142,689,060	964,163	0.00676	0.99324	98.61
4.5	130,495,840	1,112,078	0.00852	0.99148	97.94
5.5	116,573,622	1,289,669	0.01106	0.98894	97.11
6.5	104,204,723	3,152,992	0.03026	0.96974	96.04
7.5	89,299,441	2,489,675	0.02788	0.97212	93.13
8.5	75,239,553	1,818,097	0.02416	0.97584	90.53
9.5	65,142,329	1,773,867	0.02723	0.97277	88.34
10.5	55,032,348	1,759,875	0.03198	0.96802	85.93
11.5	44,871,138	1,056,748	0.02355	0.97645	83.18
12.5	36,087,644	1,750,096	0.04850	0.95150	81.22
13.5	25,073,296	1,044,533	0.04166	0.95834	77.28
14.5	19,459,982	621,925	0.03196	0.96804	74.06
15.5	14,143,823	345,484	0.02443	0.97557	71.69
16.5	10,572,195	395,196	0.03738	0.96262	69.94
17.5	5,413,060	477,291	0.08817	0.91183	67.33
18.5	2,701,358	62,553	0.02316	0.97684	61.39
Totals:	1,656,640,435	22,512,158			

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Account Z1200 - DISTRIBUTION METER

Placement Band - 2000 - 2019 Experience Band - 2000 - 2019

Actual and Smooth Survivor Curves



Énergir

Account Z1250 - DISTRIBUTION DELIVERY STATION - EQUIPMENT

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	120,164,032	0	0.00000	1.00000	100.00
0.5	115,201,961	29,294	0.00025	0.99975	100.00
1.5	108,056,380	5	0.00000	1.00000	99.98
2.5	103,474,193	68,347	0.00066	0.99934	99.98
3.5	96,163,644	32,343	0.00034	0.99966	99.91
4.5	92,551,864	58,573	0.00063	0.99937	99.88
5.5	91,504,404	152,744	0.00167	0.99833	99.82
6.5	89,980,214	172,424	0.00192	0.99808	99.65
7.5	88,729,765	210,003	0.00237	0.99763	99.46
8.5	87,369,539	728,779	0.00834	0.99166	99.22
9.5	86,250,274	1,534,428	0.01779	0.98221	98.39
10.5	83,647,212	1,192,717	0.01426	0.98574	96.64
11.5	81,615,137	35,217	0.00043	0.99957	95.26
12.5	77,548,590	369,256	0.00476	0.99524	95.22
13.5	72,807,959	67,392	0.00093	0.99907	94.77
14.5	72,504,267	47,446	0.00065	0.99935	94.68
15.5	71,707,296	60,083	0.00084	0.99916	94.62
16.5	69,897,136	294,842	0.00422	0.99578	94.54
17.5	69,004,222	494,129	0.00716	0.99284	94.14
18.5	68,316,105	1,563,142	0.02288	0.97712	93.47
19.5	63,601,869	1,250,252	0.01966	0.98034	91.33
20.5	59,215,624	1,834,350	0.03098	0.96902	89.53
21.5	55,599,519	214,568	0.00386	0.99614	86.76
22.5	53,666,744	162,083	0.00302	0.99698	86.43
23.5	49,616,707	276,787	0.00558	0.99442	86.17
24.5	46,238,128	196,032	0.00424	0.99576	85.69
25.5	42,052,741	173,228	0.00412	0.99588	85.33
26.5	40,669,675	52,046	0.00128	0.99872	84.98
27.5	39,272,661	167,293	0.00426	0.99574	84.87
28.5	36,849,335	88,038	0.00239	0.99761	84.51
29.5	36,174,072	259,872	0.00718	0.99282	84.31
30.5	34,687,958	83,695	0.00241	0.99759	83.70
31.5	33,209,212	82,673	0.00249	0.99751	83.50
32.5	33,098,811	196,464	0.00594	0.99406	83.29
33.5	32,754,211	349,508	0.01067	0.98933	82.80
34.5	30,614,714	164,973	0.00539	0.99461	81.92
35.5	25,154,716	178,813	0.00711	0.99289	81.48
36.5	12,808,296	21,936	0.00171	0.99829	80.90
37.5	1,511,873	23,016	0.01522	0.98478	80.76
38.5	1,488,857	9,954	0.00669	0.99331	79.53
39.5	1,478,903	9,397	0.00635	0.99365	79.00

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Account Z1250 - DISTRIBUTION DELIVERY STATION - EQUIPMENT

RETIREMENT RATE ANALYSIS

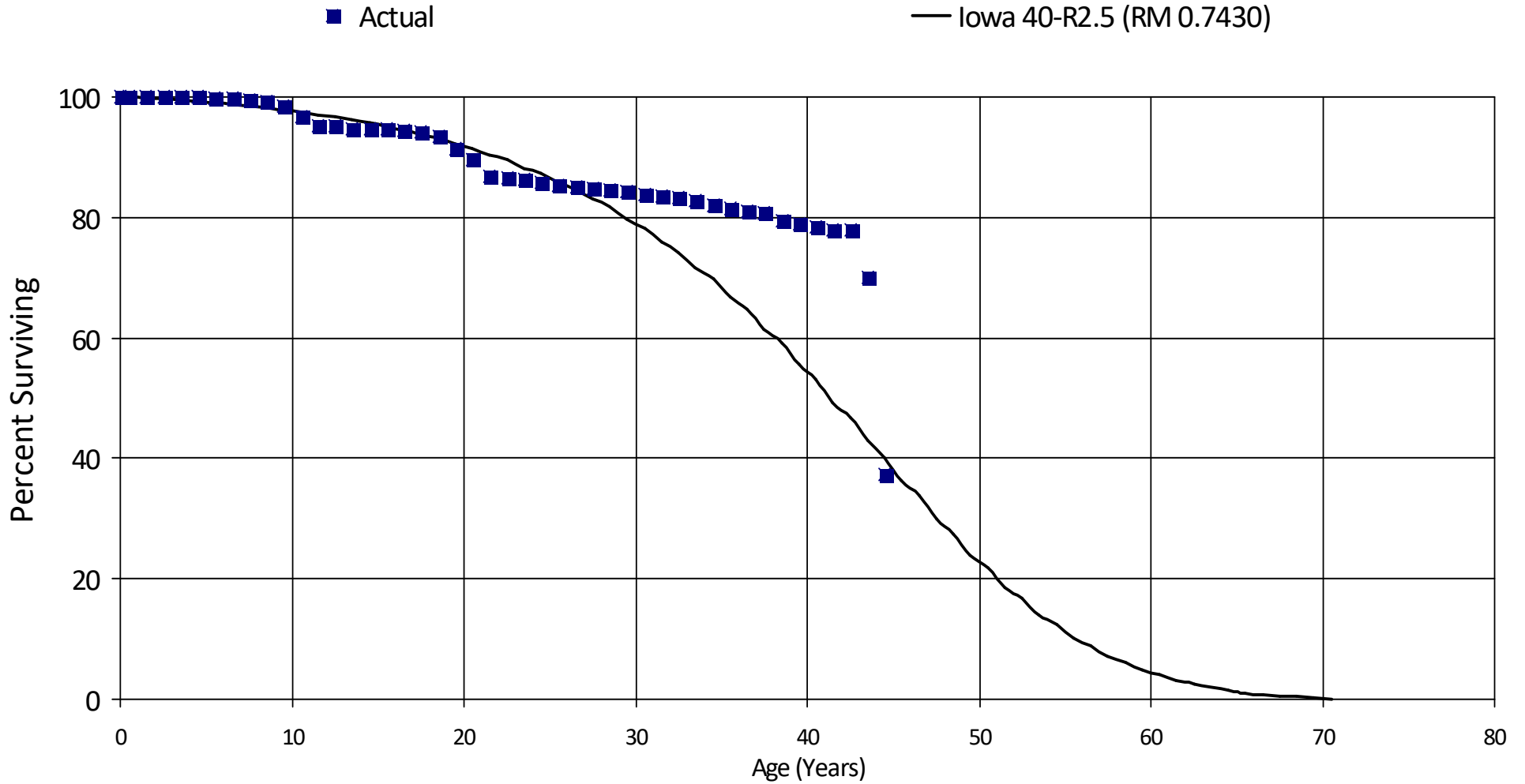
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	1,469,506	8,804	0.00599	0.99401	78.50
41.5	1,452,975	4,211	0.00290	0.99710	78.03
42.5	1,448,764	142,939	0.09866	0.90134	77.80
43.5	1,305,825	609,362	0.46665	0.53335	70.12
44.5	0	0	0.00000	0.00000	37.40
Totals:	2,481,935,891	13,671,458			

Énergir

Account Z1250 - DISTRIBUTION DELIVERY STATION - EQUIPMENT

Actual and Smooth Survivor Curves

Placement Band - 1956 - 2019 Experience Band - 1959 - 2019



Énergir

Account Z1251 - DISTRIBUTION DELIVERY STATION - CIVIL BUILDING

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	16,719,130	26,654	0.00159	0.99841	100.00
0.5	15,909,077	-17,854	-0.00112	1.00112	99.84
1.5	14,496,714	7,047	0.00049	0.99951	99.95
2.5	14,191,895	0	0.00000	1.00000	99.90
3.5	14,093,382	0	0.00000	1.00000	99.90
4.5	14,008,180	0	0.00000	1.00000	99.90
5.5	14,006,280	46	0.00000	1.00000	99.90
6.5	13,974,616	498	0.00004	0.99996	99.90
7.5	13,952,199	53,400	0.00383	0.99617	99.90
8.5	13,779,090	3,854	0.00028	0.99972	99.52
9.5	13,414,216	3,446	0.00026	0.99974	99.49
10.5	13,324,339	100,177	0.00752	0.99248	99.46
11.5	12,897,935	2,558	0.00020	0.99980	98.71
12.5	11,850,248	3,196	0.00027	0.99973	98.69
13.5	10,787,193	223,169	0.02069	0.97931	98.66
14.5	10,451,721	23,032	0.00220	0.99780	96.62
15.5	10,134,385	50,819	0.00501	0.99499	96.41
16.5	9,787,421	66,290	0.00677	0.99323	95.93
17.5	9,549,377	21,737	0.00228	0.99772	95.28
18.5	9,527,639	23,187	0.00243	0.99757	95.06
19.5	9,504,096	32,429	0.00341	0.99659	94.83
20.5	9,453,965	60,139	0.00636	0.99364	94.51
21.5	9,380,706	37,683	0.00402	0.99598	93.91
22.5	9,343,022	62,461	0.00669	0.99331	93.53
23.5	9,242,630	105,721	0.01144	0.98856	92.90
24.5	9,019,984	120,013	0.01331	0.98669	91.84
25.5	8,147,012	79,135	0.00971	0.99029	90.62
26.5	7,908,560	24,951	0.00315	0.99685	89.74
27.5	7,715,885	42,380	0.00549	0.99451	89.46
28.5	7,378,676	16,263	0.00220	0.99780	88.97
29.5	6,958,739	34,396	0.00494	0.99506	88.77
30.5	6,653,023	28,242	0.00424	0.99576	88.33
31.5	5,009,272	17,062	0.00341	0.99659	87.96
32.5	4,991,147	33,694	0.00675	0.99325	87.66
33.5	4,927,101	55,010	0.01116	0.98884	87.07
34.5	4,248,899	16,163	0.00380	0.99620	86.10
35.5	2,286,905	23,474	0.01026	0.98974	85.77
36.5	335,975	11,077	0.03297	0.96703	84.89
37.5	169,383	10,757	0.06351	0.93649	82.09
38.5	158,626	12,441	0.07843	0.92157	76.88
39.5	146,184	15,292	0.10461	0.89539	70.85

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Account Z1251 - DISTRIBUTION DELIVERY STATION - CIVIL BUILDING

RETIREMENT RATE ANALYSIS

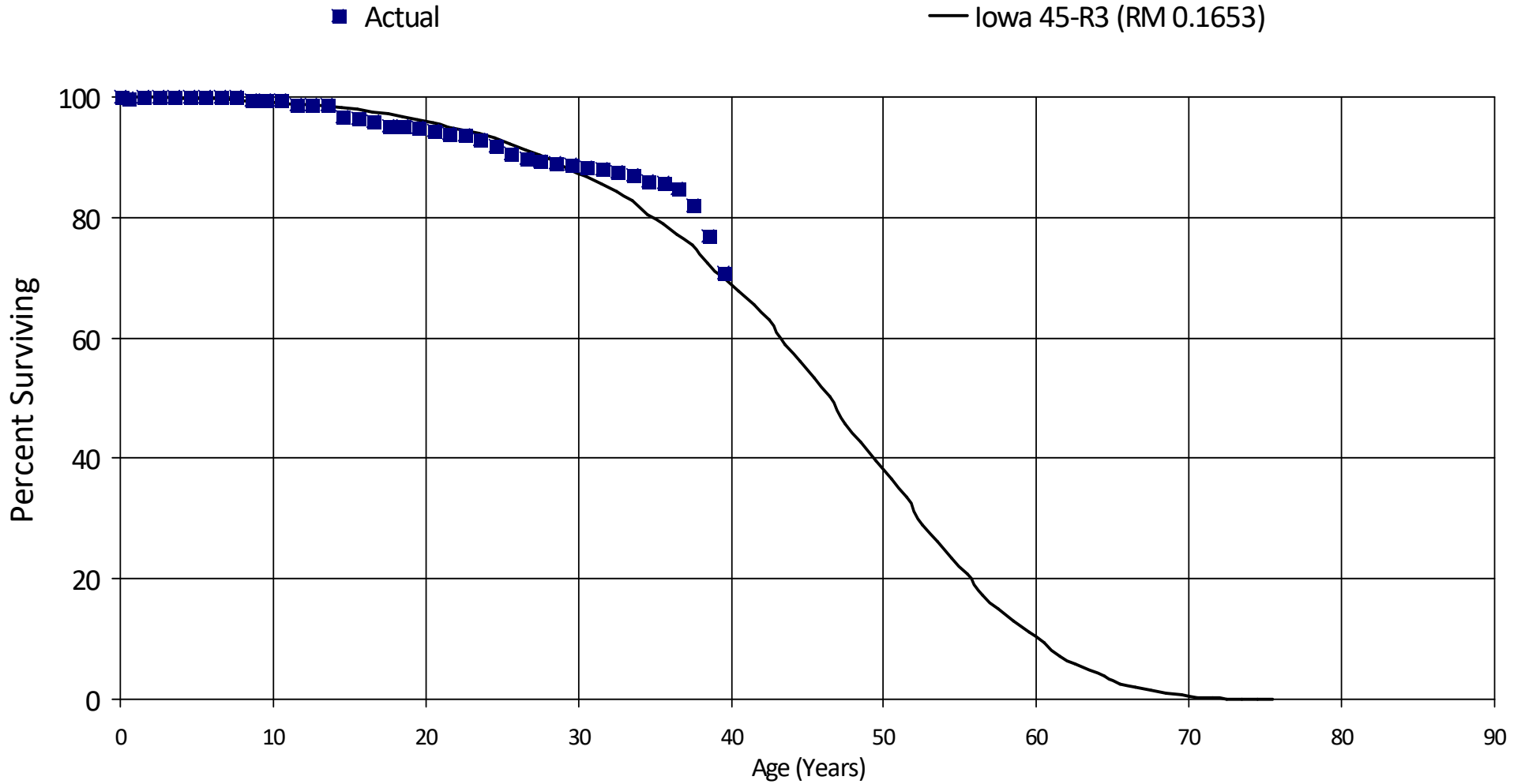
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
Totals:	379,834,830	1,430,039			

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Account Z1251 - DISTRIBUTION DELIVERY STATION - CIVIL BUILDING

Actual and Smooth Survivor Curves

Placement Band - 1956 - 2019 Experience Band - 1957 - 2019



Énergir

Account Z1300 - DISTRIBUTION RELEASE STATION - EQUIPMENT

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	56,381,168	38,629	0.00069	0.99931	100.00
0.5	55,516,620	93,550	0.00169	0.99831	99.93
1.5	54,349,241	121,520	0.00224	0.99776	99.76
2.5	53,101,405	337,351	0.00635	0.99365	99.54
3.5	52,027,605	255,709	0.00491	0.99509	98.91
4.5	50,418,058	313,823	0.00622	0.99378	98.42
5.5	49,251,568	341,688	0.00694	0.99306	97.81
6.5	46,760,258	294,666	0.00630	0.99370	97.13
7.5	44,689,878	295,443	0.00661	0.99339	96.52
8.5	41,677,341	268,702	0.00645	0.99355	95.88
9.5	40,829,854	286,061	0.00701	0.99299	95.26
10.5	40,111,136	390,858	0.00974	0.99026	94.59
11.5	39,160,960	408,269	0.01043	0.98957	93.67
12.5	38,096,273	463,774	0.01217	0.98783	92.69
13.5	36,812,742	456,918	0.01241	0.98759	91.56
14.5	35,364,751	379,706	0.01074	0.98926	90.42
15.5	34,106,528	472,669	0.01386	0.98614	89.45
16.5	31,979,749	406,824	0.01272	0.98728	88.21
17.5	29,514,567	456,928	0.01548	0.98452	87.09
18.5	28,731,331	363,249	0.01264	0.98736	85.74
19.5	27,722,202	353,129	0.01274	0.98726	84.66
20.5	26,522,376	520,541	0.01963	0.98037	83.58
21.5	25,382,277	536,841	0.02115	0.97885	81.94
22.5	24,535,148	459,909	0.01874	0.98126	80.21
23.5	23,123,467	362,932	0.01570	0.98430	78.71
24.5	21,695,033	803,594	0.03704	0.96296	77.47
25.5	20,608,653	639,400	0.03103	0.96897	74.60
26.5	19,042,211	341,932	0.01796	0.98204	72.29
27.5	17,910,736	250,149	0.01397	0.98603	70.99
28.5	16,712,896	253,194	0.01515	0.98485	70.00
29.5	15,618,134	612,558	0.03922	0.96078	68.94
30.5	14,580,279	270,260	0.01854	0.98146	66.24
31.5	13,446,402	238,418	0.01773	0.98227	65.01
32.5	12,944,574	123,856	0.00957	0.99043	63.86
33.5	12,342,010	322,937	0.02617	0.97383	63.25
34.5	11,044,618	183,950	0.01666	0.98334	61.59
35.5	7,114,119	91,073	0.01280	0.98720	60.56
36.5	3,690,044	45,789	0.01241	0.98759	59.78
37.5	2,307,859	24,966	0.01082	0.98918	59.04
38.5	1,963,927	30,483	0.01552	0.98448	58.40
39.5	1,724,821	34,130	0.01979	0.98021	57.49

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Account Z1300 - DISTRIBUTION RELEASE STATION - EQUIPMENT

RETIREMENT RATE ANALYSIS

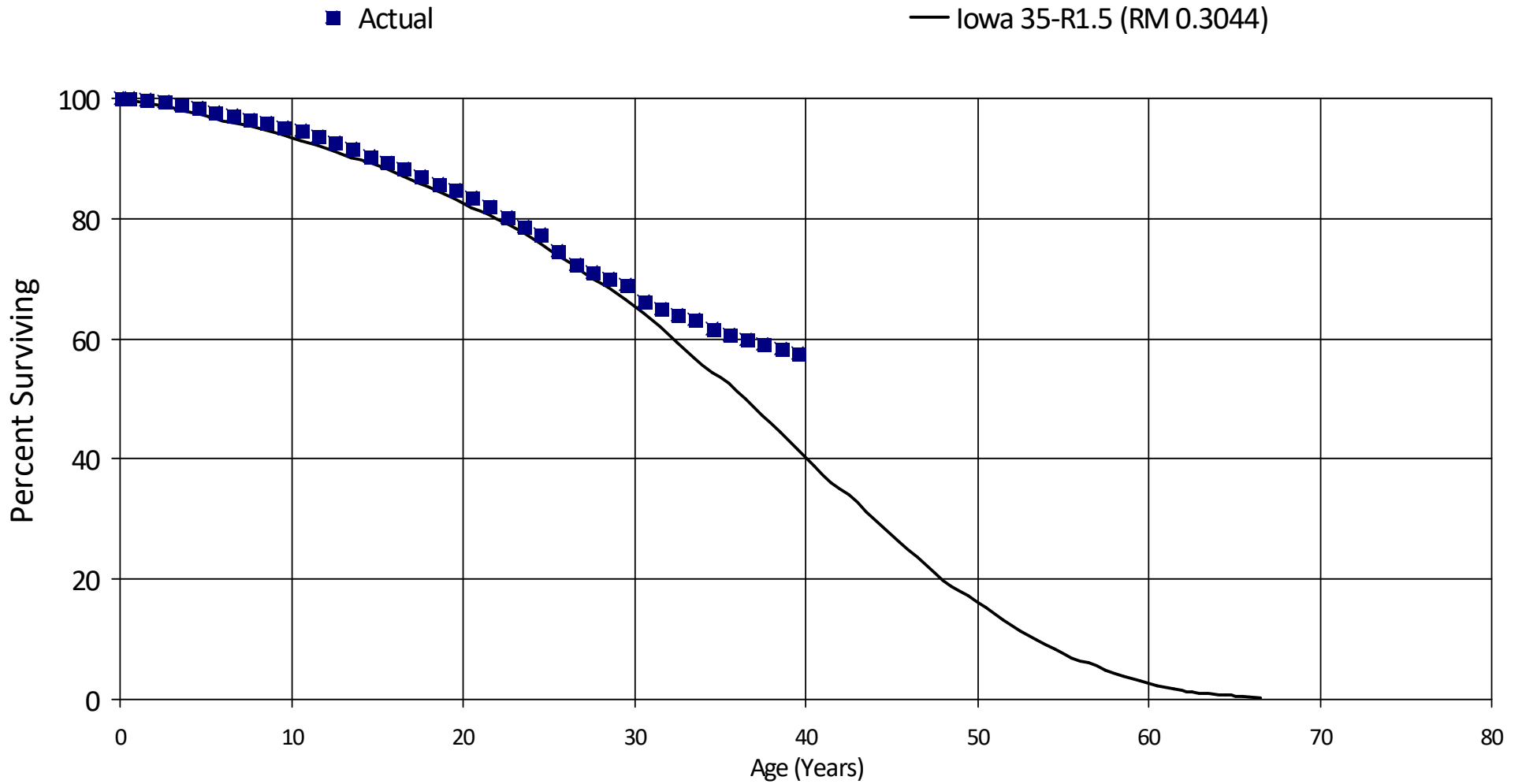
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
Totals:	1,178,912,820	12,946,378			

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Account Z1300 - DISTRIBUTION RELEASE STATION - EQUIPMENT

Actual and Smooth Survivor Curves

Placement Band - 1956 - 2019 Experience Band - 1959 - 2019



Énergir

Account Z1301 - DISTRIBUTION RELEASE STATION - CIVIL BUILDING

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	10,578,244	0	0.00000	1.00000	100.00
0.5	9,635,708	0	0.00000	1.00000	100.00
1.5	9,283,179	4,401	0.00047	0.99953	100.00
2.5	8,644,297	9,118	0.00105	0.99895	99.95
3.5	8,223,828	477	0.00006	0.99994	99.85
4.5	7,891,018	4,584	0.00058	0.99942	99.84
5.5	7,663,503	12,635	0.00165	0.99835	99.78
6.5	6,825,413	19,253	0.00282	0.99718	99.62
7.5	6,600,515	2,533	0.00038	0.99962	99.34
8.5	6,465,706	120	0.00002	0.99998	99.30
9.5	6,167,739	4,563	0.00074	0.99926	99.30
10.5	6,095,224	0	0.00000	1.00000	99.23
11.5	5,721,061	0	0.00000	1.00000	99.23
12.5	5,407,038	0	0.00000	1.00000	99.23
13.5	4,913,114	0	0.00000	1.00000	99.23
14.5	4,468,923	9,826	0.00220	0.99780	99.23
15.5	4,410,386	10,917	0.00248	0.99752	99.01
16.5	4,062,122	7,643	0.00188	0.99812	98.76
17.5	3,894,593	7,473	0.00192	0.99808	98.57
18.5	3,857,430	7,176	0.00186	0.99814	98.38
19.5	3,841,556	471	0.00012	0.99988	98.20
20.5	3,839,530	486	0.00013	0.99987	98.19
21.5	3,839,044	856	0.00022	0.99978	98.18
22.5	3,814,525	0	0.00000	1.00000	98.16
23.5	3,700,794	0	0.00000	1.00000	98.16
24.5	3,512,448	17,946	0.00511	0.99489	98.16
25.5	3,485,103	48,763	0.01399	0.98601	97.66
26.5	3,351,565	17,805	0.00531	0.99469	96.29
27.5	3,208,309	513	0.00016	0.99984	95.78
28.5	3,016,600	337	0.00011	0.99989	95.76
29.5	2,884,428	258	0.00009	0.99991	95.75
30.5	2,874,130	900	0.00031	0.99969	95.74
31.5	2,851,599	12,573	0.00441	0.99559	95.71
32.5	2,818,241	2,777	0.00099	0.99901	95.29
33.5	2,720,815	23	0.00001	0.99999	95.20
34.5	2,433,604	18,658	0.00767	0.99233	95.20
35.5	1,533,622	1,279	0.00083	0.99917	94.47
36.5	592,584	72	0.00012	0.99988	94.39
37.5	481,179	0	0.00000	1.00000	94.38
38.5	461,060	152	0.00033	0.99967	94.38
39.5	416,511	4,776	0.01147	0.98853	94.35

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Account Z1301 - DISTRIBUTION RELEASE STATION - CIVIL BUILDING

RETIREMENT RATE ANALYSIS

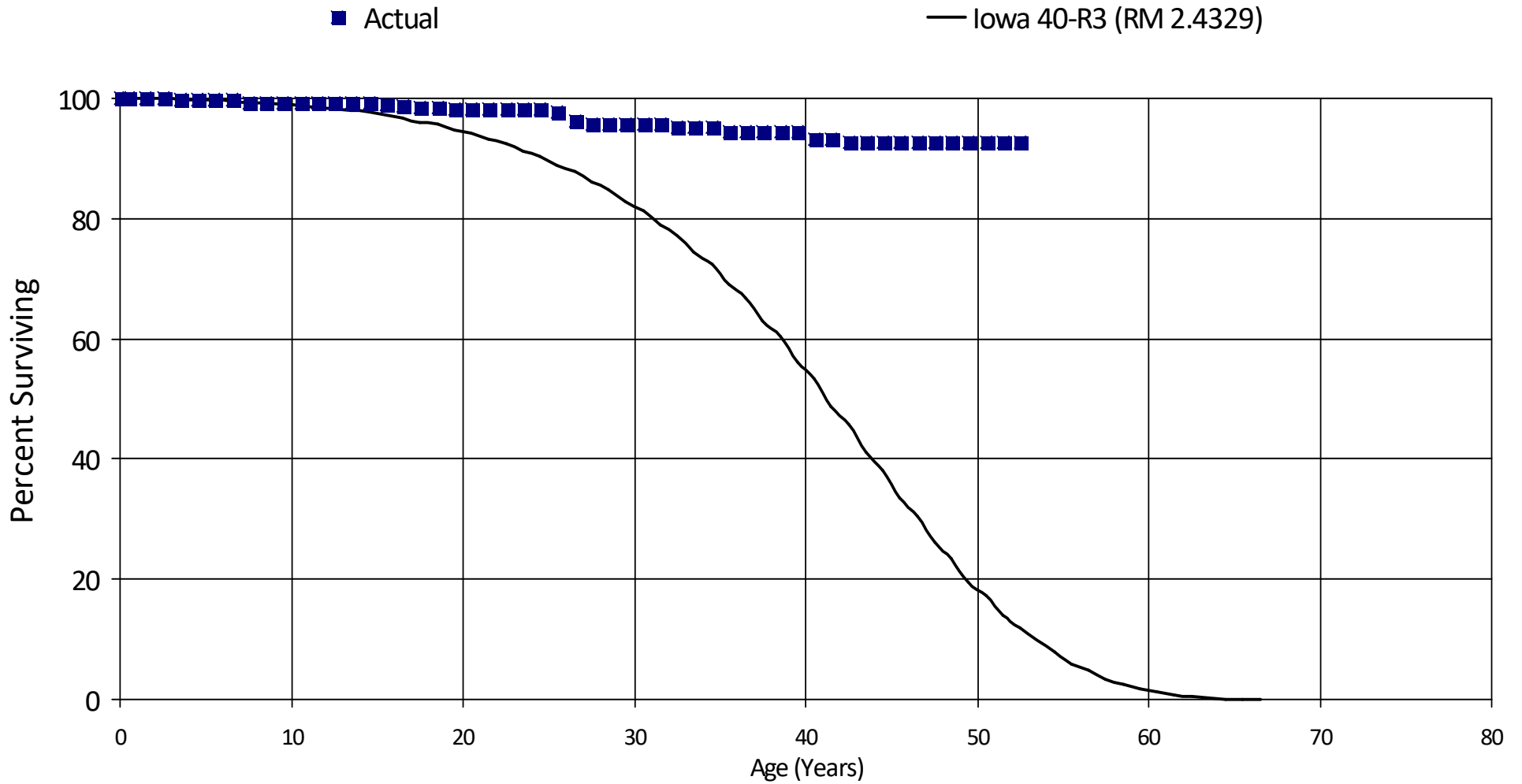
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	347,374	0	0.00000	1.00000	93.27
41.5	318,317	2,338	0.00734	0.99266	93.27
42.5	291,429	0	0.00000	1.00000	92.59
43.5	285,016	0	0.00000	1.00000	92.59
44.5	70,970	0	0.00000	1.00000	92.59
45.5	70,970	0	0.00000	1.00000	92.59
46.5	70,970	0	0.00000	1.00000	92.59
47.5	70,970	0	0.00000	1.00000	92.59
48.5	70,970	0	0.00000	1.00000	92.59
49.5	70,970	0	0.00000	1.00000	92.59
50.5	70,970	0	0.00000	1.00000	92.59
51.5	70,970	0	0.00000	1.00000	92.59
52.5	70,970	0	0.00000	1.00000	92.59
53.5	0	0	0.00000	0.00000	92.59
Totals:	188,367,151	231,702			

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Account Z1301 - DISTRIBUTION RELEASE STATION - CIVIL BUILDING

Actual and Smooth Survivor Curves

Placement Band - 1966 - 2019 Experience Band - 2010 - 2019



Énergir

Account Z1501 - DISTRIBUTION BIOGAZ - SERVITUDE

RETIREMENT RATE ANALYSIS

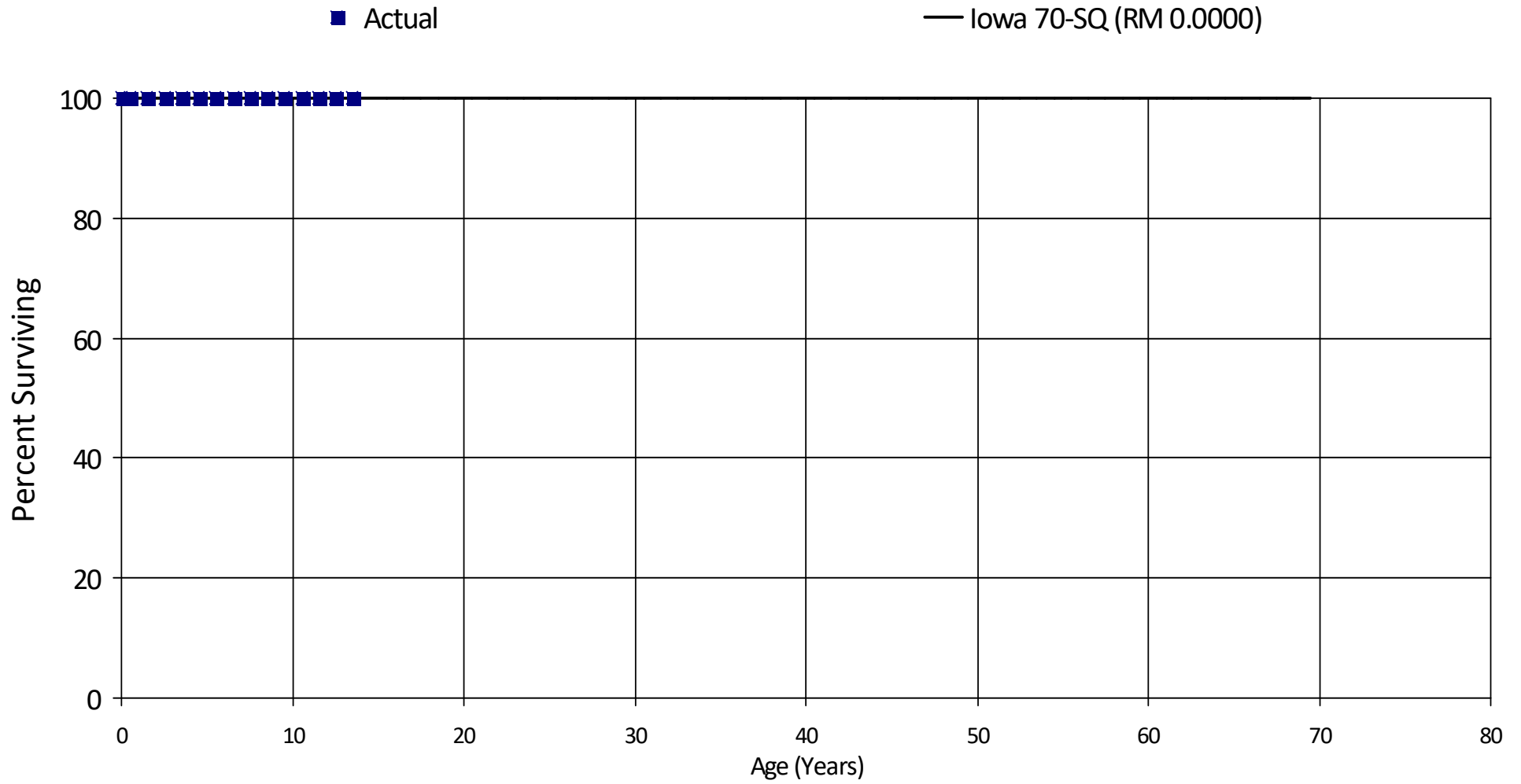
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	3,415	0	0.00000	1.00000	100.00
0.5	3,415	0	0.00000	1.00000	100.00
1.5	3,415	0	0.00000	1.00000	100.00
2.5	3,415	0	0.00000	1.00000	100.00
3.5	3,415	0	0.00000	1.00000	100.00
4.5	3,415	0	0.00000	1.00000	100.00
5.5	3,415	0	0.00000	1.00000	100.00
6.5	3,415	0	0.00000	1.00000	100.00
7.5	3,415	0	0.00000	1.00000	100.00
8.5	3,415	0	0.00000	1.00000	100.00
9.5	3,415	0	0.00000	1.00000	100.00
10.5	3,415	0	0.00000	1.00000	100.00
11.5	3,415	0	0.00000	1.00000	100.00
12.5	3,415	0	0.00000	1.00000	100.00
13.5	3,415	0	0.00000	1.00000	100.00
14.5	0	0	0.00000	0.00000	100.00
Totals:	51,228	0			

Énergir

Account Z1501 - DISTRIBUTION BIOGAZ - SERVITUDE

Actual and Smooth Survivor Curves

Placement Band - 2005 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z1550 - DISTRIBUTION BIOGAZ - MAIN PIPE - STEEL

RETIREMENT RATE ANALYSIS

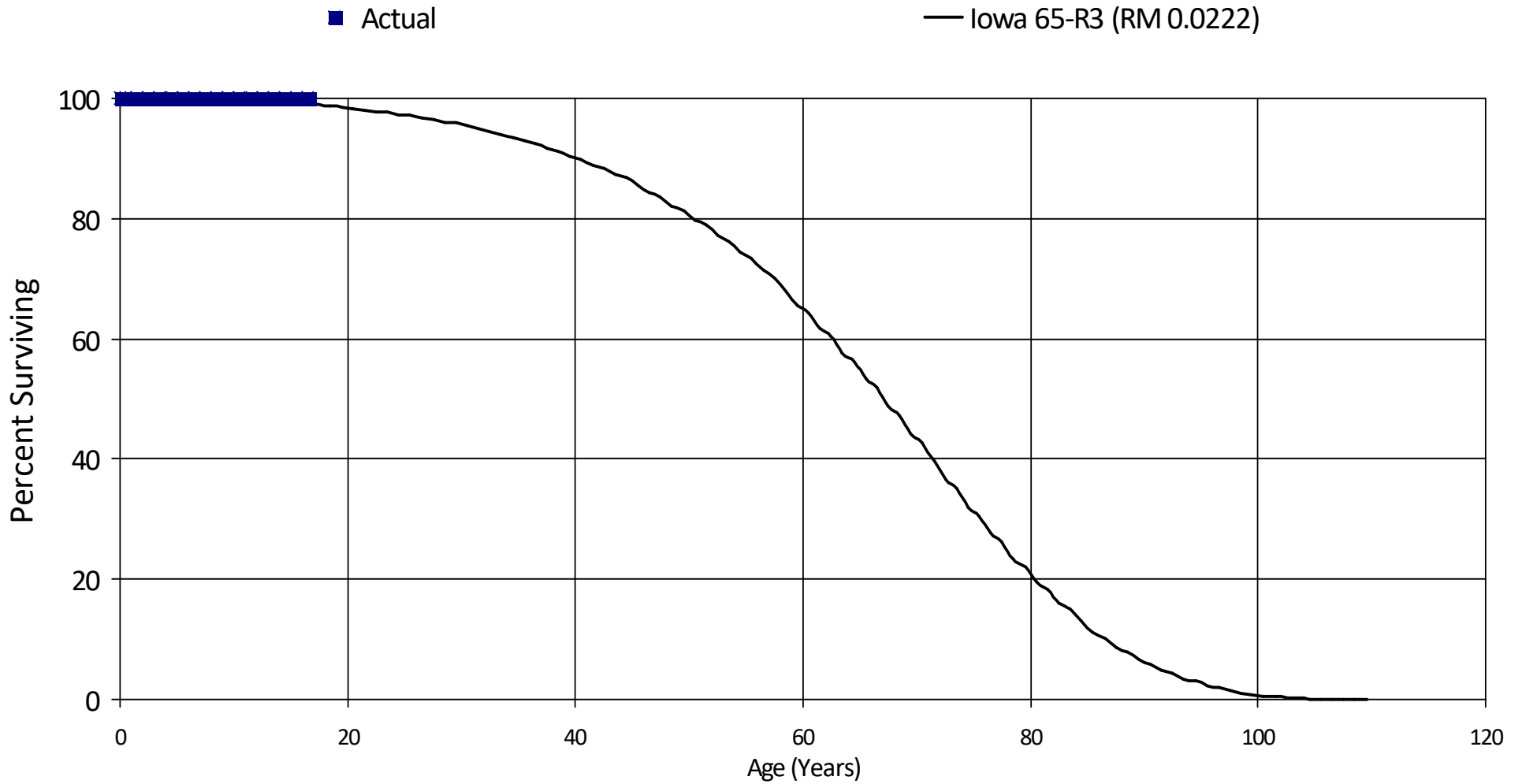
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	1,972,812	0	0.00000	1.00000	100.00
0.5	1,972,812	0	0.00000	1.00000	100.00
1.5	1,972,475	0	0.00000	1.00000	100.00
2.5	1,972,475	0	0.00000	1.00000	100.00
3.5	1,972,475	0	0.00000	1.00000	100.00
4.5	1,972,475	0	0.00000	1.00000	100.00
5.5	1,972,475	0	0.00000	1.00000	100.00
6.5	1,972,475	0	0.00000	1.00000	100.00
7.5	1,972,475	0	0.00000	1.00000	100.00
8.5	1,972,475	0	0.00000	1.00000	100.00
9.5	1,972,475	0	0.00000	1.00000	100.00
10.5	1,972,475	0	0.00000	1.00000	100.00
11.5	1,972,475	0	0.00000	1.00000	100.00
12.5	1,958,909	0	0.00000	1.00000	100.00
13.5	1,944,061	0	0.00000	1.00000	100.00
14.5	48,542	0	0.00000	1.00000	100.00
15.5	48,542	0	0.00000	1.00000	100.00
16.5	46,542	0	0.00000	1.00000	100.00
17.5	0	0	0.00000	0.00000	100.00
Totals:	29,689,448	0			

Énergir

Account Z1550 - DISTRIBUTION BIOGAZ - MAIN PIPE - STEEL

Actual and Smooth Survivor Curves

Placement Band - 2002 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z1560 - DISTRIBUTION BIOGAZ - COMPRESSION STATION - EQUIPMENT

RETIREMENT RATE ANALYSIS

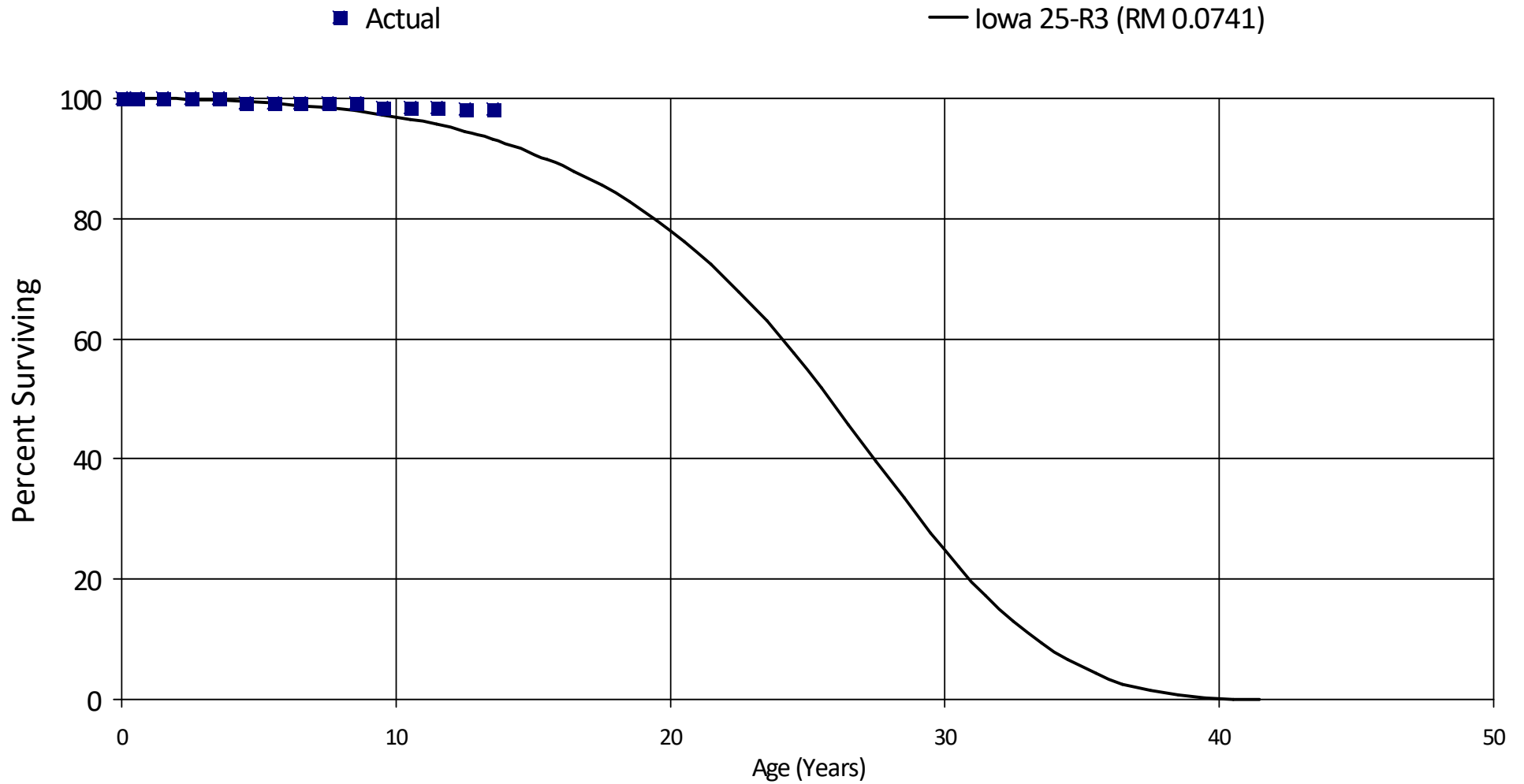
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	4,155,441	0	0.00000	1.00000	100.00
0.5	4,141,023	0	0.00000	1.00000	100.00
1.5	4,141,023	0	0.00000	1.00000	100.00
2.5	4,124,876	0	0.00000	1.00000	100.00
3.5	4,106,626	35,000	0.00852	0.99148	100.00
4.5	4,071,626	0	0.00000	1.00000	99.15
5.5	4,036,626	0	0.00000	1.00000	99.15
6.5	4,013,321	0	0.00000	1.00000	99.15
7.5	4,013,321	0	0.00000	1.00000	99.15
8.5	4,013,321	25,000	0.00623	0.99377	99.15
9.5	3,953,795	0	0.00000	1.00000	98.53
10.5	3,953,795	0	0.00000	1.00000	98.53
11.5	3,318,292	13,818	0.00416	0.99584	98.53
12.5	2,931,010	0	0.00000	1.00000	98.12
13.5	2,474,911	45,990	0.01858	0.98142	98.12
14.5	0	0	0.00000	0.00000	96.30
Totals:	57,449,008	119,808			

Énergir

Account Z1560 - DISTRIBUTION BIOGAZ - COMPRESSION STATION - EQUIPMENT

Actual and Smooth Survivor Curves

Placement Band - 2005 - 2019 Experience Band - 2014 - 2019



Énergir

Account Z1561 - DISTRIBUTION BIOGAZ - COMPRESSION STATION - BUILDING

RETIREMENT RATE ANALYSIS

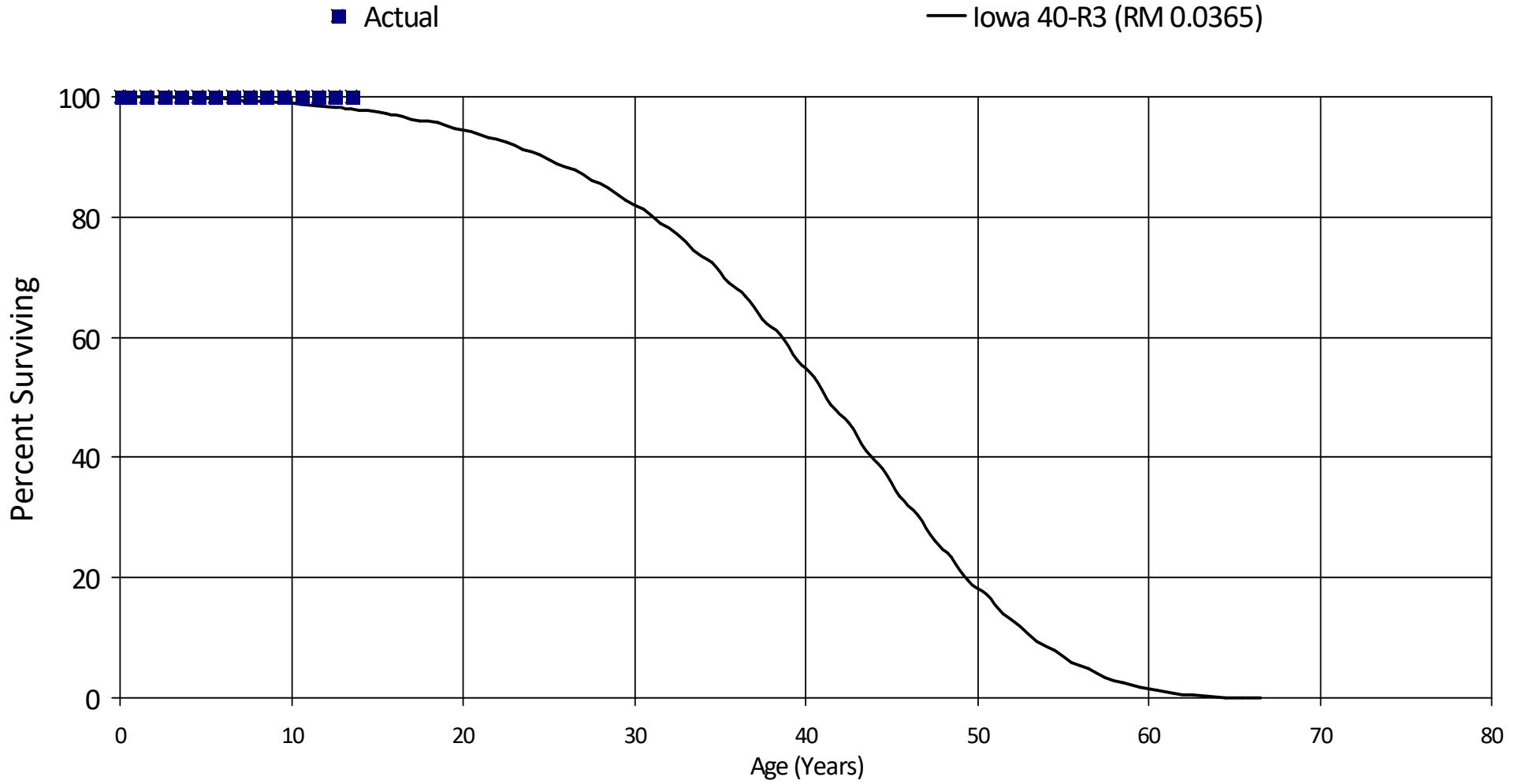
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	1,853,683	0	0.00000	1.00000	100.00
0.5	1,853,683	0	0.00000	1.00000	100.00
1.5	1,853,683	0	0.00000	1.00000	100.00
2.5	1,767,478	0	0.00000	1.00000	100.00
3.5	1,760,478	0	0.00000	1.00000	100.00
4.5	1,760,478	0	0.00000	1.00000	100.00
5.5	1,760,478	0	0.00000	1.00000	100.00
6.5	1,760,478	0	0.00000	1.00000	100.00
7.5	1,760,478	0	0.00000	1.00000	100.00
8.5	1,760,478	0	0.00000	1.00000	100.00
9.5	1,746,828	0	0.00000	1.00000	100.00
10.5	1,746,828	0	0.00000	1.00000	100.00
11.5	1,683,343	0	0.00000	1.00000	100.00
12.5	1,649,740	0	0.00000	1.00000	100.00
13.5	1,630,813	0	0.00000	1.00000	100.00
14.5	0	0	0.00000	0.00000	100.00
Totals:	26,348,946	0			

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Account Z1561 - DISTRIBUTION BIOGAZ - COMPRESSION STATION - BUILDING

Actual and Smooth Survivor Curves

Placement Band - 2005 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z1570 - DISTRIBUTION BIOGAZ - METER STATION - EQUIPMENT

RETIREMENT RATE ANALYSIS

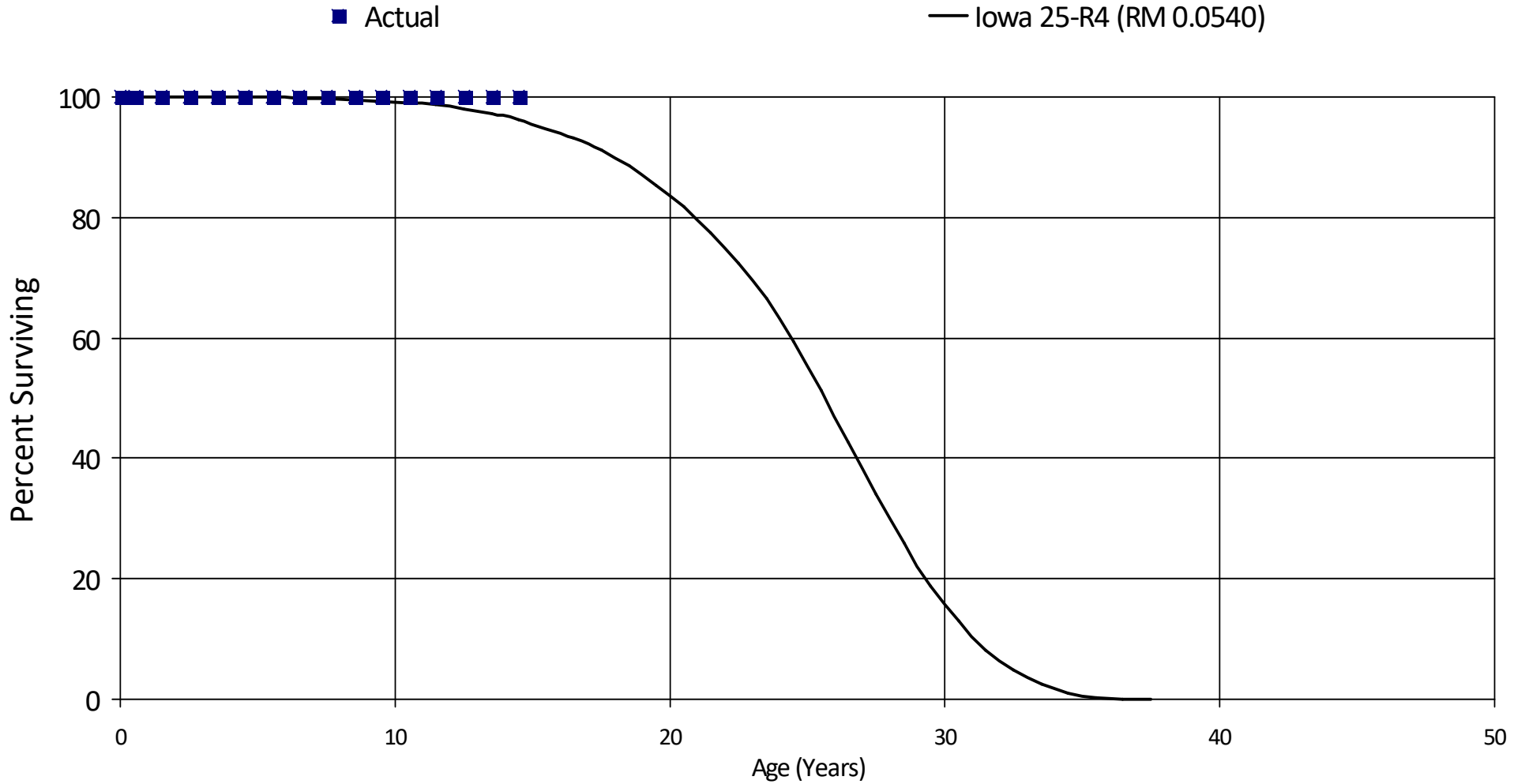
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	294,902	0	0.00000	1.00000	100.00
0.5	294,902	0	0.00000	1.00000	100.00
1.5	294,902	0	0.00000	1.00000	100.00
2.5	294,902	0	0.00000	1.00000	100.00
3.5	294,902	0	0.00000	1.00000	100.00
4.5	294,902	0	0.00000	1.00000	100.00
5.5	294,902	0	0.00000	1.00000	100.00
6.5	294,902	0	0.00000	1.00000	100.00
7.5	294,902	0	0.00000	1.00000	100.00
8.5	294,902	0	0.00000	1.00000	100.00
9.5	294,902	0	0.00000	1.00000	100.00
10.5	294,902	0	0.00000	1.00000	100.00
11.5	294,902	0	0.00000	1.00000	100.00
12.5	294,902	0	0.00000	1.00000	100.00
13.5	279,408	0	0.00000	1.00000	100.00
14.5	6,726	0	0.00000	1.00000	100.00
15.5	0	0	0.00000	0.00000	100.00
Totals:	4,414,760	0			

Énergir

Account Z1570 - DISTRIBUTION BIOGAZ - METER STATION - EQUIPMENT

Actual and Smooth Survivor Curves

Placement Band - 2004 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z1571 - DISTRIBUTION BIOGAZ - METER STATION - BUILDING

RETIREMENT RATE ANALYSIS

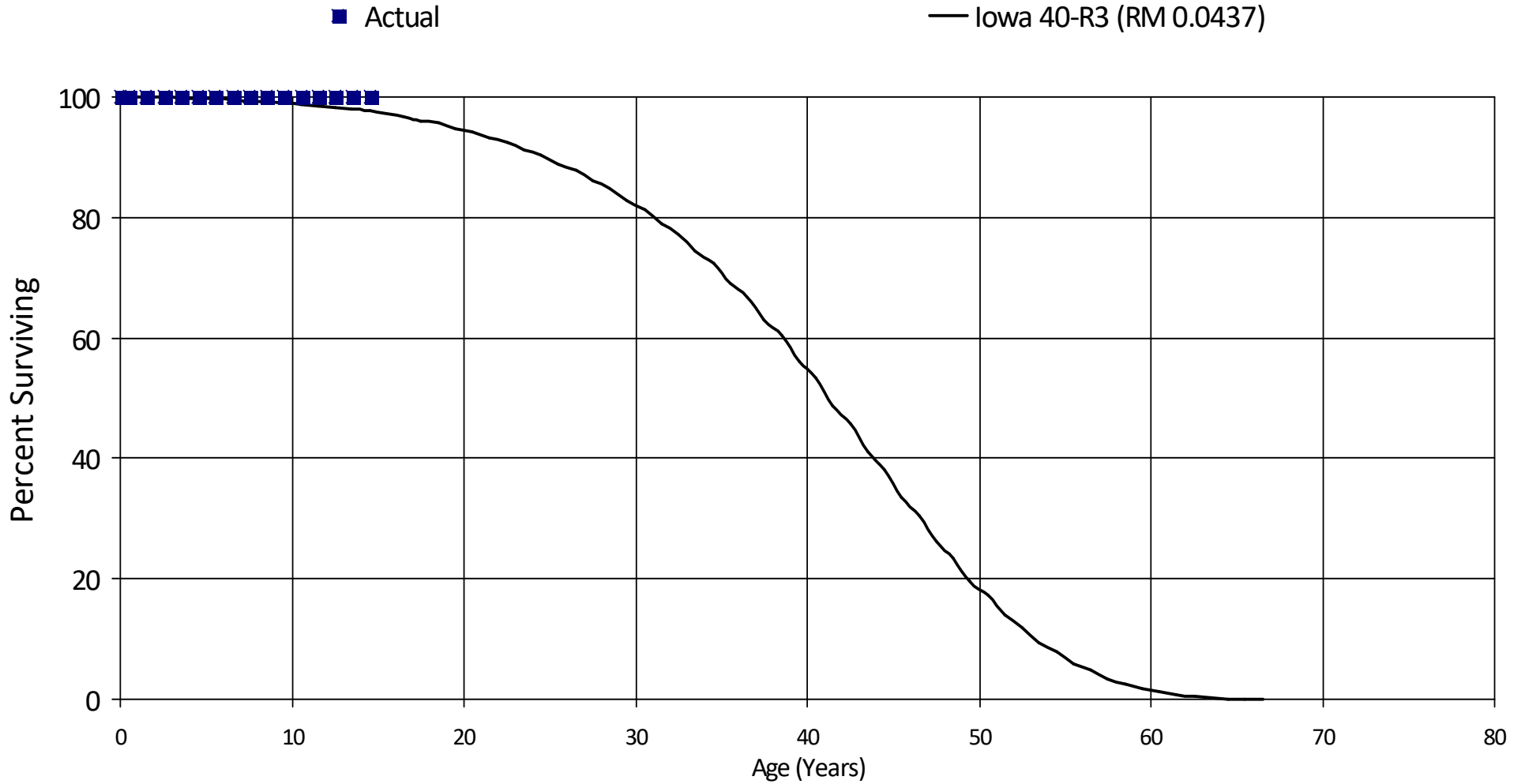
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	170,125	0	0.00000	1.00000	100.00
0.5	170,125	0	0.00000	1.00000	100.00
1.5	170,125	0	0.00000	1.00000	100.00
2.5	170,125	0	0.00000	1.00000	100.00
3.5	170,125	0	0.00000	1.00000	100.00
4.5	170,125	0	0.00000	1.00000	100.00
5.5	170,125	0	0.00000	1.00000	100.00
6.5	170,125	0	0.00000	1.00000	100.00
7.5	170,125	0	0.00000	1.00000	100.00
8.5	170,125	0	0.00000	1.00000	100.00
9.5	170,125	0	0.00000	1.00000	100.00
10.5	170,125	0	0.00000	1.00000	100.00
11.5	170,125	0	0.00000	1.00000	100.00
12.5	170,125	0	0.00000	1.00000	100.00
13.5	164,960	0	0.00000	1.00000	100.00
14.5	2,242	0	0.00000	1.00000	100.00
15.5	0	0	0.00000	0.00000	100.00
Totals:	2,548,947	0			

Énergir

Account Z1571 - DISTRIBUTION BIOGAZ - METER STATION - BUILDING

Actual and Smooth Survivor Curves

Placement Band - 2004 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z3050 - TRANSMISSION - SERVITUDES

RETIREMENT RATE ANALYSIS

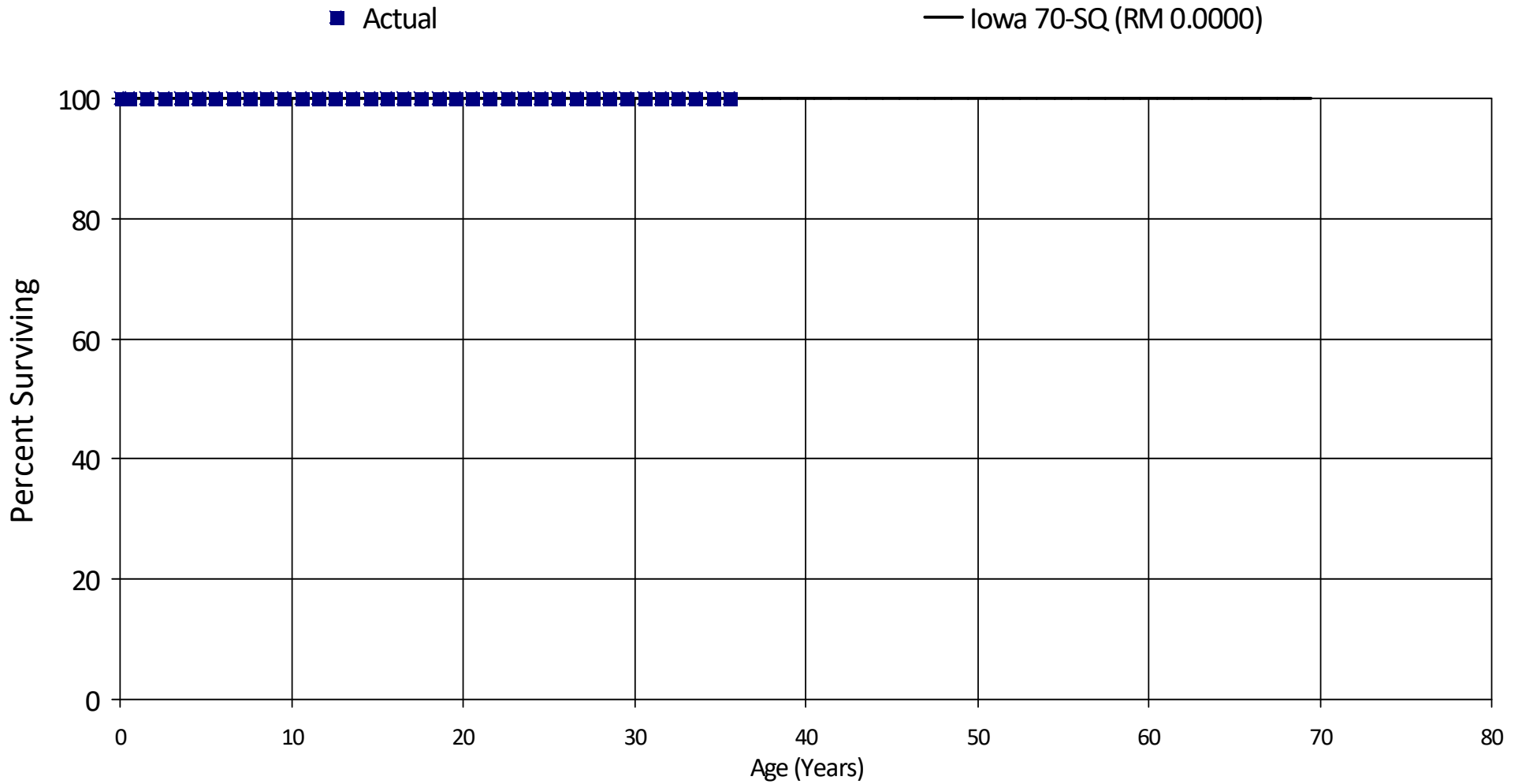
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	12,805,008	0	0.00000	1.00000	100.00
0.5	12,804,939	0	0.00000	1.00000	100.00
1.5	12,771,670	0	0.00000	1.00000	100.00
2.5	12,771,466	0	0.00000	1.00000	100.00
3.5	12,771,466	0	0.00000	1.00000	100.00
4.5	12,743,828	0	0.00000	1.00000	100.00
5.5	12,741,801	0	0.00000	1.00000	100.00
6.5	12,739,631	0	0.00000	1.00000	100.00
7.5	12,739,631	0	0.00000	1.00000	100.00
8.5	12,739,631	0	0.00000	1.00000	100.00
9.5	12,739,631	0	0.00000	1.00000	100.00
10.5	12,739,631	0	0.00000	1.00000	100.00
11.5	12,716,566	0	0.00000	1.00000	100.00
12.5	12,550,389	0	0.00000	1.00000	100.00
13.5	12,550,389	0	0.00000	1.00000	100.00
14.5	12,550,389	0	0.00000	1.00000	100.00
15.5	12,550,389	0	0.00000	1.00000	100.00
16.5	12,550,389	0	0.00000	1.00000	100.00
17.5	12,550,389	0	0.00000	1.00000	100.00
18.5	12,550,389	0	0.00000	1.00000	100.00
19.5	12,550,389	0	0.00000	1.00000	100.00
20.5	12,550,389	0	0.00000	1.00000	100.00
21.5	12,550,389	0	0.00000	1.00000	100.00
22.5	12,550,389	0	0.00000	1.00000	100.00
23.5	12,550,389	0	0.00000	1.00000	100.00
24.5	12,550,389	0	0.00000	1.00000	100.00
25.5	12,550,389	0	0.00000	1.00000	100.00
26.5	12,550,389	0	0.00000	1.00000	100.00
27.5	12,550,389	0	0.00000	1.00000	100.00
28.5	12,500,710	0	0.00000	1.00000	100.00
29.5	12,470,453	0	0.00000	1.00000	100.00
30.5	12,321,427	0	0.00000	1.00000	100.00
31.5	12,321,427	0	0.00000	1.00000	100.00
32.5	9,215,340	0	0.00000	1.00000	100.00
33.5	8,918,866	0	0.00000	1.00000	100.00
34.5	8,829,683	0	0.00000	1.00000	100.00
35.5	4,718,625	0	0.00000	1.00000	100.00
36.5	0	0	0.00000	0.00000	100.00
Totals:	447,927,648	0			

Énergir

Account Z3050 - TRANSMISSION - SERVITUDES

Actual and Smooth Survivor Curves

Placement Band - 1983 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z3100 - TRANSMISSION - MAIN PIPE

RETIREMENT RATE ANALYSIS

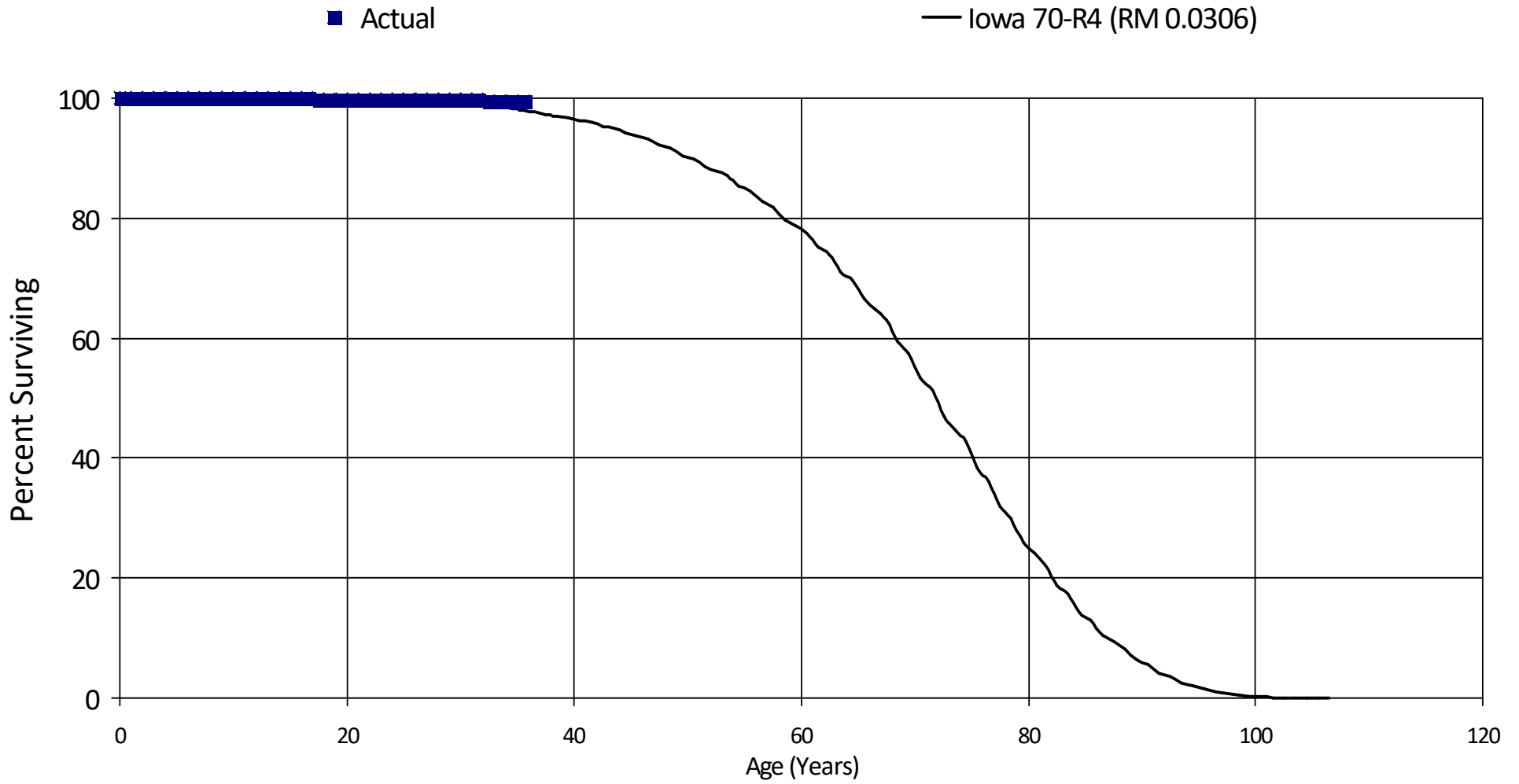
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	299,045,453	11	0.00000	1.00000	100.00
0.5	296,728,593	9	0.00000	1.00000	100.00
1.5	294,736,689	0	0.00000	1.00000	100.00
2.5	292,554,903	0	0.00000	1.00000	100.00
3.5	291,525,042	19,967	0.00007	0.99993	100.00
4.5	288,876,375	60	0.00000	1.00000	99.99
5.5	285,060,474	450	0.00000	1.00000	99.99
6.5	282,964,075	13,996	0.00005	0.99995	99.99
7.5	282,950,078	153	0.00000	1.00000	99.99
8.5	282,949,925	10	0.00000	1.00000	99.99
9.5	282,910,914	185,214	0.00065	0.99935	99.99
10.5	282,067,653	132,023	0.00047	0.99953	99.93
11.5	281,829,611	0	0.00000	1.00000	99.88
12.5	276,503,912	17	0.00000	1.00000	99.88
13.5	276,415,088	61	0.00000	1.00000	99.88
14.5	276,361,968	2,539	0.00001	0.99999	99.88
15.5	276,359,429	20	0.00000	1.00000	99.88
16.5	276,280,294	95,603	0.00035	0.99965	99.88
17.5	275,339,954	18,359	0.00007	0.99993	99.85
18.5	274,822,780	10,975	0.00004	0.99996	99.84
19.5	274,788,341	0	0.00000	1.00000	99.84
20.5	274,721,221	0	0.00000	1.00000	99.84
21.5	274,721,221	0	0.00000	1.00000	99.84
22.5	274,667,145	0	0.00000	1.00000	99.84
23.5	274,667,145	0	0.00000	1.00000	99.84
24.5	274,667,145	0	0.00000	1.00000	99.84
25.5	274,185,066	0	0.00000	1.00000	99.84
26.5	274,084,948	0	0.00000	1.00000	99.84
27.5	274,084,948	0	0.00000	1.00000	99.84
28.5	274,083,576	9,861	0.00004	0.99996	99.84
29.5	274,073,715	381,069	0.00139	0.99861	99.84
30.5	273,409,032	343	0.00000	1.00000	99.70
31.5	272,530,502	694,114	0.00255	0.99745	99.70
32.5	239,901,706	2,832	0.00001	0.99999	99.45
33.5	239,673,079	0	0.00000	1.00000	99.45
34.5	239,662,468	111,754	0.00047	0.99953	99.45
35.5	82,887,690	19,502	0.00024	0.99976	99.40
36.5	0	0	0.00000	0.00000	99.38
Totals:	10,043,092,158	1,698,942			

Énergir

Account Z3100 - TRANSMISSION - MAIN PIPE

Actual and Smooth Survivor Curves

Placement Band - 1983 - 2019 Experience Band - 1994 - 2019



Énergir

Account Z3120 - TRANSMISSION - COMPRESSION STATION EQUIPMENT

RETIREMENT RATE ANALYSIS

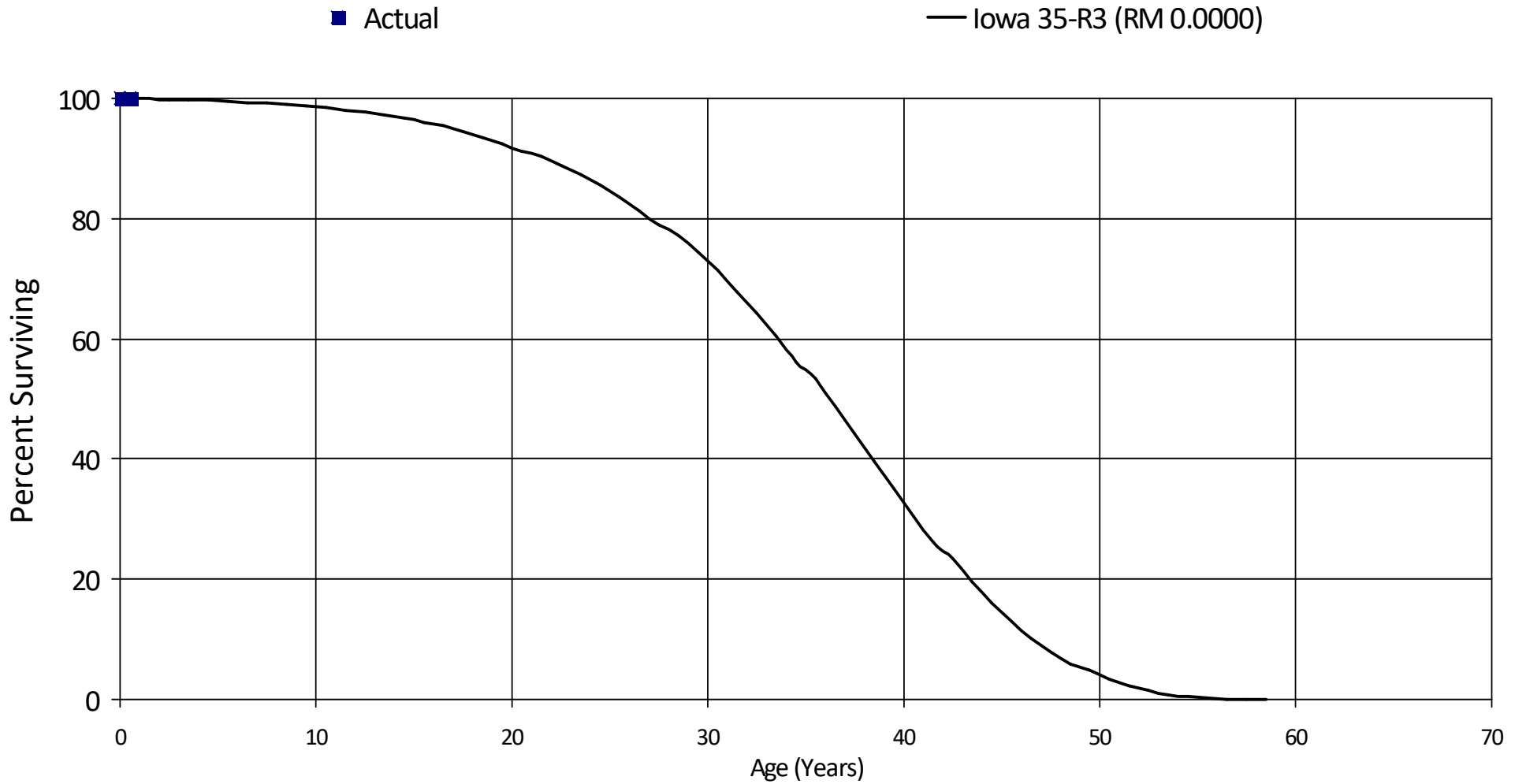
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	37,632,962	0	0.00000	1.00000	100.00
0.5	37,366,840	0	0.00000	1.00000	100.00
1.5	0	0	0.00000	0.00000	100.00
Totals:	74,999,802	0			

Énergir

Account Z3120 - TRANSMISSION - COMPRESSION STATION EQUIPMENT

Actual and Smooth Survivor Curves

Placement Band - 2018 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z3130 - TRANSMISSION - COMPRESSION STATION CIVIL BUILDING

RETIREMENT RATE ANALYSIS

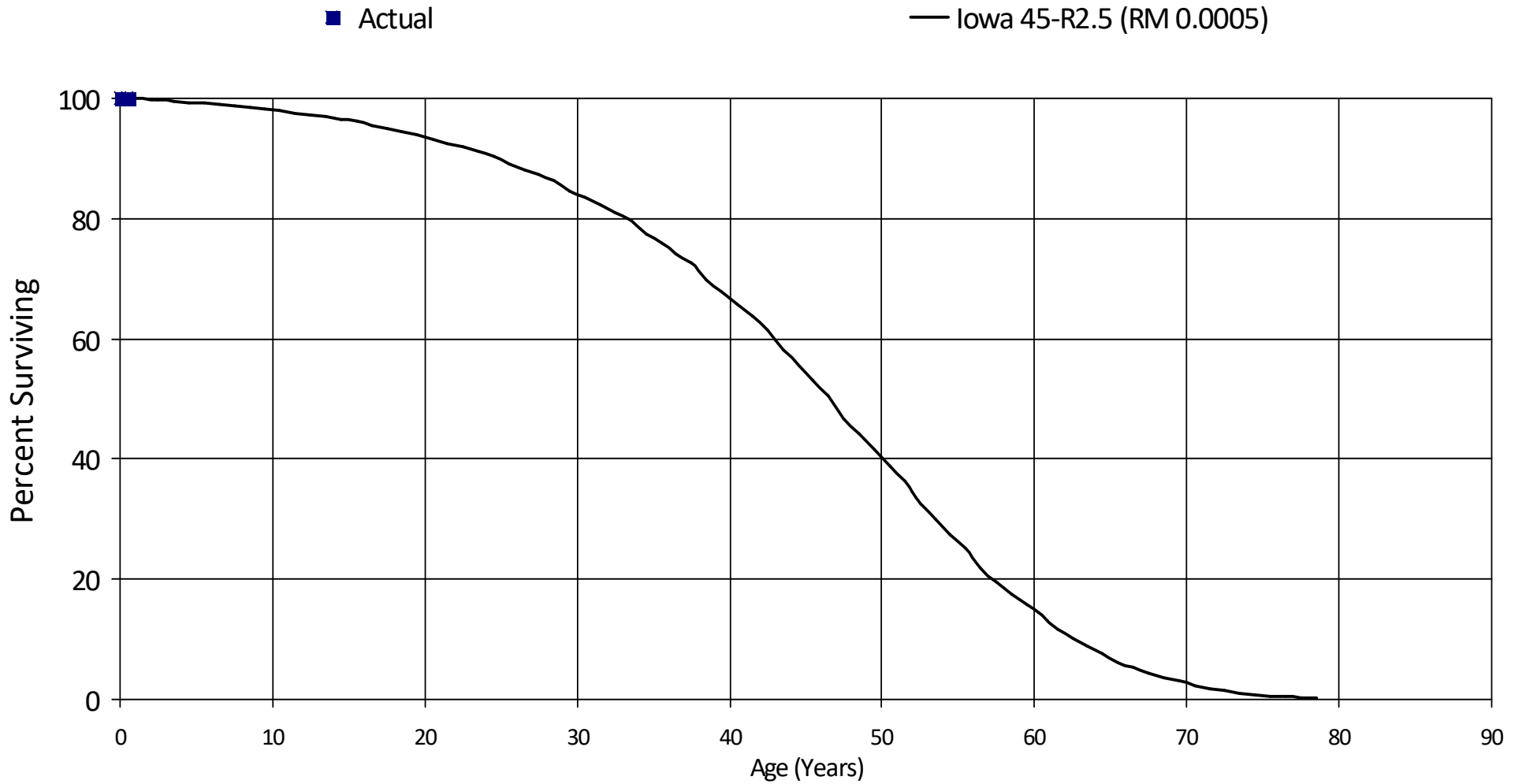
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	37,929,443	0	0.00000	1.00000	100.00
0.5	37,902,452	0	0.00000	1.00000	100.00
1.5	0	0	0.00000	0.00000	100.00
Totals:	75,831,895	0			

Énergir

Account Z3130 - TRANSMISSION - COMPRESSION STATION CIVIL BUILDING

Actual and Smooth Survivor Curves

Placement Band - 2018 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z4051 - STOCKING - ADMINISTRATIVE BUILDING

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	4,015,268	0	0.00000	1.00000	100.00
0.5	4,015,268	0	0.00000	1.00000	100.00
1.5	3,942,436	0	0.00000	1.00000	100.00
2.5	3,670,533	0	0.00000	1.00000	100.00
3.5	3,670,533	0	0.00000	1.00000	100.00
4.5	3,627,546	0	0.00000	1.00000	100.00
5.5	3,627,546	0	0.00000	1.00000	100.00
6.5	3,627,546	0	0.00000	1.00000	100.00
7.5	3,627,546	0	0.00000	1.00000	100.00
8.5	3,627,546	0	0.00000	1.00000	100.00
9.5	3,627,546	0	0.00000	1.00000	100.00
10.5	2,482,101	0	0.00000	1.00000	100.00
11.5	2,482,101	0	0.00000	1.00000	100.00
12.5	2,482,101	0	0.00000	1.00000	100.00
13.5	2,373,612	0	0.00000	1.00000	100.00
14.5	1,802,707	0	0.00000	1.00000	100.00
15.5	1,472,399	0	0.00000	1.00000	100.00
16.5	803,025	0	0.00000	1.00000	100.00
17.5	786,185	0	0.00000	1.00000	100.00
18.5	782,693	0	0.00000	1.00000	100.00
19.5	782,693	0	0.00000	1.00000	100.00
20.5	782,693	0	0.00000	1.00000	100.00
21.5	782,693	0	0.00000	1.00000	100.00
22.5	782,693	39,774	0.05082	0.94918	100.00
23.5	742,919	0	0.00000	1.00000	94.92
24.5	720,395	0	0.00000	1.00000	94.92
25.5	461,583	0	0.00000	1.00000	94.92
26.5	460,744	0	0.00000	1.00000	94.92
27.5	402,686	0	0.00000	1.00000	94.92
28.5	396,470	0	0.00000	1.00000	94.92
29.5	389,974	0	0.00000	1.00000	94.92
30.5	389,974	0	0.00000	1.00000	94.92
31.5	389,974	0	0.00000	1.00000	94.92
32.5	389,974	0	0.00000	1.00000	94.92
33.5	389,974	0	0.00000	1.00000	94.92
34.5	373,436	0	0.00000	1.00000	94.92
35.5	286,046	0	0.00000	1.00000	94.92
36.5	286,046	0	0.00000	1.00000	94.92
37.5	286,046	0	0.00000	1.00000	94.92
38.5	286,046	0	0.00000	1.00000	94.92
39.5	286,046	0	0.00000	1.00000	94.92

Énergir

Account Z4051 - STOCKING - ADMINISTRATIVE BUILDING

RETIREMENT RATE ANALYSIS

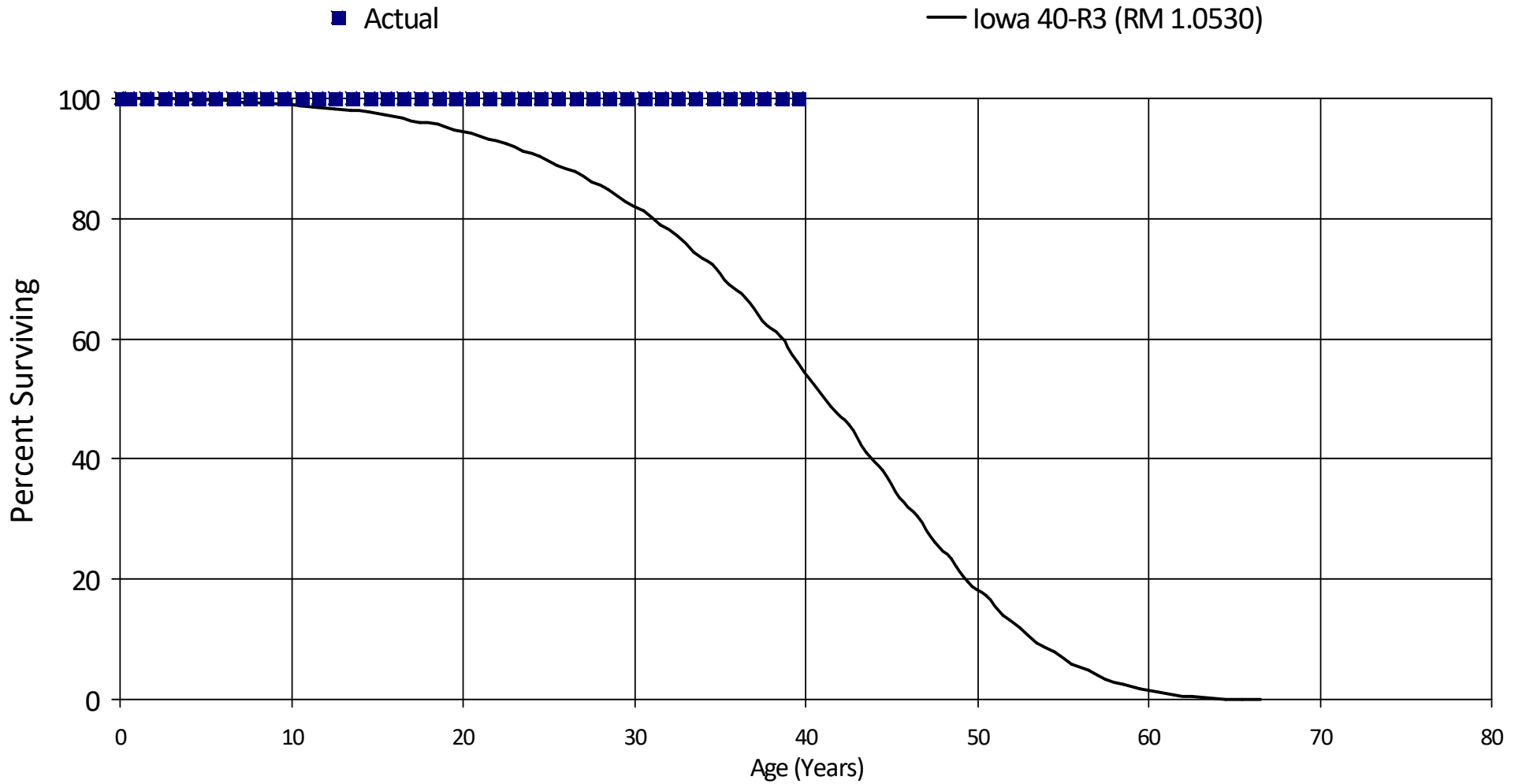
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	0	0	0.00000	0.00000	94.92
Totals:	66,615,342	39,774			

Énergir

Account Z4051 - STOCKING - ADMINISTRATIVE BUILDING

Actual and Smooth Survivor Curves

Placement Band - 1979 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z4052 - STOCKING - BUILDING INFRASTRUCTURE

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	26,306,984	0	0.00000	1.00000	100.00
0.5	25,799,962	0	0.00000	1.00000	100.00
1.5	25,672,181	0	0.00000	1.00000	100.00
2.5	24,478,326	0	0.00000	1.00000	100.00
3.5	24,187,012	0	0.00000	1.00000	100.00
4.5	23,752,044	0	0.00000	1.00000	100.00
5.5	23,551,619	0	0.00000	1.00000	100.00
6.5	20,114,898	0	0.00000	1.00000	100.00
7.5	19,919,459	0	0.00000	1.00000	100.00
8.5	17,431,200	0	0.00000	1.00000	100.00
9.5	17,406,670	0	0.00000	1.00000	100.00
10.5	17,280,431	0	0.00000	1.00000	100.00
11.5	17,217,219	0	0.00000	1.00000	100.00
12.5	16,635,257	0	0.00000	1.00000	100.00
13.5	15,873,336	256,758	0.01618	0.98382	100.00
14.5	15,254,770	0	0.00000	1.00000	98.38
15.5	15,209,748	0	0.00000	1.00000	98.38
16.5	13,026,500	0	0.00000	1.00000	98.38
17.5	12,952,493	0	0.00000	1.00000	98.38
18.5	12,947,339	0	0.00000	1.00000	98.38
19.5	12,947,339	0	0.00000	1.00000	98.38
20.5	12,924,539	0	0.00000	1.00000	98.38
21.5	12,924,539	0	0.00000	1.00000	98.38
22.5	11,315,369	0	0.00000	1.00000	98.38
23.5	10,924,734	0	0.00000	1.00000	98.38
24.5	10,924,734	0	0.00000	1.00000	98.38
25.5	10,924,734	0	0.00000	1.00000	98.38
26.5	10,924,632	0	0.00000	1.00000	98.38
27.5	10,919,122	0	0.00000	1.00000	98.38
28.5	8,325,174	0	0.00000	1.00000	98.38
29.5	8,123,185	0	0.00000	1.00000	98.38
30.5	8,123,185	0	0.00000	1.00000	98.38
31.5	8,022,486	0	0.00000	1.00000	98.38
32.5	7,929,481	0	0.00000	1.00000	98.38
33.5	7,929,481	0	0.00000	1.00000	98.38
34.5	7,911,161	0	0.00000	1.00000	98.38
35.5	7,911,161	24,755	0.00313	0.99687	98.38
36.5	7,854,828	0	0.00000	1.00000	98.07
37.5	7,854,828	0	0.00000	1.00000	98.07
38.5	7,853,377	0	0.00000	1.00000	98.07
39.5	7,853,377	21,388	0.00272	0.99728	98.07

Énergir

Account Z4052 - STOCKING - BUILDING INFRASTRUCTURE

RETIREMENT RATE ANALYSIS

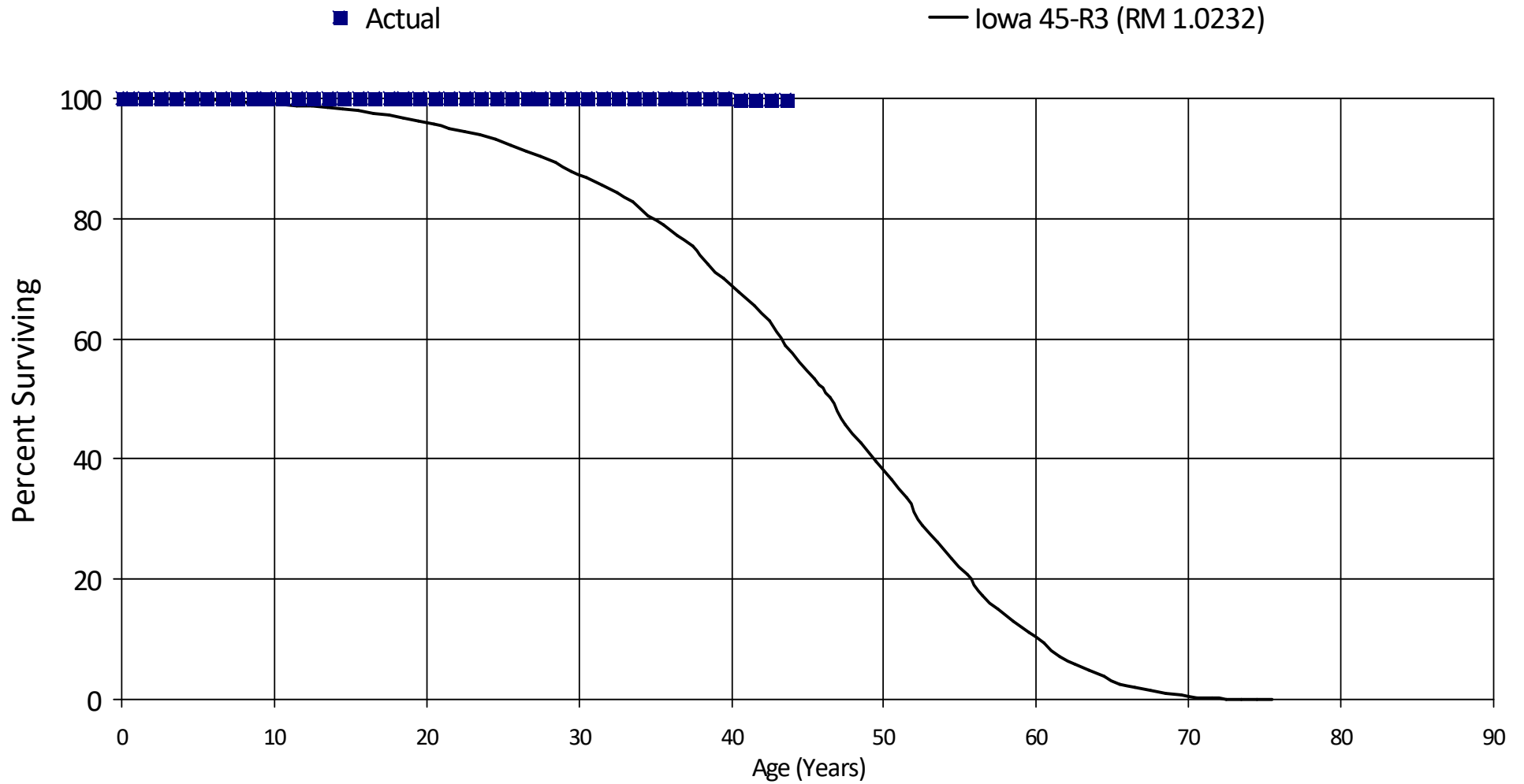
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	287,253	0	0.00000	1.00000	97.80
41.5	287,253	0	0.00000	1.00000	97.80
42.5	287,253	0	0.00000	1.00000	97.80
43.5	287,253	8,793	0.03061	0.96939	97.80
44.5	0	0	0.00000	0.00000	94.81
Totals:	586,587,924	311,694			

Énergir

Account Z4052 - STOCKING - BUILDING INFRASTRUCTURE

Actual and Smooth Survivor Curves

Placement Band - 1975 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z4101 - STOCKING - MECHANICAL EQUIPMENT

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	13,158,226	0	0.00000	1.00000	100.00
0.5	11,473,531	0	0.00000	1.00000	100.00
1.5	11,424,835	0	0.00000	1.00000	100.00
2.5	10,851,657	0	0.00000	1.00000	100.00
3.5	10,032,924	0	0.00000	1.00000	100.00
4.5	8,961,660	0	0.00000	1.00000	100.00
5.5	8,881,949	0	0.00000	1.00000	100.00
6.5	8,478,751	0	0.00000	1.00000	100.00
7.5	8,478,751	0	0.00000	1.00000	100.00
8.5	8,478,751	0	0.00000	1.00000	100.00
9.5	8,352,682	0	0.00000	1.00000	100.00
10.5	7,977,898	0	0.00000	1.00000	100.00
11.5	7,938,788	0	0.00000	1.00000	100.00
12.5	7,798,541	0	0.00000	1.00000	100.00
13.5	7,422,587	0	0.00000	1.00000	100.00
14.5	7,240,543	0	0.00000	1.00000	100.00
15.5	7,066,900	0	0.00000	1.00000	100.00
16.5	6,325,546	0	0.00000	1.00000	100.00
17.5	6,309,585	0	0.00000	1.00000	100.00
18.5	5,978,199	0	0.00000	1.00000	100.00
19.5	5,918,584	10,468	0.00177	0.99823	100.00
20.5	5,899,187	0	0.00000	1.00000	99.82
21.5	5,744,686	0	0.00000	1.00000	99.82
22.5	5,537,993	0	0.00000	1.00000	99.82
23.5	5,537,993	0	0.00000	1.00000	99.82
24.5	5,537,993	0	0.00000	1.00000	99.82
25.5	5,528,934	0	0.00000	1.00000	99.82
26.5	5,440,289	0	0.00000	1.00000	99.82
27.5	5,316,113	0	0.00000	1.00000	99.82
28.5	5,316,113	0	0.00000	1.00000	99.82
29.5	5,316,113	0	0.00000	1.00000	99.82
30.5	5,316,113	0	0.00000	1.00000	99.82
31.5	5,205,659	0	0.00000	1.00000	99.82
32.5	5,192,098	0	0.00000	1.00000	99.82
33.5	5,041,694	152,281	0.03020	0.96980	99.82
34.5	4,123,062	0	0.00000	1.00000	96.81
35.5	4,112,720	184,951	0.04497	0.95503	96.81
36.5	3,843,027	30,721	0.00799	0.99201	92.46
37.5	3,812,305	62,145	0.01630	0.98370	91.72
38.5	3,748,538	0	0.00000	1.00000	90.22
39.5	3,748,538	164,477	0.04388	0.95612	90.22

Énergir

Account Z4101 - STOCKING - MECHANICAL EQUIPMENT

RETIREMENT RATE ANALYSIS

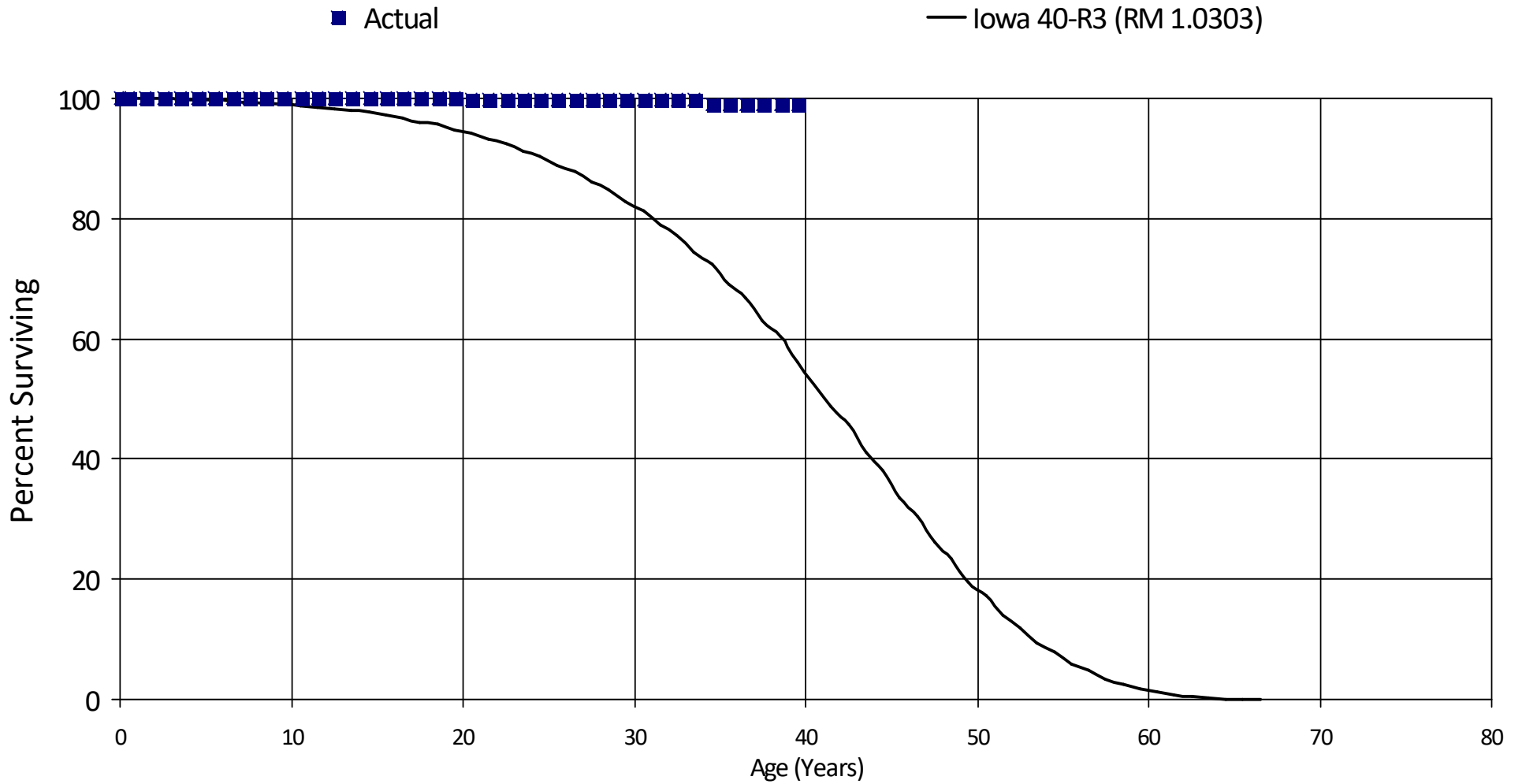
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	0	0	0.00000	0.00000	86.26
Totals:	277,870,057	605,043			

Énergir

Account Z4101 - STOCKING - MECHANICAL EQUIPMENT

Actual and Smooth Survivor Curves

Placement Band - 1979 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z4102 - STOCKING - ELECTRONIC EQUIPMENT

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	2,664,951	0	0.00000	1.00000	100.00
0.5	2,398,149	0	0.00000	1.00000	100.00
1.5	2,398,149	0	0.00000	1.00000	100.00
2.5	2,215,968	0	0.00000	1.00000	100.00
3.5	2,166,292	0	0.00000	1.00000	100.00
4.5	2,166,292	0	0.00000	1.00000	100.00
5.5	2,166,292	0	0.00000	1.00000	100.00
6.5	2,134,026	0	0.00000	1.00000	100.00
7.5	1,835,682	0	0.00000	1.00000	100.00
8.5	1,835,682	0	0.00000	1.00000	100.00
9.5	1,835,682	0	0.00000	1.00000	100.00
10.5	1,835,682	0	0.00000	1.00000	100.00
11.5	1,835,682	0	0.00000	1.00000	100.00
12.5	1,599,322	0	0.00000	1.00000	100.00
13.5	1,331,304	0	0.00000	1.00000	100.00
14.5	1,272,565	0	0.00000	1.00000	100.00
15.5	1,272,565	6,200	0.00487	0.99513	100.00
16.5	1,160,809	4,808	0.00414	0.99586	99.51
17.5	984,388	0	0.00000	1.00000	99.10
18.5	984,388	0	0.00000	1.00000	99.10
19.5	984,388	0	0.00000	1.00000	99.10
20.5	984,388	29,792	0.03026	0.96974	99.10
21.5	954,596	0	0.00000	1.00000	96.10
22.5	947,255	0	0.00000	1.00000	96.10
23.5	855,034	0	0.00000	1.00000	96.10
24.5	584,815	0	0.00000	1.00000	96.10
25.5	584,815	0	0.00000	1.00000	96.10
26.5	584,815	0	0.00000	1.00000	96.10
27.5	584,815	0	0.00000	1.00000	96.10
28.5	584,815	0	0.00000	1.00000	96.10
29.5	566,561	0	0.00000	1.00000	96.10
30.5	566,561	0	0.00000	1.00000	96.10
31.5	566,561	0	0.00000	1.00000	96.10
32.5	561,108	0	0.00000	1.00000	96.10
33.5	561,108	10,000	0.01782	0.98218	96.10
34.5	551,108	0	0.00000	1.00000	94.39
35.5	551,108	0	0.00000	1.00000	94.39
36.5	550,245	0	0.00000	1.00000	94.39
37.5	550,245	67,649	0.12294	0.87706	94.39
38.5	482,596	0	0.00000	1.00000	82.79
39.5	482,596	0	0.00000	1.00000	82.79

Énergir

Account Z4102 - STOCKING - ELECTRONIC EQUIPMENT

RETIREMENT RATE ANALYSIS

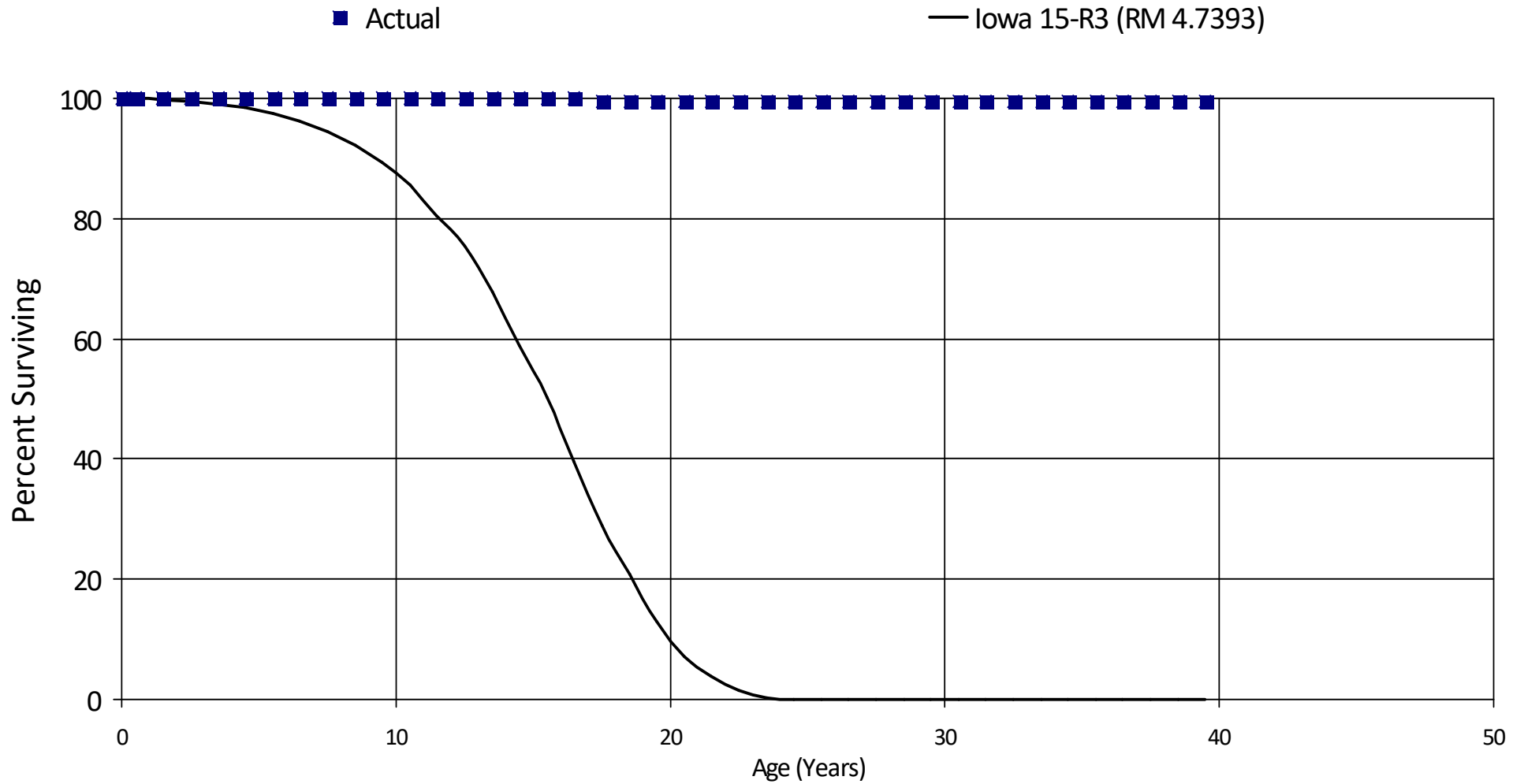
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
40.5	0	0	0.00000	0.00000	82.79
Totals:	49,733,397	118,449			

Énergir

Account Z4102 - STOCKING - ELECTRONIC EQUIPMENT

Actual and Smooth Survivor Curves

Placement Band - 1979 - 2019 Experience Band - 2019 - 2019



Énergir

Account Z4103 - STOCKING - SPECIALIZED EQUIPMENT

RETIREMENT RATE ANALYSIS

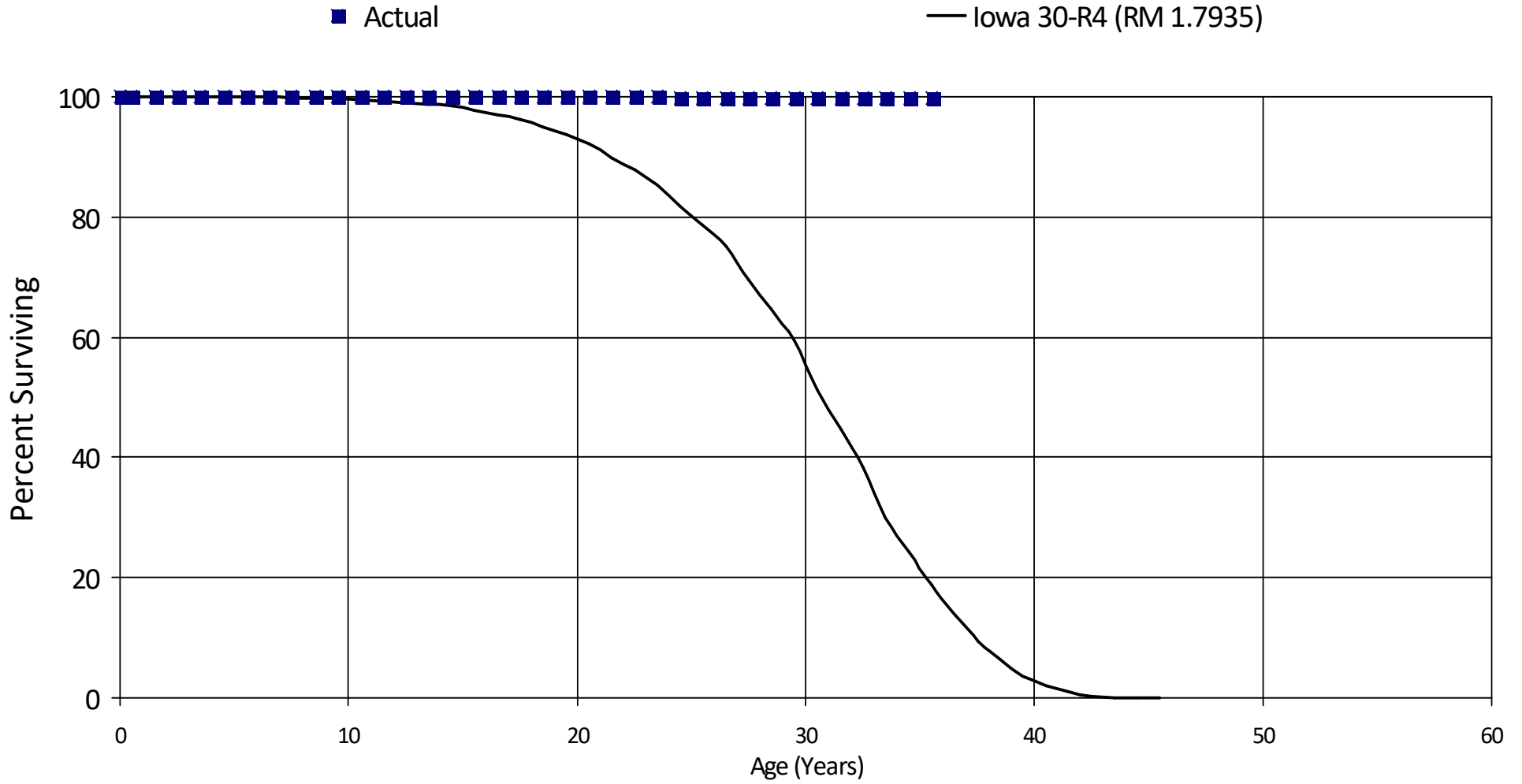
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	3,406,346	0	0.00000	1.00000	100.00
0.5	3,228,473	0	0.00000	1.00000	100.00
1.5	3,228,473	0	0.00000	1.00000	100.00
2.5	3,138,229	3,000	0.00096	0.99904	100.00
3.5	2,560,175	0	0.00000	1.00000	99.90
4.5	2,352,514	0	0.00000	1.00000	99.90
5.5	2,344,240	0	0.00000	1.00000	99.90
6.5	2,344,240	0	0.00000	1.00000	99.90
7.5	2,344,240	0	0.00000	1.00000	99.90
8.5	2,250,095	0	0.00000	1.00000	99.90
9.5	2,250,095	0	0.00000	1.00000	99.90
10.5	2,250,095	0	0.00000	1.00000	99.90
11.5	2,250,095	0	0.00000	1.00000	99.90
12.5	2,250,095	0	0.00000	1.00000	99.90
13.5	2,250,095	0	0.00000	1.00000	99.90
14.5	2,250,095	0	0.00000	1.00000	99.90
15.5	2,250,095	0	0.00000	1.00000	99.90
16.5	2,188,176	0	0.00000	1.00000	99.90
17.5	2,188,176	0	0.00000	1.00000	99.90
18.5	2,188,176	0	0.00000	1.00000	99.90
19.5	2,188,176	0	0.00000	1.00000	99.90
20.5	2,188,176	69,707	0.03186	0.96814	99.90
21.5	2,118,469	28,013	0.01322	0.98678	96.72
22.5	2,090,456	0	0.00000	1.00000	95.44
23.5	2,090,456	2,000	0.00096	0.99904	95.44
24.5	1,995,463	0	0.00000	1.00000	95.35
25.5	855,985	0	0.00000	1.00000	95.35
26.5	325,256	0	0.00000	1.00000	95.35
27.5	321,259	0	0.00000	1.00000	95.35
28.5	321,259	0	0.00000	1.00000	95.35
29.5	315,396	0	0.00000	1.00000	95.35
30.5	315,396	0	0.00000	1.00000	95.35
31.5	25,396	0	0.00000	1.00000	95.35
32.5	25,396	0	0.00000	1.00000	95.35
33.5	25,396	0	0.00000	1.00000	95.35
34.5	22,225	0	0.00000	1.00000	95.35
35.5	22,225	0	0.00000	1.00000	95.35
36.5	0	0	0.00000	0.00000	95.35
Totals:	64,758,601	102,720			

Énergir

Account Z4103 - STOCKING - SPECIALIZED EQUIPMENT

Actual and Smooth Survivor Curves

Placement Band - 1983 - 2019 Experience Band - 2019 - 2019





SECTION 7

7 NET SALVAGE CALCULATIONS

ENERGIR

Z11.00 - DISTRIBUTION BRANCH (SERVICE) - STEEL SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2002	509,680	-83,131	-16	0	0	-83,131	-16	-27,710	-16	-16,626	-16	-83,131	-16
2003	843,820	-24,107	-3	0	0	-24,107	-3	-35,746	-8	-21,448	-8	-53,619	-8
2004	338,058	-131,961	-39	0	0	-131,961	-39	-79,733	-14	-47,840	-14	-79,733	-14
2005	86,731	-100,186	-116	0	0	-100,186	-116	-85,418	-20	-67,877	-19	-84,846	-19
2006	1,111,263	-46,494	-4	0	0	-46,494	-4	-92,880	-18	-77,176	-13	-77,176	-13
2007	1,459,098	-106,314	-7	0	0	-106,314	-7	-84,331	-10	-81,812	-11	-82,032	-11
2008	812,500	-177,921	-22	0	0	-177,921	-22	-110,243	-10	-112,575	-15	-95,731	-13
2009	1,180,994	-87,153	-7	0	0	-87,153	-7	-123,796	-11	-103,614	-11	-94,658	-12
2010	2,049,461	-479,074	-23	0	0	-479,074	-23	-248,049	-18	-179,391	-14	-137,371	-15
2011	1,070,721	-811,551	-76	0	0	-811,551	-76	-459,259	-32	-332,403	-25	-204,789	-22
2012	3,306,945	-662,226	-20	0	0	-662,226	-20	-650,950	-30	-443,585	-26	-246,374	-21
2013	1,658,756	-506,419	-31	0	0	-506,419	-31	-660,065	-33	-509,285	-27	-268,045	-22
2014	1,816,704	-334,424	-18	0	0	-334,424	-18	-501,023	-22	-558,739	-28	-273,151	-22
2015	4,300,793	-700,155	-16	0	0	-700,155	-16	-513,666	-20	-602,955	-25	-303,651	-21
2016	1,320,838	-1,127,863	-85	0	0	-1,127,863	-85	-720,814	-29	-666,217	-27	-358,599	-25
2017	887,611	-869,121	-98	0	0	-869,121	-98	-899,046	-41	-707,596	-35	-390,506	-27
2018	1,001,121	-1,352,153	-135	0	0	-1,352,153	-135	-1,116,379	-104	-876,743	-47	-447,074	-32
2019	812,829	-428,011	-53	0	0	-428,011	-53	-883,095	-98	-895,461	-54	-446,015	-33
TOTAL	24,567,923	-8,028,264	-33	0	0	-8,028,264	-33						

ENERGIR

Z11.01 - DISTRIBUTION BRANCH (SERVICE) - COPPER INSERTS

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2002	1,234		0	0	0	0	0	0	0	0	0	0	0
2003	4,117		0	0	0	0	0	0	0	0	0	0	0
2004	193		0	0	0	0	0	0	0	0	0	0	0
2005				0		0		0	0	0	0		
2006				0		0		0	0	0	0		
2007	48		0	0	0	0	0	0	0	0	0	0	0
2008				0		0		0	0	0	0		
2009				0		0		0	0	0	0		
2010				0		0		0	0	0	0		
2011	3,058		0	0	0	0	0	0	0	0	0	0	0
2012	1,758		0	0	0	0	0	0	0	0	0	0	0
2013				0		0		0	0	0	0		
2014				0		0		0	0	0	0		
2015	1,710		0	0	0	0	0	0	0	0	0	0	0
2016				0		0		0	0	0	0		
2017	96		0	0	0	0	0	0	0	0	0	0	0
2018				0		0		0	0	0	0		
2019				0		0		0	0	0	0		
TOTAL	12,215	0	0	0		0	0						

ENERGIR

Z11.02 - DISTRIBUTION BRANCH (SERVICE) - DIRECT PLASTIC SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2002	2,248,686	-647,476	-29	0	0	-647,476	-29	-215,825	-29	-129,495	-29	-647,476	-29
2003	1,713,413	-735,749	-43	0	0	-735,749	-43	-461,075	-35	-276,645	-35	-691,613	-35
2004	1,315,043	-632,093	-48	0	0	-632,093	-48	-671,773	-38	-403,064	-38	-671,773	-38
2005	480,611	-934,902	-195	0	0	-934,902	-195	-767,581	-66	-590,044	-51	-737,555	-51
2006	1,134,886	-1,222,860	-108	0	0	-1,222,860	-108	-929,952	-95	-834,616	-61	-834,616	-61
2007	2,024,687	-972,614	-48	0	0	-972,614	-48	-1,043,459	-86	-899,644	-67	-857,616	-58
2008	1,990,816	-1,042,679	-52	0	0	-1,042,679	-52	-1,079,384	-63	-961,030	-69	-884,053	-57
2009	635,841	-1,494,356	-235	0	0	-1,494,356	-235	-1,169,883	-75	-1,133,482	-90	-960,341	-67
2010	2,680,159	-1,331,000	-50	0	0	-1,331,000	-50	-1,289,345	-73	-1,212,702	-72	-1,001,525	-63
2011	1,036,678	-1,147,378	-111	0	0	-1,147,378	-111	-1,324,245	-91	-1,197,605	-72	-1,016,111	-67
2012	2,215,661	-2,201,330	-99	0	0	-2,201,330	-99	-1,559,903	-79	-1,443,349	-84	-1,123,858	-71
2013	1,187,027	-2,198,366	-185	0	0	-2,198,366	-185	-1,849,025	-125	-1,674,486	-108	-1,213,400	-78
2014	1,182,219	-2,220,447	-188	0	0	-2,220,447	-188	-2,206,714	-144	-1,819,704	-110	-1,290,865	-85
2015	990,240	-1,518,905	-153	0	0	-1,518,905	-153	-1,979,239	-177	-1,857,285	-140	-1,307,154	-88
2016	1,513,730	-1,688,063	-112	0	0	-1,688,063	-112	-1,809,138	-147	-1,965,422	-139	-1,332,548	-89
2017	1,194,805	-1,751,591	-147	0	0	-1,751,591	-147	-1,652,853	-134	-1,875,474	-155	-1,358,738	-92
2018	1,144,305	-2,135,944	-187	0	0	-2,135,944	-187	-1,858,533	-145	-1,862,990	-155	-1,404,456	-97
2019	1,354,066	-2,936,984	-217	0	0	-2,936,984	-217	-2,274,840	-185	-2,006,297	-162	-1,489,596	-103
TOTAL	26,042,873	-26,812,736	-103	0		-26,812,736	-103						

ENERGIR

Z11.03 - DISTRIBUTION BRANCH (SERVICE) - INSERT PLASTIC

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2010	407,088	-387,480	-95	0	0	-387,480	-95	-129,160	-95	-77,496	-95	-387,480	-95
2011	257,989	-575,866	-223	0	0	-575,866	-223	-321,115	-145	-192,669	-145	-481,673	-145
2012	414,602	-370,027	-89	0	0	-370,027	-89	-444,458	-123	-266,675	-123	-444,458	-123
2013	264,176	-69,113	-26	0	0	-69,113	-26	-338,335	-108	-280,497	-104	-350,622	-104
2014	260,211	-27,154	-10	0	0	-27,154	-10	-155,431	-50	-285,928	-89	-285,928	-89
2015	264,970	-495,715	-187	0	0	-495,715	-187	-197,327	-75	-307,575	-105	-320,893	-103
2016	316,826	-600,845	-190	0	0	-600,845	-190	-374,571	-133	-312,571	-103	-360,886	-116
2017	221,710	-541,757	-244	0	0	-541,757	-244	-546,106	-204	-346,917	-131	-383,495	-127
2018	417,033	-415,645	-100	0	0	-415,645	-100	-519,416	-163	-416,223	-141	-387,067	-123
2019	205,670	-181,286	-88	0	0	-181,286	-88	-579,845	-150	-452,481	-134	-366,489	-121
TOTAL	3,030,275	-3,664,889	-121	0	0	-3,664,889	-121						

ENERGIR

Z11.04 - DISTRIBUTION BRANCH (SERVICE) - PRE-RELEASE PLASTIC SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2003	0	-21,232		0		-21,232						-21,232	
2004	0	1,561		0		1,561						-9,836	
2005						0		-6,557	0			-9,836	
2006						0		520	0			-9,836	
2007	0	-86		0		-86		-29	0	-3,951	0	-6,586	
2008						0		-29	0	295	0	-6,586	
2009						0		-29	0	-17	0	-6,586	
2010						0		0	0	-17	0	-6,586	
2011						0		0	0	-17	0	-6,586	
2012						0		0	0	0	0	-6,586	
2013						0		0	0	0	0	-6,586	
2014						0		0	0	0	0	-6,586	
2015						0		0	0	0	0	-6,586	
2016						0		0	0	0	0	-6,586	
2017	3,044		0		0	0	0	0	0	0	0	-6,586	-649
2018		-3,006				-3,006		-1,002	-99	-601	-99	-5,691	-748
2019						0		-1,002	-99	-601	-99	-5,691	-748
TOTAL	3,044	-22,763	-748	0		-22,763	-748						

ENERGIR

Z11.05 - DISTRIBUTION BRANCH (SERVICE) - PRE-RELEASE STEEL

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2006		-45,848		0		-45,848						-45,848	
2007		-231		0		-231						-23,040	
2008		-20,491		0		-20,491		-22,190	0			-22,190	
2009		-125,167		0		-125,167		-48,630	0			-47,934	
2010						0		-48,553	0	-38,347	0	-47,934	
2011						0		-41,722	0	-29,178	0	-47,934	
2012						0		0	0	-29,132	0	-47,934	
2013						0		0	0	-25,033	0	-47,934	
2014						0		0	0	0	0	-47,934	
2015		-309				-309		-103	0	-62	0	-38,409	
2016		0				0		-103	0	-62	0	-38,409	
2017		-7,606				-7,606		-2,638	0	-1,583	0	-33,275	
2018		-3,696				-3,696		-3,768	0	-2,322	0	-29,050	
2019		-10,043	0			-10,043	0	-7,115	0	-4,331	0	-26,674	
TOTAL	0	-213,391		0		-213,391							

ENERGIR

Z11.50 - DISTRIBUTION - MAIN PIPE STEEL

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2002	32,107	-30,489	-95	0	0	-30,489	-95	-10,163	-95	-6,098	-95	-30,489	-95
2003	128,798	-8,049	-6	0	0	-8,049	-6	-12,846	-24	-7,708	-24	-19,269	-24
2004	1,357,165	-4,411	0	0	0	-4,411	0	-14,316	-3	-8,590	-3	-14,316	-3
2005	1,813,172	-64,661	-4	0	0	-64,661	-4	-25,707	-2	-21,522	-3	-26,903	-3
2006	3,109,562	-282,951	-9	0	0	-282,951	-9	-117,341	-6	-78,112	-6	-78,112	-6
2007	570,781	-570,014	-100	0	0	-570,014	-100	-305,875	-17	-186,017	-13	-160,096	-14
2008	621,452	-305,313	-49	0	0	-305,313	-49	-386,093	-27	-245,470	-16	-180,841	-17
2009	2,471,338	-426,937	-17	0	0	-426,937	-17	-434,088	-36	-329,975	-19	-211,603	-17
2010	3,237,122	-676,156	-21	0	0	-676,156	-21	-469,469	-22	-452,274	-23	-263,220	-18
2011	4,141,983	-999,349	-24	0	0	-999,349	-24	-700,814	-21	-595,554	-27	-336,833	-19
2012	8,169,113	-2,097,350	-26	0	0	-2,097,350	-26	-1,257,618	-24	-901,021	-24	-496,880	-21
2013	2,063,598	-888,133	-43	0	0	-888,133	-43	-1,328,277	-28	-1,017,585	-25	-529,484	-23
2014	2,891,105	-821,866	-28	0	0	-821,866	-28	-1,269,116	-29	-1,096,571	-27	-551,975	-23
2015	2,770,519	-1,204,807	-43	0	0	-1,204,807	-43	-971,602	-38	-1,202,301	-30	-598,606	-25
2016	2,616,093	-1,221,534	-47	0	0	-1,221,534	-47	-1,082,736	-39	-1,246,738	-34	-640,135	-27
2017	3,521,973	-1,199,389	-34	0	0	-1,199,389	-34	-1,208,577	-41	-1,067,146	-38	-675,088	-27
2018	2,846,685	-1,427,712	-50	0	0	-1,427,712	-50	-1,282,878	-43	-1,175,062	-40	-719,360	-29
2019	917,554	-1,071,426	-117	0	0	-1,071,426	-117	-2,315,578	-45	-1,986,443	-39	-738,919	-31
TOTAL	43,280,120	-13,300,547	-31	0	0	-13,300,547	-31						

ENERGIR

Z11.51 - DISTRIBUTION - MAIN PIPE DIRECT PLASTIC SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2002	72,693	-32,587	-45	0	0	-32,587	-45	-10,862	-45	-6,517	-45	-32,587	-45
2003	118,431	-7,853	-7	0	0	-7,853	-7	-13,480	-21	-8,088	-21	-20,220	-21
2004	236,966	-20,114	-8	0	0	-20,114	-8	-20,185	-14	-12,111	-14	-20,185	-14
2005	524,687	-28,827	-5	0	0	-28,827	-5	-18,931	-6	-17,876	-9	-22,345	-9
2006	597,099	-28,626	-5	0	0	-28,626	-5	-25,856	-6	-23,601	-8	-23,601	-8
2007	542,124	-58,412	-11	0	0	-58,412	-11	-38,622	-7	-28,766	-7	-29,403	-8
2008	653,328	-35,677	-5	0	0	-35,677	-5	-40,905	-7	-34,331	-7	-30,299	-8
2009	500,565	-72,729	-15	0	0	-72,729	-15	-55,606	-10	-44,854	-8	-35,603	-9
2010	876,694	-140,511	-16	0	0	-140,511	-16	-82,972	-12	-67,191	-11	-47,260	-10
2011	749,886	-15,147	-2	0	0	-15,147	-2	-76,129	-11	-64,495	-10	-44,048	-9
2012	865,024	-47,493	-5	0	0	-47,493	-5	-67,717	-8	-62,311	-9	-44,361	-9
2013	812,799	-36,346	-4	0	0	-36,346	-4	-32,995	-4	-62,445	-8	-43,694	-8
2014	881,209	-23,507	-3	0	0	-23,507	-3	-35,782	-4	-52,601	-6	-42,141	-7
2015	1,403,119	-55,551	-4	0	0	-55,551	-4	-38,468	-4	-35,609	-4	-43,099	-7
2016	795,822	-46,147	-6	0	0	-46,147	-6	-41,735	-4	-41,809	-4	-43,302	-7
2017	629,003	-231,865	-37	0	0	-231,865	-37	-111,188	-12	-78,683	-9	-55,087	-9
2018	809,527	-217,337	-27	0	0	-217,337	-27	-165,117	-22	-114,882	-13	-64,631	-10
2019	288,017	-101,045	-35	0	0	-101,045	-35	-183,416	-32	-130,389	-17	-66,654	-11
TOTAL	11,356,993	-1,199,775	-11	0	0	-1,199,775	-10.56						

ENERGIR

Z11.52 - DISTRIBUTION - MAIN PIPE PLASTIC INSERTS

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2002	719		0	0	0	0	0	0	0	0	0		0
2003				0	0	0	0	0	0	0	0		
2004				0	0	0	0	0	0	0	0		
2005				0	0	0	0	0	0	0	0		
2006				0	0	0	0	0	0	0	0		
2007				0	0	0	0	0	0	0	0		
2008				0	0	0	0	0	0	0	0		
2009				0	0	0	0	0	0	0	0		
2010				0	0	0	0	0	0	0	0		
2011	25,765		0	0	0	0	0	0	0	0	0		0
2012	43,822		0	0	0	0	0	0	0	0	0		0
2013	73,415		0	0	0	0	0	0	0	0	0		0
2014	320,977		0	0	0	0	0	0	0	0	0		0
2015	74,231		0	0	0	0	0	0	0	0	0		0
2016	87,064		0	0	0	0	0	0	0	0	0		0
2017	27,639		0	0	0	0	0	0	0	0	0		0
2018	7,344		0	0	0	0	0	0	0	0	0		0
2019	3,036		0	0	0	0	0	0	0	0	0		0
TOTAL	664,012	0	0	0	0	0	0.00						

ENERGIR
Z12.00 - DISTRIBUTION METER
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2002	833,706		0	0	0	0	0	0	0	0	0		0
2003	1,318,626		0	0	0	0	0	0	0	0	0		0
2004	384,896		0	0	0	0	0	0	0	0	0		0
2005	825,668		0	0	0	0	0	0	0	0	0		0
2006	3,726,579		0	0	0	0	0	0	0	0	0		0
2007	5,273,975		0	0	0	0	0	0	0	0	0		0
2008	7,919,903		0	0	0	0	0	0	0	0	0		0
2009	6,180,726		0	0	0	0	0	0	0	0	0		0
2010	7,473,882		0	0	0	0	0	0	0	0	0		0
2011	8,390,455		0	0	0	0	0	0	0	0	0		0
2012	7,284,575		0	0	0	0	0	0	0	0	0		0
2013	6,315,849		0	0	0	0	0	0	0	0	0		0
2014	6,154,772		0	0	0	0	0	0	0	0	0		0
2015	5,581,601		0	0	0	0	0	0	0	0	0		0
2016	6,175,991		0	0	0	0	0	0	0	0	0		0
2017	5,230,993		0	0	0	0	0	0	0	0	0		0
2018	6,858,641		0	0	0	0	0	0	0	0	0		0
2019	7,802,547		0	0	0	0	0	0	0	0	0		0
TOTAL	93,733,383	0	0	0	0	0	0.00						

ENERGIR

Z12.50 - DISTRIBUTION DELIVERY STATION - EQUIPMENT

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2010	90,155	-10,637	-12	0	0	-10,637	-12	-3,546	-12	-2,127	-12	-10,637	-12
2011	4,519	-60,666	-1,342	0	0	-60,666	-1,342	-23,768	-75	-14,261	-75	-35,652	-75
2012	2,707,379	-15,910	-1	0	0	-15,910	-1	-29,071	-3	-17,443	-3	-29,071	-3
2013	276,256	-126,521	-46	0	0	-126,521	-46	-67,699	-7	-42,747	-7	-53,434	-7
2014	75,138	-102,391	-136	0	0	-102,391	-136	-81,607	-8	-63,225	-10	-63,225	-10
2015	344,808	-73,236	-21	0	0	-73,236	-21	-100,716	-43	-75,745	-11	-64,894	-11
2016	325,728	-623,012	-191	0	0	-623,012	-191	-266,213	-107	-188,214	-25	-144,625	-26
2017	314,659	-175,713	-56	0	0	-175,713	-56	-290,654	-89	-220,175	-82	-148,511	-29
2018	377,452	-313,019	-83	0	0	-313,019	-83	-370,581	-109	-257,474	-90	-166,789	-33
2019	3,184,661	-785,210	-25	0	0	-785,210	-25	-424,647	-33	-394,038	-43	-228,632	-30
TOTAL	7,700,755	-2,286,315	-30	0	0	-2,286,315	-30						

ENERGIR

Z12.51 - DISTRIBUTION DELIVERY STATION - CIVIL BUILDING

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2010	7,705		0	0	0	0	0	0	0	0	0		0
2011	1,237		0	0	0	0	0	0	0	0	0		0
2012				0		0		0	0	0	0		0
2013	27,029		0	0	0	0	0	0	0	0	0		0
2014				0		0		0	0	0	0		0
2015	10,784	0	0	0	0	0	0	0	0	0	0		0
2016		0		0		0		0	0	0	0		0
2017	53,534	-3,481	-7	0	0	-3,481	-7	-1,160	-5	-696	-4	-3,481	-3
2018	205,225	-1,429	-1	0	0	-1,429	-1	-1,637	-2	-982	-2	-2,455	-2
2019	340,905	-5,010	-1	0	0	-5,010	-1	-3,307	-2	-1,984	-2	-3,307	-2
TOTAL	646,419	-9,920	-2	0		-9,920	-2						

ENERGIR

Z13.00 - DISTRIBUTION RELEASE STATION - EQUIPMENT

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2002	268,529	-2,013	-1	0	0	-2,013	-1	-671	-1	-403	-1	-2,013	-1
2003	232,590	-71,290	-31	0	0	-71,290	-31	-24,434	-15	-14,661	-15	-36,652	-15
2004		-42,327		0		-42,327		-38,543	-23	-23,126	-23	-38,543	-23
2005	580,908	-4,246	-1	0	0	-4,246	-1	-39,288	-14	-23,975	-11	-29,969	-11
2006	184,318	-42,219	-23	0	0	-42,219	-23	-29,597	-12	-32,419	-13	-32,419	-13
2007	288,558	-425,524	-147	0	0	-425,524	-147	-157,330	-45	-117,121	-46	-97,937	-38
2008	501,240	-169,343	-34	0	0	-169,343	-34	-212,362	-65	-136,732	-44	-108,137	-37
2009	680,688	-184,097	-27	0	0	-184,097	-27	-259,655	-53	-165,086	-37	-117,632	-34
2010	1,074,002	-50,189	-5	0	0	-50,189	-5	-134,543	-18	-174,274	-32	-110,139	-26
2011	701,901	-198,697	-28	0	0	-198,697	-28	-144,328	-18	-205,570	-32	-118,995	-26
2012	48,746	-326,128	-669	0	0	-326,128	-669	-191,671	-32	-185,691	-31	-137,825	-33
2013	526,231	-95,972	-18	0	0	-95,972	-18	-206,932	-49	-171,017	-28	-134,337	-32
2014	133,089	-109,956	-83	0	0	-109,956	-83	-177,352	-75	-156,188	-31	-132,462	-33
2015	66,156	0	0	0	0	0	0	-68,643	-28	-146,151	-50	-132,462	-33
2016	8,887	0	0	0	0	0	0	-36,652	-53	-106,411	-68	-132,462	-33
2017	18,300	0	0	0	0	0	0	0	0	-41,186	-27	-132,462	-32
2018	129,108	-52,123	-40	0	0	-52,123	-40	-17,374	-33	-32,416	-46	-126,723	-33
2019	16,805	-9,711	-58	0	0	-9,711	-58	-20,611	-38	-12,367	-26	-118,922	-33
TOTAL	5,460,056	-1,783,834	-33	0		-1,783,834	-33						

ENERGIR

Z13.01 - DISTRIBUTION RELEASE STATION - CIVIL BUILDING

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2010	70,821		0	0	0	0	0	0	0	0	0		0
2011	61,177		0	0	0	0	0	0	0	0	0		0
2012	4,731		0	0	0	0	0	0	0	0	0		0
2013	22,366		0	0	0	0	0	0	0	0	0		0
2014	6,176		0	0	0	0	0	0	0	0	0		0
2015	11,892	-54,828	-461	0	0	-54,828	-461	-18,276	-136	-10,966	-52	-54,828	-31
2016	5,000	-18,265	-365	0	0	-18,265	-365	-24,364	-317	-14,619	-146	-36,547	-40
2017	11,719	-36,454	-311	0	0	-36,454	-311	-36,516	-383	-21,910	-192	-36,516	-57
2018	18,568	0	0	0	0	0	0	-18,240	-155	-21,910	-205	-36,516	-52
2019	19,253	0	0	0	0	0	0	-12,151	-74	-21,910	-165	-36,516	-47
TOTAL	231,702	-109,548	-47	0		-109,548	-47.28						

ENERGIR

Z31.00 - TRANSMISSION - MAIN PIPE

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2008	0	-45,551		0		-45,551		-15,184	0	-9,110	0	-45,551	
2009	0	0		0		0		-15,184	0	-9,110	0	-45,551	
2010	0	0		0		0		-15,184	0	-9,110	0	-45,551	
2011	0	0		0		0		0	0	-9,110	0	-45,551	
2012	0	0		0		0		0	0	-9,110	0	-45,551	
2013	10,041	-11,619	-116	0	0	-11,619	-116	-3,873	-116	-2,324	-116	-28,585	-569
2014	381,912	-18,660	-5	0	0	-18,660	-5	-10,093	-8	-6,056	-8	-25,277	-19
2015	3,429	-18,365	-536	0	0	-18,365	-536	-16,215	-12	-9,729	-12	-23,549	-24
2016	690,684	-6,915	-1	0	0	-6,915	-1	-14,647	-4	-11,112	-5	-20,222	-9
2017	2,832	-398,324	-14,065	0	0	-398,324	-14,065	-141,201	-61	-90,777	-42	-83,239	-46
2018	64,786	-147,612	-228	0	0	-147,612	-228	-184,284	-73	-117,975	-52	-92,435	-56
2019	181,539	-63,750	-35	0	0	-63,750	-35	-203,229	-245	-126,993	-67	-88,850	-53
TOTAL	1,335,223	-710,796	-53	0		-710,796	-53						

ENERGIR

Z31.20 Transmission Compression Equipment

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018	0			0		0		0	0	0	0		
2019	0			0		0		0	0	0	0		
TOTAL	0	0		0		0							

ENERGIR

Z31.30 TRANSMISSION Compression - CIVIL BUILDING

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018	0			0		0		0	0	0	0		
2019	0			0		0		0	0	0	0		
TOTAL	0	0		0		0							



SECTION 8

8 DETAILED DEPRECIATION CALCULATIONS

Account #: Z1050 - DISTRIBUTION SERVITUDE (EASEMENT)
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: SQ
 ASL: 70
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1967	4,684.92	3,495	3,583	0.7647	1,102	17.79	62	52.5
1975	1,488,371.20	940,104	963,785	0.6475	524,587	25.79	20,344	44.5
1976	3,829.91	2,364	2,424	0.6329	1,406	26.79	52	43.5
1977	3,102.40	1,871	1,918	0.6183	1,184	27.79	43	42.5
1978	27,026.95	15,913	16,314	0.6036	10,713	28.79	372	41.5
1979	1,901.88	1,093	1,120	0.5890	782	29.79	26	40.5
1980	147,744.79	82,767	84,852	0.5743	62,893	30.79	2,043	39.5
1981	46,237.90	25,242	25,878	0.5597	20,360	31.79	641	38.5
1982	201,511.78	107,130	109,829	0.5450	91,683	32.79	2,796	37.5
1983	82,824.18	42,849	43,928	0.5304	38,896	33.79	1,151	36.5
1984	224,077.68	112,725	115,564	0.5157	108,513	34.79	3,119	35.5
1985	303,040.12	148,119	151,850	0.5011	151,190	35.79	4,225	34.5
1986	174,802.34	82,942	85,031	0.4864	89,771	36.79	2,440	33.5
1987	293,946.32	135,275	138,683	0.4718	155,264	37.79	4,109	32.5
1988	297,747.99	132,771	136,116	0.4572	161,632	38.79	4,167	31.5
1989	178,907.95	77,223	79,168	0.4425	99,740	39.79	2,507	30.5
1990	328,057.95	136,914	140,363	0.4279	187,695	40.79	4,602	29.5
1991	236,049.17	95,142	97,539	0.4132	138,510	41.79	3,315	28.5
1992	86,884.24	33,778	34,629	0.3986	52,255	42.79	1,221	27.5
1993	173,708.13	65,052	66,691	0.3839	107,018	43.79	2,444	26.5
1994	49,017.03	17,656	18,101	0.3693	30,916	44.79	690	25.5
1995	423,507.16	146,499	150,189	0.3546	273,318	45.79	5,970	24.5
1996	1,203,645.98	399,168	409,223	0.3400	794,423	46.79	16,980	23.5
1997	144,254.03	45,779	46,932	0.3253	97,322	47.79	2,037	22.5
1998	56,787.76	17,210	17,644	0.3107	39,144	48.79	802	21.5
1999	117,010.12	33,790	34,641	0.2960	82,369	49.79	1,654	20.5

Account #: Z1050 - DISTRIBUTION SERVITUDE (EASEMENT)
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: SQ
 ASL: 70
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2000	193,290.72	53,056	54,393	0.2814	138,898	50.79	2,735	19.5
2001	1,088,929.10	283,344	290,481	0.2668	798,448	51.79	15,418	18.5
2002	222,328.97	54,675	56,052	0.2521	166,277	52.79	3,150	17.5
2003	754,032.76	174,659	179,058	0.2375	574,975	53.79	10,690	16.5
2004	42,704.08	9,282	9,515	0.2228	33,189	54.79	606	15.5
2005	1,175,823.65	238,764	244,779	0.2082	931,045	55.79	16,690	14.5
2006	2,205,195.27	416,287	426,773	0.1935	1,778,422	56.79	31,318	13.5
2007	241,813.81	42,194	43,257	0.1789	198,557	57.79	3,436	12.5
2008	255,187.48	40,882	41,912	0.1642	213,276	58.79	3,628	11.5
2009	212,107.69	30,950	31,730	0.1496	180,378	59.79	3,017	10.5
2010	252,318.35	33,213	34,050	0.1349	218,268	60.79	3,591	9.5
2011	295,578.25	34,685	35,559	0.1203	260,019	61.79	4,208	8.5
2012	398,607.56	41,081	42,116	0.1057	356,492	62.79	5,678	7.5
2013	610,249.03	54,175	55,540	0.0910	554,709	63.79	8,696	6.5
2014	667,049.88	49,688	50,940	0.0764	616,110	64.79	9,510	5.5
2015	834,214.59	50,223	51,488	0.0617	782,726	65.79	11,898	4.5
2016	431,094.60	19,795	20,294	0.0471	410,801	66.79	6,151	3.5
2017	752,759.22	23,812	24,412	0.0324	728,348	67.79	10,745	2.5
2018	399,593.12	6,932	7,106	0.0178	392,487	68.79	5,706	1.5
2019	602,721.51	1,845	1,892	0.0031	600,830	69.79	8,610	0.5

Account #: Z1050 - DISTRIBUTION SERVITUDE (EASEMENT)
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: SQ
 ASL: 70
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
TOTAL	17,934,279.52	4,562,413	4,677,338		13,256,942		253,296	
COMPOSITE ANNUAL ACCRUAL RATE				1.41%				
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR				0.26				
COMPOSITE AVERAGE AGE (YEARS)				18.09				
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)				52.19				

Account #: Z1100 - DISTRIBUTION BRANCH (SERVICE) - STEEL
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R1.5
 ASL: 43
 Net Salvage: -25%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1957	303,835.77	344,939	355,726	0.9366	24,069	6.32	3,811	62.5
1979	22,672,983.95	21,291,878	21,957,707	0.7748	6,383,523	13.41	476,069	40.5
1980	5,905,651.60	5,468,774	5,639,790	0.7640	1,742,274	13.82	126,075	39.5
1981	7,843,269.92	7,157,219	7,381,037	0.7529	2,423,051	14.24	170,182	38.5
1982	4,202,555.37	3,776,459	3,894,554	0.7414	1,358,640	14.66	92,652	37.5
1983	8,562,928.30	7,571,808	7,808,590	0.7295	2,895,071	15.10	191,763	36.5
1984	11,495,274.97	9,994,624	10,307,171	0.7173	4,061,923	15.54	261,423	35.5
1985	7,094,596.68	6,060,353	6,249,869	0.7047	2,618,376	15.98	163,806	34.5
1986	1,157,430.76	970,557	1,000,908	0.6918	445,880	16.44	27,125	33.5
1987	2,619,511.83	2,154,327	2,221,696	0.6785	1,052,694	16.90	62,300	32.5
1988	1,607,124.21	1,295,095	1,335,594	0.6648	673,311	17.36	38,781	31.5
1989	2,571,065.53	2,028,133	2,091,556	0.6508	1,122,276	17.83	62,939	30.5
1990	1,190,516.10	918,310	947,027	0.6364	541,118	18.31	29,560	29.5
1991	2,376,378.38	1,790,444	1,846,433	0.6216	1,124,040	18.78	59,842	28.5
1992	1,239,356.09	911,004	939,493	0.6064	609,702	19.26	31,649	27.5
1993	1,002,589.97	718,081	740,537	0.5909	512,701	19.75	25,960	26.5
1994	1,592,284.39	1,109,725	1,144,428	0.5750	845,928	20.24	41,804	25.5
1995	1,862,190.18	1,261,070	1,300,506	0.5587	1,027,232	20.72	49,569	24.5
1996	1,417,055.39	930,980	960,094	0.5420	811,226	21.21	38,244	23.5
1997	2,673,531.46	1,701,193	1,754,392	0.5250	1,587,522	21.70	73,157	22.5
1998	1,630,994.69	1,003,345	1,034,721	0.5075	1,004,022	22.19	45,253	21.5
1999	2,036,721.03	1,208,904	1,246,708	0.4897	1,299,193	22.67	57,303	20.5
2000	2,193,292.56	1,253,386	1,292,581	0.4715	1,449,035	23.15	62,583	19.5
2001	1,648,061.65	904,611	932,900	0.4528	1,127,177	23.63	47,701	18.5
2002	4,012,286.78	2,109,756	2,175,731	0.4338	2,839,627	24.10	117,820	17.5
2003	6,876,238.61	3,453,645	3,561,645	0.4144	5,033,653	24.56	204,915	16.5

Account #: Z1100 - DISTRIBUTION BRANCH (SERVICE) - STEEL
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R1.5
 ASL: 43
 Net Salvage: -25%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2004	2,836,389.38	1,356,318	1,398,733	0.3945	2,146,754	25.02	85,809	15.5
2005	2,286,042.70	1,036,897	1,069,323	0.3742	1,788,231	25.46	70,237	14.5
2006	4,074,234.62	1,745,522	1,800,107	0.3535	3,292,686	25.89	127,189	13.5
2007	1,570,022.44	632,279	652,052	0.3323	1,310,476	26.30	49,831	12.5
2008	2,419,698.84	910,800	939,282	0.3105	2,085,342	26.69	78,133	11.5
2009	3,265,968.94	1,141,372	1,177,064	0.2883	2,905,397	27.06	107,383	10.5
2010	4,541,893.70	1,461,909	1,507,625	0.2656	4,169,742	27.39	152,216	9.5
2011	6,049,118.26	1,775,677	1,831,205	0.2422	5,730,193	27.70	206,898	8.5
2012	5,869,614.26	1,552,105	1,600,642	0.2182	5,736,376	27.95	205,211	7.5
2013	4,960,235.21	1,162,970	1,199,338	0.1934	5,000,956	28.15	177,627	6.5
2014	6,557,472.20	1,334,536	1,376,269	0.1679	6,820,572	28.28	241,167	5.5
2015	8,955,891.30	1,535,557	1,583,576	0.1415	9,611,288	28.31	339,538	4.5
2016	6,517,041.09	899,916	928,058	0.1139	7,218,243	28.18	256,120	3.5
2017	7,342,775.05	756,737	780,402	0.0850	8,398,067	27.82	301,844	2.5
2018	7,317,350.09	481,117	496,162	0.0542	8,650,525	27.02	320,188	1.5
2019	3,973,856.51	97,308	100,351	0.0202	4,866,969	25.02	194,495	0.5
TOTAL	186,325,330.76	105,269,641	108,561,583		124,345,080		5,476,176	

COMPOSITE ANNUAL ACCRUAL RATE	2.94%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.58
COMPOSITE AVERAGE AGE (YEARS)	21.69
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	21.33

Account #: Z1101 - DISTRIBUTION BRANCH (SERVICE) - COPPER INSERTS
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: L1
 ASL: 16
 Net Salvage: -70%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1979	65,524.75	106,622	111,392	1.0000	0	1.81	0	40.5
1980	242,850.66	393,203	412,846	1.0000	0	1.97	0	39.5
1981	767,707.54	1,236,479	1,305,103	1.0000	0	2.14	0	38.5
1989	1,454.69	2,217	2,473	1.0000	0	3.52	0	30.5
TOTAL	1,077,537.64	1,738,521	1,843,056		0		0	

COMPOSITE ANNUAL ACCRUAL RATE 0.00%

COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR 1.71

COMPOSITE AVERAGE AGE (YEARS) 38.84

DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS) 2.08

Account #: Z1102 - DISTRIBUTION BRANCH (SERVICE) - DIRECT PLASTIC
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R2.5
 ASL: 55
 Net Salvage: -100%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1981	1,695,964.70	2,225,826	1,969,790	0.5807	1,422,139	20.17	70,508	38.5
1982	10,660,482.44	13,726,586	12,147,620	0.5698	9,173,344	20.75	442,147	37.5
1983	20,802,170.09	26,258,463	23,237,958	0.5585	18,366,382	21.33	861,010	36.5
1984	30,039,641.39	37,143,141	32,870,575	0.5471	27,208,708	21.92	1,241,189	35.5
1985	19,866,565.10	24,041,477	21,275,991	0.5355	18,457,139	22.52	819,667	34.5
1986	10,407,020.81	12,314,922	10,898,340	0.5236	9,915,702	23.12	428,881	33.5
1987	14,289,349.99	16,518,555	14,618,430	0.5115	13,960,270	23.73	588,342	32.5
1988	12,384,281.51	13,971,713	12,364,550	0.4992	12,404,013	24.34	509,570	31.5
1989	9,823,105.04	10,804,165	9,561,365	0.4867	10,084,845	24.96	404,025	30.5
1990	8,696,675.51	9,314,849	8,243,364	0.4739	9,149,987	25.58	357,638	29.5
1991	9,657,956.74	10,061,752	8,904,351	0.4610	10,411,563	26.21	397,198	28.5
1992	11,507,308.42	11,646,069	10,306,424	0.4478	12,708,192	26.84	473,397	27.5
1993	13,587,540.71	13,340,377	11,805,837	0.4344	15,369,245	27.48	559,249	26.5
1994	15,571,119.56	14,809,495	13,105,962	0.4208	18,036,277	28.12	641,339	25.5
1995	14,986,526.80	13,786,005	12,200,204	0.4070	17,772,850	28.77	617,820	24.5
1996	14,403,905.95	12,793,964	11,322,277	0.3930	17,485,535	29.41	594,457	23.5
1997	14,184,094.05	12,142,933	10,746,134	0.3788	17,622,054	30.06	586,146	22.5
1998	13,787,377.58	11,353,692	10,047,679	0.3644	17,527,076	30.72	570,596	21.5
1999	15,037,852.80	11,885,922	10,518,687	0.3497	19,557,018	31.37	623,382	20.5
2000	17,920,566.77	13,563,235	12,003,059	0.3349	23,838,075	32.03	744,262	19.5
2001	17,213,856.62	12,442,933	11,011,625	0.3198	23,416,088	32.69	716,380	18.5
2002	14,311,603.00	9,851,734	8,718,491	0.3046	19,904,715	33.34	596,942	17.5
2003	13,163,847.89	8,601,823	7,612,357	0.2891	18,715,339	34.00	550,423	16.5
2004	18,971,549.47	11,725,103	10,376,367	0.2735	27,566,732	34.66	795,373	15.5
2005	30,369,232.13	17,680,063	15,646,330	0.2576	45,092,134	35.31	1,276,905	14.5
2006	30,978,636.32	16,909,495	14,964,400	0.2415	46,992,873	35.96	1,306,639	13.5

Account #: Z1102 - DISTRIBUTION BRANCH (SERVICE) - DIRECT PLASTIC
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R2.5
 ASL: 55
 Net Salvage: -100%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2007	28,631,194.20	14,574,814	12,898,277	0.2252	44,364,112	36.61	1,211,779	12.5
2008	28,046,758.98	13,232,342	11,710,229	0.2088	44,383,289	37.25	1,191,501	11.5
2009	26,601,549.97	11,546,613	10,218,409	0.1921	42,984,691	37.88	1,134,740	10.5
2010	29,558,808.42	11,700,355	10,354,466	0.1752	48,763,151	38.50	1,266,574	9.5
2011	30,656,769.62	10,948,033	9,688,683	0.1580	51,624,856	39.10	1,320,209	8.5
2012	38,813,154.68	12,338,348	10,919,070	0.1407	66,707,239	39.69	1,680,876	7.5
2013	39,835,163.60	11,079,488	9,805,017	0.1231	69,865,310	40.24	1,736,208	6.5
2014	39,188,656.17	9,319,481	8,247,463	0.1052	70,129,849	40.76	1,720,755	5.5
2015	41,726,139.56	8,214,450	7,269,543	0.0871	76,182,736	41.22	1,848,359	4.5
2016	45,647,969.57	7,086,227	6,271,100	0.0687	85,024,839	41.59	2,044,234	3.5
2017	44,460,220.60	5,015,095	4,438,210	0.0499	84,482,231	41.83	2,019,831	2.5
2018	47,536,391.30	3,295,102	2,916,067	0.0307	92,156,716	41.78	2,205,807	1.5
2019	47,975,139.08	1,158,224	1,024,994	0.0107	94,925,285	40.92	2,319,703	0.5
TOTAL	892,996,147.14	488,422,860	432,239,698		1,353,752,597		38,474,060	

COMPOSITE ANNUAL ACCRUAL RATE	4.31%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.48
COMPOSITE AVERAGE AGE (YEARS)	14.36
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	34.95

Account #: Z1103 - DISTRIBUTION BRANCH (SERVICE) - INSERT PLASTIC
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R2.5
 ASL: 50
 Net Salvage: -50%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1979	3,793,439.18	4,128,561	4,318,947	0.7590	1,371,211	15.32	89,512	40.5
1980	1,825,807.20	1,954,604	2,044,739	0.7466	693,972	15.85	43,795	39.5
1981	1,862,387.31	1,959,675	2,050,044	0.7338	743,537	16.38	45,385	38.5
1982	6,851,551.78	7,080,648	7,407,168	0.7207	2,870,159	16.93	169,531	37.5
1983	5,407,095.69	5,483,594	5,736,466	0.7073	2,374,177	17.49	135,774	36.5
1984	5,545,133.66	5,513,951	5,768,223	0.6935	2,549,477	18.05	141,236	35.5
1985	4,647,044.84	4,526,827	4,735,579	0.6794	2,234,988	18.62	120,004	34.5
1986	4,824,240.12	4,599,504	4,811,607	0.6649	2,424,753	19.21	126,255	33.5
1987	5,391,162.47	5,025,838	5,257,602	0.6502	2,829,142	19.79	142,932	32.5
1988	5,882,398.90	5,356,508	5,603,520	0.6351	3,220,078	20.39	157,933	31.5
1989	1,758,204.34	1,562,178	1,634,217	0.6197	1,003,089	20.99	47,787	30.5
1990	513,166.18	444,384	464,877	0.6039	304,872	21.60	14,115	29.5
1991	1,427,131.63	1,203,039	1,258,517	0.5879	882,181	22.21	39,714	28.5
1992	1,887,153.98	1,546,606	1,617,927	0.5716	1,212,804	22.83	53,117	27.5
1993	2,972,837.40	2,365,397	2,474,476	0.5549	1,984,780	23.46	84,610	26.5
1994	2,244,276.08	1,731,137	1,810,967	0.5380	1,555,447	24.09	64,574	25.5
1995	2,340,819.59	1,747,671	1,828,264	0.5207	1,682,965	24.72	68,074	24.5
1996	1,676,434.18	1,209,416	1,265,188	0.5031	1,249,464	25.36	49,265	23.5
1997	1,625,145.14	1,130,783	1,182,929	0.4853	1,254,789	26.00	48,252	22.5
1998	1,083,815.46	725,893	759,367	0.4671	866,356	26.65	32,506	21.5
1999	1,602,810.00	1,031,056	1,078,602	0.4486	1,325,613	27.30	48,554	20.5
2000	1,336,179.65	823,590	861,569	0.4299	1,142,700	27.95	40,877	19.5
2001	1,118,761.73	659,005	689,394	0.4108	988,748	28.61	34,560	18.5
2005	261,069.71	124,143	129,867	0.3316	261,737	31.24	8,378	14.5
2006	306,196.72	136,588	142,887	0.3111	316,408	31.90	9,920	13.5
2007	285,909.47	119,003	124,491	0.2903	304,373	32.55	9,352	12.5

Account #: Z1103 - DISTRIBUTION BRANCH (SERVICE) - INSERT PLASTIC
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R2.5
 ASL: 50
 Net Salvage: -50%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2008	330,098.50	127,401	133,276	0.2692	361,871	33.19	10,901	11.5
2009	549,497.05	195,207	204,209	0.2478	620,036	33.84	18,325	10.5
2010	614,130.60	199,048	208,227	0.2260	712,969	34.47	20,686	9.5
2011	853,462.99	249,673	261,187	0.2040	1,019,008	35.08	29,045	8.5
2012	1,307,213.33	340,552	356,256	0.1817	1,604,564	35.68	44,967	7.5
2013	948,470.00	216,275	226,249	0.1590	1,196,456	36.26	32,998	6.5
2014	1,174,126.60	229,001	239,562	0.1360	1,521,628	36.80	41,350	5.5
2015	2,200,447.87	355,422	371,812	0.1126	2,928,860	37.29	78,543	4.5
2016	1,276,055.85	162,588	170,086	0.0889	1,743,998	37.70	46,255	3.5
2017	2,001,691.27	185,390	193,939	0.0646	2,808,598	37.99	73,931	2.5
2018	2,044,740.93	116,416	121,785	0.0397	2,945,327	38.02	77,470	1.5
2019	719,963.14	14,282	14,940	0.0138	1,065,005	37.31	28,545	0.5
TOTAL	82,490,070.54	64,580,858	67,558,965		56,176,141		2,329,028	

COMPOSITE ANNUAL ACCRUAL RATE	2.82%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.82
COMPOSITE AVERAGE AGE (YEARS)	27.20
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	23.13

Account #: Z1104 - DISTRIBUTION BRANCH (SERVICE) - PRE-RELEASE PLASTIC
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 35
 Net Salvage: -40%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1989	21,402.63	24,257	20,779	0.6935	9,184	7.18	1,280	30.5
1990	281,258.02	311,550	266,882	0.6778	126,880	7.78	16,299	29.5
1991	331,824.76	358,707	307,277	0.6614	157,278	8.41	18,702	28.5
1992	280,570.71	295,538	253,166	0.6445	139,633	9.05	15,429	27.5
1993	175,381.02	179,707	153,941	0.6270	91,592	9.71	9,436	26.5
1994	10,020.68	9,970	8,540	0.6088	5,488	10.38	529	25.5
1996	7,878.02	7,344	6,291	0.5704	4,738	11.79	402	23.5
2005	162,454.85	98,166	84,092	0.3697	143,345	19.09	7,507	14.5
2006	169,883.19	95,871	82,126	0.3453	155,711	19.99	7,789	13.5
2007	208,656.04	109,326	93,651	0.3206	198,467	20.90	9,496	12.5
2008	75,496.11	36,478	31,248	0.2956	74,447	21.82	3,412	11.5
2009	104,757.34	46,310	39,670	0.2705	106,990	22.75	4,702	10.5
2015	16,489.27	3,148	2,697	0.1168	20,388	28.50	715	4.5
2016	49,034.27	7,286	6,242	0.0909	62,406	29.47	2,117	3.5
2017	11,476.99	1,219	1,044	0.0650	15,023	30.45	493	2.5
2018	44,351.01	2,829	2,423	0.0390	59,668	31.42	1,899	1.5
2019	20,662.18	440	377	0.0130	28,550	32.39	881	0.5
TOTAL	1,971,597.09	1,588,147	1,360,446		1,399,790		101,089	

COMPOSITE ANNUAL ACCRUAL RATE	5.13%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.69
COMPOSITE AVERAGE AGE (YEARS)	20.69
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	14.60

Account #: Z1105 - DISTRIBUTION BRANCH (SERVICE) - PRE-RELEASE STEEL
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 35
 Net Salvage: -40%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1989	20,388.79	23,108	15,316	0.5366	13,228	7.18	1,844	30.5
1990	122,175.44	135,334	89,701	0.5244	81,344	7.78	10,450	29.5
1991	71,203.91	76,972	51,018	0.5118	48,667	8.41	5,787	28.5
1992	18,171.18	19,141	12,687	0.4987	12,753	9.05	1,409	27.5
1993	3,431.38	3,516	2,330	0.4851	2,473	9.71	255	26.5
2005	156,830.89	94,768	62,814	0.2861	156,750	19.09	8,209	14.5
2006	32,801.98	18,511	12,270	0.2672	33,653	19.99	1,683	13.5
2007	10,512.68	5,508	3,651	0.2481	11,067	20.90	530	12.5
2008	10,344.06	4,998	3,313	0.2288	11,169	21.82	512	11.5
2011	124,023.32	44,530	29,515	0.1700	144,118	24.64	5,848	8.5
2012	2,438.22	773	513	0.1502	2,901	25.60	113	7.5
2015	5,860.21	1,119	742	0.0904	7,463	28.50	262	4.5
2017	78,955.28	8,387	5,559	0.0503	104,979	30.45	3,448	2.5
2018	46,431.23	2,961	1,963	0.0302	63,041	31.42	2,006	1.5
2019	12,519.96	266	177	0.0101	17,351	32.39	536	0.5
TOTAL	716,088.53	439,893	291,568		710,956		42,891	

COMPOSITE ANNUAL ACCRUAL RATE	5.99%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.41
COMPOSITE AVERAGE AGE (YEARS)	15.62
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	18.91

Account #: Z1150 - DISTRIBUTION - MAIN PIPE STEEL
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 45
 Net Salvage: -30%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1979	73,439,008.09	78,957,355	73,067,568	0.7653	22,403,142	8.47	2,644,912	40.5
1980	7,041,462.57	7,447,041	6,891,532	0.7529	2,262,369	9.05	249,892	39.5
1981	5,577,783.88	5,797,155	5,364,719	0.7398	1,886,400	9.66	195,359	38.5
1982	22,643,303.67	23,106,336	21,382,730	0.7264	8,053,565	10.27	783,948	37.5
1983	45,846,642.94	45,893,537	42,470,130	0.7126	17,130,506	10.90	1,571,388	36.5
1984	51,006,414.48	50,039,264	46,306,609	0.6984	20,001,730	11.54	1,732,955	35.5
1985	32,963,855.09	31,660,996	29,299,259	0.6837	13,553,753	12.20	1,111,365	34.5
1986	9,298,616.02	8,734,515	8,082,968	0.6687	4,005,233	12.86	311,386	33.5
1987	14,141,966.79	12,976,749	12,008,755	0.6532	6,375,802	13.54	470,756	32.5
1988	2,918,010.82	2,612,449	2,417,575	0.6373	1,375,839	14.24	96,620	31.5
1989	25,614,652.38	22,344,811	20,678,011	0.6210	12,621,037	14.95	844,092	30.5
1990	7,910,992.87	6,715,049	6,214,143	0.6042	4,070,148	15.68	259,574	29.5
1991	20,008,448.61	16,501,676	15,270,741	0.5871	10,740,242	16.42	653,956	28.5
1992	7,151,652.69	5,721,971	5,295,143	0.5695	4,002,006	17.18	232,913	27.5
1993	14,685,757.01	11,379,957	10,531,074	0.5516	8,560,410	17.96	476,704	26.5
1994	4,334,040.64	3,246,976	3,004,770	0.5333	2,629,483	18.75	140,251	25.5
1995	66,959,449.17	48,410,002	44,798,880	0.5146	42,248,404	19.55	2,160,592	24.5
1996	46,471,336.11	32,358,372	29,944,614	0.4957	30,468,123	20.37	1,495,423	23.5
1997	9,562,958.43	6,399,601	5,922,226	0.4764	6,509,620	21.21	306,935	22.5
1998	10,314,845.57	6,618,880	6,125,148	0.4568	7,284,151	22.06	330,239	21.5
1999	6,840,406.34	4,198,574	3,885,384	0.4369	5,007,145	22.92	218,474	20.5
2000	11,232,034.35	6,576,945	6,086,341	0.4168	8,515,304	23.79	357,899	19.5
2001	18,734,057.71	10,434,885	9,656,500	0.3965	14,697,775	24.68	595,590	18.5
2002	1,054,596.29	556,994	515,446	0.3760	855,530	25.57	33,453	17.5
2003	2,518,384.79	1,256,816	1,163,065	0.3553	2,110,836	26.48	79,711	16.5
2004	1,658,881.09	779,220	721,094	0.3344	1,435,451	27.40	52,394	15.5

Account #: Z1150 - DISTRIBUTION - MAIN PIPE STEEL
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 45
 Net Salvage: -30%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2005	859,249.30	378,235	350,021	0.3134	767,003	28.32	27,081	14.5
2006	41,762,432.48	17,142,618	15,863,873	0.2922	38,427,290	29.25	1,313,534	13.5
2007	4,592,917.58	1,748,080	1,617,682	0.2709	4,353,110	30.20	144,165	12.5
2008	4,719,766.36	1,654,709	1,531,277	0.2496	4,604,420	31.14	147,851	11.5
2009	7,763,865.65	2,488,016	2,302,424	0.2281	7,790,602	32.09	242,737	10.5
2010	14,234,479.03	4,131,255	3,823,086	0.2066	14,681,737	33.05	444,193	9.5
2011	12,106,224.65	3,146,501	2,911,789	0.1850	12,826,303	34.02	377,077	8.5
2012	12,872,676.36	2,954,423	2,734,040	0.1634	14,000,440	34.98	400,223	7.5
2013	28,404,285.89	5,653,922	5,232,170	0.1417	31,693,402	35.95	881,565	6.5
2014	34,548,927.94	5,822,821	5,388,470	0.1200	39,525,136	36.92	1,070,458	5.5
2015	31,157,314.49	4,299,055	3,978,369	0.0982	36,526,140	37.90	963,807	4.5
2016	11,722,747.26	1,258,777	1,164,879	0.0764	14,074,692	38.87	362,066	3.5
2017	56,735,989.20	4,354,169	4,029,372	0.0546	69,727,414	39.85	1,749,819	2.5
2018	13,192,437.88	607,872	562,528	0.0328	16,587,641	40.82	406,359	1.5
2019	68,834,870.47	1,058,287	979,345	0.0109	88,505,987	41.78	2,118,464	0.5
TOTAL	863,437,742.94	507,424,868	469,573,746		652,895,320		28,056,180	

COMPOSITE ANNUAL ACCRUAL RATE	3.25%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.54
COMPOSITE AVERAGE AGE (YEARS)	20.73
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	23.80

Account #: Z1151 - DISTRIBUTION - MAIN PIPE DIRECT PLASTIC
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 70
 Net Salvage: -10%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1980	263,723.41	166,557	196,794	0.6784	93,302	29.30	3,185	39.5
1981	1,956,317.84	1,207,700	1,426,945	0.6631	725,004	30.10	24,085	38.5
1982	31,446,771.67	18,959,939	22,401,915	0.6476	12,189,534	30.92	394,268	37.5
1983	38,133,151.75	22,436,230	26,509,289	0.6320	15,437,178	31.74	486,365	36.5
1984	69,317,444.90	39,763,908	46,982,622	0.6162	29,266,567	32.57	898,493	35.5
1985	32,945,201.82	18,409,457	21,751,498	0.6002	14,488,224	33.41	433,590	34.5
1986	18,663,043.20	10,148,864	11,991,283	0.5841	8,538,065	34.26	249,181	33.5
1987	21,030,853.86	11,118,184	13,136,572	0.5678	9,997,367	35.12	284,633	32.5
1988	21,526,109.89	11,051,756	13,058,085	0.5515	10,620,636	35.99	295,102	31.5
1989	10,870,906.36	5,414,047	6,396,910	0.5349	5,561,087	36.87	150,849	30.5
1990	13,549,669.67	6,538,367	7,725,338	0.5183	7,179,299	37.75	190,194	29.5
1991	14,755,384.60	6,890,109	8,140,935	0.5016	8,089,988	38.64	209,384	28.5
1992	15,070,893.35	6,800,990	8,035,638	0.4847	8,542,345	39.53	216,078	27.5
1993	28,514,066.12	12,417,512	14,671,779	0.4678	16,693,694	40.44	412,837	26.5
1994	23,213,809.38	9,740,943	11,509,307	0.4507	14,025,883	41.35	339,228	25.5
1995	25,864,920.55	10,441,054	12,336,516	0.4336	16,114,897	42.26	381,315	24.5
1996	16,398,299.67	6,356,843	7,510,860	0.4164	10,527,270	43.18	243,780	23.5
1997	11,241,714.42	4,177,042	4,935,339	0.3991	7,430,547	44.11	168,455	22.5
1998	14,071,780.37	5,001,314	5,909,250	0.3818	9,569,709	45.04	212,462	21.5
1999	17,623,085.78	5,977,857	7,063,073	0.3644	12,322,322	45.98	268,000	20.5
2000	24,062,296.05	7,770,811	9,181,519	0.3469	17,287,006	46.92	368,437	19.5
2001	28,961,428.15	8,880,579	10,492,753	0.3294	21,364,817	47.87	446,350	18.5
2002	23,451,191.97	6,807,479	8,043,304	0.3118	17,753,007	48.81	363,682	17.5
2003	27,896,016.71	7,640,358	9,027,384	0.2942	21,658,234	49.77	435,182	16.5
2004	29,997,466.90	7,723,076	9,125,118	0.2765	23,872,096	50.72	470,623	15.5
2005	33,743,374.06	8,131,947	9,608,215	0.2589	27,509,497	51.68	532,261	14.5

Account #: Z1151 - DISTRIBUTION - MAIN PIPE DIRECT PLASTIC
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 70
 Net Salvage: -10%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2006	26,229,723.07	5,888,594	6,957,606	0.2411	21,895,089	52.65	415,887	13.5
2007	18,195,346.00	3,784,291	4,471,289	0.2234	15,543,592	53.61	289,929	12.5
2008	18,669,710.21	3,574,066	4,222,899	0.2056	16,313,782	54.58	298,900	11.5
2009	21,984,467.96	3,844,455	4,542,374	0.1878	19,640,540	55.55	353,574	10.5
2010	17,222,561.81	2,726,073	3,220,962	0.1700	15,723,856	56.52	278,199	9.5
2011	24,238,720.18	3,434,187	4,057,628	0.1522	22,604,965	57.49	393,178	8.5
2012	31,679,676.53	3,961,934	4,681,181	0.1343	30,166,463	58.47	515,956	7.5
2013	36,621,790.65	3,970,842	4,691,706	0.1165	35,592,264	59.44	598,772	6.5
2014	28,754,306.30	2,639,110	3,118,213	0.0986	28,511,524	60.42	471,908	5.5
2015	32,753,743.47	2,460,521	2,907,202	0.0807	33,121,916	61.39	539,507	4.5
2016	37,098,767.73	2,168,466	2,562,128	0.0628	38,246,516	62.37	613,250	3.5
2017	43,567,743.36	1,819,768	2,150,128	0.0449	45,774,390	63.34	722,692	2.5
2018	39,118,353.64	980,882	1,158,951	0.0269	41,871,238	64.30	651,152	1.5
2019	62,539,562.63	523,180	618,158	0.0090	68,175,361	65.25	1,044,905	0.5
TOTAL	1,033,243,395.99	301,749,293	356,528,665		780,039,070		15,665,829	

COMPOSITE ANNUAL ACCRUAL RATE	1.52%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.35
COMPOSITE AVERAGE AGE (YEARS)	17.83
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	48.79

Account #: Z1152 - DISTRIBUTION - MAIN PIPE PLASTIC INSERTS
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 70
 Net Salvage: -10%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1957	98,948.45	89,554	108,843	1.0000	0	13.46	0	62.5
1979	4,500,793.61	2,905,847	3,700,399	0.7474	1,250,474	28.50	43,873	40.5
1980	1,582,052.66	999,161	1,272,363	0.7311	467,895	29.30	15,970	39.5
1981	1,284,480.11	792,952	1,009,771	0.7147	403,157	30.10	13,393	38.5
1982	4,353,892.04	2,625,056	3,342,830	0.6980	1,446,451	30.92	46,785	37.5
1983	2,251,244.75	1,324,555	1,686,731	0.6811	789,639	31.74	24,878	36.5
1984	4,826,783.64	2,768,881	3,525,983	0.6641	1,783,479	32.57	54,753	35.5
1985	4,440,409.28	2,481,257	3,159,713	0.6469	1,724,737	33.41	51,616	34.5
1986	5,576,141.00	3,032,276	3,861,398	0.6295	2,272,357	34.26	66,318	33.5
1987	4,475,569.10	2,366,057	3,013,013	0.6120	1,910,113	35.12	54,382	32.5
1988	5,186,490.94	2,662,805	3,390,901	0.5944	2,314,239	35.99	64,303	31.5
1989	2,184,413.47	1,087,905	1,385,374	0.5766	1,017,481	36.87	27,600	30.5
1990	725,034.10	349,864	445,528	0.5586	352,010	37.75	9,325	29.5
1991	1,156,023.68	539,812	687,414	0.5406	584,212	38.64	15,121	28.5
1992	1,838,366.23	829,593	1,056,431	0.5224	965,772	39.53	24,429	27.5
1993	2,377,366.40	1,035,313	1,318,400	0.5041	1,296,703	40.44	32,068	26.5
1994	2,958,584.52	1,241,477	1,580,936	0.4858	1,673,507	41.35	40,475	25.5
1995	3,820,095.31	1,542,082	1,963,736	0.4673	2,238,368	42.26	52,965	24.5
1996	2,883,036.01	1,117,616	1,423,208	0.4488	1,748,131	43.18	40,482	23.5
1997	1,968,723.24	731,511	931,530	0.4301	1,234,066	44.11	27,977	22.5
1998	1,620,977.10	576,119	733,648	0.4115	1,049,427	45.04	23,299	21.5
1999	1,199,226.36	406,785	518,013	0.3927	801,136	45.98	17,424	20.5
2000	1,843,124.02	595,229	757,983	0.3739	1,269,453	46.92	27,056	19.5
2001	758,660.27	232,632	296,241	0.3550	538,286	47.87	11,246	18.5
2006	0.00	0	0		0	52.65	0	13.5
2007	0.00	0	0		0	53.61	0	12.5

Account #: Z1152 - DISTRIBUTION - MAIN PIPE PLASTIC INSERTS
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 70
 Net Salvage: -10%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2015	1,530.04	115	146	0.0870	1,537	61.39	25	4.5
2016	63.05	4	5	0.0677	65	62.37	1	3.5
TOTAL	63,912,029.38	32,334,456	41,170,538		29,132,694		785,765	

COMPOSITE ANNUAL ACCRUAL RATE	1.23%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.64
COMPOSITE AVERAGE AGE (YEARS)	31.15
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	36.44

Account #: Z1200 - DISTRIBUTION METER
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: L1.5
 ASL: 18
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1986	3,144,508.68	2,828,241	3,144,509	1.0000	0	3.75	0	33.5
1987	235,557.20	210,223	234,851	0.9970	706	3.92	180	32.5
1988	476,027.38	421,311	470,669	0.9887	5,358	4.09	1,310	31.5
1989	391,434.08	343,386	383,615	0.9800	7,819	4.27	1,832	30.5
1990	1,697,561.26	1,475,139	1,647,957	0.9708	49,604	4.45	11,152	29.5
1991	852,194.68	733,080	818,963	0.9610	33,231	4.63	7,176	28.5
1992	719,091.64	611,921	683,610	0.9507	35,482	4.82	7,367	27.5
1993	440,298.09	370,367	413,757	0.9397	26,542	5.00	5,304	26.5
1994	1,367,616.09	1,136,262	1,269,379	0.9282	98,237	5.19	18,921	25.5
1995	804,978.86	660,022	737,346	0.9160	67,633	5.38	12,569	24.5
1996	1,150,636.76	930,227	1,039,206	0.9032	111,430	5.57	20,012	23.5
1997	980,863.42	781,125	872,637	0.8897	108,227	5.75	18,811	22.5
1998	1,134,285.25	888,928	993,069	0.8755	141,217	5.93	23,797	21.5
1999	3,461,160.41	2,666,367	2,978,742	0.8606	482,419	6.11	78,947	20.5
2000	2,638,805.00	1,995,913	2,229,741	0.8450	409,064	6.28	65,127	19.5
2001	2,234,411.43	1,657,056	1,851,185	0.8285	383,226	6.45	59,453	18.5
2002	4,763,938.77	3,458,472	3,863,645	0.8110	900,294	6.61	136,290	17.5
2003	3,226,144.16	2,288,272	2,556,351	0.7924	669,793	6.76	99,042	16.5
2004	4,694,234.82	3,245,337	3,625,540	0.7723	1,068,695	6.92	154,434	15.5
2005	4,568,780.48	3,069,577	3,429,189	0.7506	1,139,591	7.08	160,916	14.5
2006	9,264,252.67	6,026,277	6,732,277	0.7267	2,531,976	7.25	349,061	13.5
2007	7,726,746.40	4,843,408	5,410,830	0.7003	2,315,916	7.44	311,221	12.5
2008	8,401,334.65	5,044,854	5,635,876	0.6708	2,765,458	7.65	361,438	11.5
2009	8,336,114.28	4,759,717	5,317,334	0.6379	3,018,780	7.89	382,629	10.5
2010	8,279,126.96	4,452,629	4,974,270	0.6008	3,304,857	8.16	404,803	9.5
2011	11,570,213.40	5,789,913	6,468,222	0.5590	5,101,991	8.49	601,233	8.5

Account #: Z1200 - DISTRIBUTION METER
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: L1.5
 ASL: 18
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2012	11,752,290.63	5,387,440	6,018,598	0.5121	5,733,693	8.86	647,094	7.5
2013	11,079,230.16	4,562,145	5,096,616	0.4600	5,982,614	9.29	644,308	6.5
2014	12,810,140.49	4,620,634	5,161,957	0.4030	7,648,183	9.75	784,584	5.5
2015	11,229,056.45	3,428,666	3,830,346	0.3411	7,398,710	10.24	722,690	4.5
2016	12,392,594.31	3,041,913	3,398,283	0.2742	8,994,311	10.76	835,994	3.5
2017	13,719,370.32	2,483,702	2,774,676	0.2022	10,944,694	11.31	967,752	2.5
2018	16,899,197.90	1,894,633	2,116,596	0.1252	14,782,602	11.88	1,244,404	1.5
2019	17,465,517.49	677,322	756,672	0.0433	16,708,845	12.39	1,348,241	0.5
TOTAL	199,907,714.57	86,784,477	96,936,514		102,971,200		10,488,093	

COMPOSITE ANNUAL ACCRUAL RATE	5.25%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.48
COMPOSITE AVERAGE AGE (YEARS)	8.95
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	9.04

Account #: Z1250 - DISTRIBUTION DELIVERY STATION - EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R2.5
 ASL: 40
 Net Salvage: -20%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1975	696,463.10	720,190	788,213	0.9431	47,543	7.14	6,658	44.5
1978	7,726.87	7,747	8,479	0.9145	793	8.17	97	41.5
1982	11,274,486.88	10,728,183	11,741,472	0.8678	1,787,912	9.79	182,598	37.5
1983	12,167,606.64	11,401,773	12,478,684	0.8546	2,122,444	10.24	207,230	36.5
1984	5,295,024.97	4,881,452	5,342,511	0.8408	1,011,519	10.71	94,453	35.5
1985	1,789,989.51	1,621,830	1,775,013	0.8264	372,974	11.19	33,323	34.5
1986	148,135.40	131,774	144,220	0.8113	33,542	11.69	2,869	33.5
1987	27,728.27	24,190	26,475	0.7957	6,799	12.20	557	32.5
1988	1,395,051.19	1,192,211	1,304,816	0.7794	369,245	12.73	29,003	31.5
1989	1,226,242.68	1,025,352	1,122,198	0.7626	349,294	13.27	26,320	30.5
1990	587,224.80	479,839	525,161	0.7453	179,509	13.82	12,987	29.5
1991	2,256,032.63	1,799,145	1,969,076	0.7273	738,163	14.38	51,315	28.5
1992	1,344,968.38	1,045,361	1,144,096	0.7089	469,866	14.96	31,412	27.5
1993	1,209,838.63	915,133	1,001,568	0.6899	450,238	15.54	28,971	26.5
1994	3,989,354.08	2,932,185	3,209,133	0.6704	1,578,092	16.13	97,821	25.5
1995	3,101,792.15	2,211,658	2,420,552	0.6503	1,301,599	16.73	77,788	24.5
1996	3,887,954.12	2,684,577	2,938,139	0.6298	1,727,406	17.34	99,615	23.5
1997	1,718,206.39	1,146,709	1,255,017	0.6087	806,831	17.96	44,933	22.5
1998	1,781,755.42	1,146,978	1,255,311	0.5871	882,795	18.58	47,517	21.5
1999	3,135,993.42	1,942,849	2,126,353	0.5650	1,636,839	19.21	85,219	20.5
2000	3,151,094.25	1,874,219	2,051,241	0.5425	1,730,072	19.84	87,192	19.5
2001	193,987.86	110,474	120,909	0.5194	111,877	20.48	5,462	18.5
2002	598,072.04	325,148	355,858	0.4958	361,828	21.13	17,126	17.5
2003	1,750,077.77	905,299	990,806	0.4718	1,109,288	21.78	50,940	16.5
2004	749,525.00	367,558	402,275	0.4473	497,155	22.43	22,166	15.5
2005	236,300.32	109,396	119,729	0.4222	163,831	23.08	7,097	14.5

Account #: Z1250 - DISTRIBUTION DELIVERY STATION - EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R2.5
 ASL: 40
 Net Salvage: -20%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2006	4,371,375.64	1,901,515	2,081,115	0.3967	3,164,536	23.74	133,288	13.5
2007	4,031,328.68	1,638,750	1,793,531	0.3707	3,044,063	24.40	124,756	12.5
2008	839,359.32	316,850	346,776	0.3443	660,455	25.06	26,358	11.5
2009	1,068,632.91	371,832	406,952	0.3173	875,408	25.71	34,047	10.5
2010	390,486.35	124,130	135,854	0.2899	332,729	26.36	12,622	9.5
2011	1,150,223.77	330,447	361,658	0.2620	1,018,610	27.00	37,720	8.5
2012	1,078,025.34	276,142	302,224	0.2336	991,406	27.63	35,875	7.5
2013	1,371,446.14	307,849	336,926	0.2047	1,308,809	28.25	46,332	6.5
2014	988,886.95	190,078	208,031	0.1753	978,633	28.84	33,937	5.5
2015	3,579,436.00	570,392	624,266	0.1453	3,671,057	29.39	124,921	4.5
2016	7,242,202.58	911,301	997,374	0.1148	7,693,269	29.88	257,491	3.5
2017	4,582,182.03	419,532	459,157	0.0835	5,039,461	30.27	166,504	2.5
2018	7,116,287.06	400,926	438,794	0.0514	8,100,750	30.45	266,041	1.5
2019	13,062,071.13	256,681	280,924	0.0179	15,393,561	30.03	512,554	0.5
TOTAL	114,592,576.67	59,747,654	65,390,891		72,120,201		3,163,116	

COMPOSITE ANNUAL ACCRUAL RATE	2.76%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.57
COMPOSITE AVERAGE AGE (YEARS)	18.78
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	20.40

Account #: Z1251 - DISTRIBUTION DELIVERY STATION - CIVIL BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 45
 Net Salvage: -5%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1970	762.30	705	800	1.0000	0	6.74	0	49.5
1978	7,573.47	6,409	7,952	1.0000	0	9.99	0	41.5
1982	155,514.87	123,610	154,999	0.9492	8,291	12.04	689	37.5
1983	1,927,456.31	1,504,828	1,886,968	0.9324	136,861	12.59	10,872	36.5
1984	1,945,831.03	1,490,765	1,869,334	0.9149	173,788	13.15	13,212	35.5
1985	623,191.83	468,050	586,909	0.8969	67,443	13.73	4,911	34.5
1986	30,352.18	22,325	27,994	0.8784	3,876	14.32	271	33.5
1987	1,063.10	765	959	0.8593	157	14.93	11	32.5
1988	1,615,509.22	1,135,880	1,424,329	0.8397	271,956	15.54	17,499	31.5
1989	271,319.63	186,190	233,472	0.8195	51,413	16.17	3,180	30.5
1990	403,674.21	270,039	338,614	0.7989	85,244	16.80	5,073	29.5
1991	294,828.93	192,009	240,768	0.7777	68,802	17.45	3,943	28.5
1992	167,724.75	106,196	133,163	0.7561	42,948	18.11	2,372	27.5
1993	159,316.11	97,923	122,790	0.7340	44,492	18.77	2,370	26.5
1994	752,959.30	448,567	562,477	0.7114	228,130	19.44	11,733	25.5
1995	116,924.92	67,401	84,517	0.6884	38,254	20.13	1,901	24.5
1996	37,931.36	21,119	26,482	0.6649	13,346	20.82	641	23.5
1998	13,121.10	6,774	8,495	0.6166	5,283	22.23	238	21.5
1999	17,701.05	8,771	10,998	0.5917	7,588	22.94	331	20.5
2000	356.59	169	212	0.5665	162	23.67	7	19.5
2002	171,754.47	74,017	92,813	0.5147	87,529	25.14	3,482	17.5
2003	296,144.88	121,045	151,784	0.4881	159,168	25.89	6,149	16.5
2004	294,304.04	113,659	142,522	0.4612	166,498	26.64	6,249	15.5
2005	112,302.25	40,803	51,165	0.4339	66,753	27.40	2,436	14.5
2006	1,059,858.71	360,515	452,065	0.4062	660,786	28.17	23,455	13.5
2007	1,045,129.44	330,953	414,996	0.3782	682,390	28.95	23,573	12.5

Account #: Z1251 - DISTRIBUTION DELIVERY STATION - CIVIL BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 45
 Net Salvage: -5%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2008	326,227.46	95,544	119,807	0.3498	222,732	29.73	7,492	11.5
2009	86,431.14	23,233	29,133	0.3210	61,619	30.51	2,019	10.5
2010	361,020.19	88,255	110,667	0.2919	268,404	31.30	8,574	9.5
2011	119,708.86	26,317	33,001	0.2625	92,694	32.10	2,888	8.5
2012	21,919.60	4,274	5,359	0.2328	17,657	32.89	537	7.5
2013	31,616.80	5,370	6,734	0.2028	26,464	33.68	786	6.5
2014	1,900.00	274	344	0.1725	1,651	34.47	48	5.5
2015	85,202.35	10,127	12,699	0.1419	76,763	35.25	2,178	4.5
2016	98,512.78	9,162	11,488	0.1111	91,950	36.02	2,553	3.5
2017	297,772.82	19,917	24,975	0.0799	287,686	36.74	7,829	2.5
2018	1,430,216.88	57,909	72,614	0.0484	1,429,113	37.40	38,213	1.5
2019	8,883,398.23	121,707	152,614	0.0164	9,174,955	37.82	242,597	0.5
TOTAL	23,266,533.16	7,661,575	9,607,013		14,822,847		460,310	

COMPOSITE ANNUAL ACCRUAL RATE	1.98%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.41
COMPOSITE AVERAGE AGE (YEARS)	14.57
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	27.77

Account #: Z1300 - DISTRIBUTION RELEASE STATION - EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R1.5
 ASL: 35
 Net Salvage: -30%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1966	24,277.38	29,129	31,561	1.0000	0	4.47	0	53.5
1975	1,157,574.17	1,302,789	1,476,036	0.9809	28,811	6.90	4,174	44.5
1976	18,168.87	20,265	22,960	0.9721	659	7.20	92	43.5
1977	109,191.28	120,643	136,686	0.9629	5,263	7.51	701	42.5
1978	139,759.27	152,878	173,208	0.9533	8,479	7.82	1,084	41.5
1979	207,274.23	224,341	254,174	0.9433	15,283	8.14	1,876	40.5
1980	208,623.17	223,282	252,975	0.9328	18,235	8.48	2,151	39.5
1981	318,966.46	337,349	382,210	0.9218	32,446	8.82	3,678	38.5
1982	1,336,396.55	1,395,743	1,581,351	0.9102	155,964	9.18	16,995	37.5
1983	3,333,002.40	3,434,922	3,891,702	0.8982	441,201	9.54	46,237	36.5
1984	3,746,548.32	3,806,973	4,313,229	0.8856	557,284	9.92	56,192	35.5
1985	974,454.72	975,470	1,105,189	0.8724	161,602	10.30	15,684	34.5
1986	478,708.20	471,675	534,399	0.8587	87,922	10.70	8,217	33.5
1987	263,409.77	255,222	289,162	0.8444	53,271	11.11	4,797	32.5
1988	863,617.13	822,039	931,354	0.8296	191,348	11.52	16,608	31.5
1989	425,297.17	397,275	450,106	0.8141	102,781	11.95	8,603	30.5
1990	841,568.12	770,613	873,090	0.7980	220,948	12.38	17,846	29.5
1991	947,690.66	849,675	962,666	0.7814	269,331	12.82	21,002	28.5
1992	789,542.27	692,247	784,302	0.7641	242,102	13.27	18,238	27.5
1993	927,042.46	793,797	899,357	0.7463	305,798	13.73	22,268	26.5
1994	282,786.09	236,145	267,548	0.7278	100,074	14.20	7,049	25.5
1995	1,065,501.91	866,423	981,641	0.7087	403,511	14.67	27,509	24.5
1996	951,771.74	752,412	852,468	0.6890	384,835	15.14	25,411	23.5
1997	310,288.11	238,055	269,712	0.6686	133,663	15.63	8,554	22.5
1998	619,558.47	460,433	521,662	0.6477	283,764	16.11	17,615	21.5
1999	846,697.09	608,269	689,157	0.6261	411,549	16.60	24,798	20.5

Account #: Z1300 - DISTRIBUTION RELEASE STATION - EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R1.5
 ASL: 35
 Net Salvage: -30%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2000	645,879.47	447,543	507,058	0.6039	332,585	17.08	19,467	19.5
2001	326,309.09	217,554	246,485	0.5811	177,717	17.57	10,113	18.5
2002	2,058,357.06	1,316,879	1,492,000	0.5576	1,183,865	18.06	65,553	17.5
2003	1,654,109.71	1,012,452	1,147,090	0.5334	1,003,253	18.54	54,100	16.5
2004	878,516.43	512,741	580,926	0.5087	561,145	19.02	29,496	15.5
2005	991,072.83	549,493	622,565	0.4832	665,829	19.50	34,148	14.5
2006	819,757.94	429,931	487,104	0.4571	578,581	19.96	28,983	13.5
2007	656,417.83	324,060	367,154	0.4303	486,189	20.42	23,814	12.5
2008	559,318.02	258,443	292,811	0.4027	434,303	20.85	20,825	11.5
2009	432,657.85	185,866	210,582	0.3744	351,873	21.27	16,540	10.5
2010	578,784.94	229,311	259,805	0.3453	492,615	21.67	22,731	9.5
2011	2,717,093.46	983,104	1,113,838	0.3153	2,418,383	22.04	109,728	8.5
2012	1,775,713.44	579,581	656,655	0.2845	1,651,773	22.37	73,832	7.5
2013	2,149,622.06	622,974	705,818	0.2526	2,088,690	22.66	92,186	6.5
2014	852,666.37	214,809	243,375	0.2196	865,091	22.88	37,808	5.5
2015	1,353,838.84	287,787	326,057	0.1853	1,433,934	23.02	62,290	4.5
2016	736,448.60	126,281	143,074	0.1494	814,309	23.03	35,351	3.5
2017	1,126,316.14	144,394	163,596	0.1117	1,300,615	22.85	56,917	2.5
2018	1,073,828.70	88,013	99,717	0.0714	1,296,261	22.29	58,150	1.5
2019	825,918.72	25,285	28,647	0.0267	1,045,047	20.73	50,408	0.5

Account #: Z1300 - DISTRIBUTION RELEASE STATION - EQUIPMENT
CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
Survivor Curve: R1.5
ASL: 35
Net Salvage: -30%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
TOTAL	43,400,343.51	28,794,564	32,622,263		23,798,184		1,279,821	
COMPOSITE ANNUAL ACCRUAL RATE				2.95%				
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR				0.75				
COMPOSITE AVERAGE AGE (YEARS)				20.78				
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)				16.27				

Account #: Z1301 - DISTRIBUTION RELEASE STATION - CIVIL BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 40
 Net Salvage: -10%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1966	70,969.78	73,402	78,067	1.0000	0	3.40	0	53.5
1975	214,046.47	208,202	235,451	1.0000	0	5.82	0	44.5
1976	6,412.29	6,178	7,054	1.0000	0	6.16	0	43.5
1977	24,550.18	23,415	27,005	1.0000	0	6.52	0	42.5
1978	29,057.06	27,411	31,963	1.0000	0	6.89	0	41.5
1979	64,361.24	60,002	70,797	1.0000	0	7.29	0	40.5
1980	44,396.87	40,868	48,837	1.0000	0	7.70	0	39.5
1981	20,118.98	18,269	22,131	1.0000	0	8.14	0	38.5
1982	111,332.88	99,633	121,749	0.9941	717	8.59	83	37.5
1983	939,759.16	827,988	1,011,778	0.9788	21,957	9.07	2,421	36.5
1984	881,323.64	763,687	933,204	0.9626	36,252	9.57	3,790	35.5
1985	287,188.65	244,483	298,751	0.9457	17,157	10.08	1,702	34.5
1986	94,648.47	79,069	96,620	0.9280	7,493	10.61	706	33.5
1987	20,785.29	17,020	20,798	0.9096	2,066	11.16	185	32.5
1988	21,630.98	17,340	21,189	0.8905	2,605	11.72	222	31.5
1989	10,040.57	7,870	9,617	0.8707	1,428	12.30	116	30.5
1990	131,835.34	100,901	123,298	0.8502	21,721	12.90	1,684	29.5
1991	191,195.84	142,692	174,366	0.8291	35,949	13.51	2,662	28.5
1992	125,450.65	91,165	111,401	0.8073	26,595	14.13	1,883	27.5
1993	84,774.81	59,895	73,189	0.7849	20,063	14.76	1,359	26.5
1994	9,398.89	6,446	7,876	0.7618	2,463	15.40	160	25.5
1995	188,346.15	125,155	152,936	0.7382	54,244	16.06	3,378	24.5
1996	113,730.44	73,093	89,317	0.7139	35,786	16.72	2,140	23.5
1997	23,663.99	14,680	17,938	0.6891	8,092	17.40	465	22.5
1999	1,554.88	893	1,091	0.6378	619	18.78	33	20.5
2000	8,697.66	4,786	5,849	0.6113	3,719	19.48	191	19.5

Account #: Z1301 - DISTRIBUTION RELEASE STATION - CIVIL BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 40
 Net Salvage: -10%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2001	29,689.05	15,614	19,080	0.5843	13,578	20.19	672	18.5
2002	159,886.15	80,119	97,903	0.5567	77,972	20.92	3,728	17.5
2003	337,346.94	160,508	196,136	0.5286	174,946	21.65	8,082	16.5
2004	48,712.02	21,922	26,788	0.4999	26,796	22.39	1,197	15.5
2005	444,190.48	188,249	230,035	0.4708	258,575	23.14	11,177	14.5
2006	493,924.21	196,157	239,698	0.4412	303,618	23.89	12,708	13.5
2007	314,023.42	116,205	141,999	0.4111	203,427	24.66	8,250	12.5
2008	374,162.55	128,169	156,619	0.3805	254,960	25.43	10,026	11.5
2009	67,951.55	21,381	26,127	0.3495	48,620	26.21	1,855	10.5
2010	297,847.15	85,292	104,224	0.3181	223,408	26.99	8,277	9.5
2011	132,276.34	34,088	41,655	0.2863	103,849	27.78	3,738	8.5
2012	205,645.05	47,030	57,469	0.2541	168,740	28.57	5,905	7.5
2013	825,455.55	164,547	201,072	0.2214	706,929	29.37	24,071	6.5
2014	222,931.31	37,822	46,217	0.1885	199,008	30.16	6,598	5.5
2015	332,332.19	46,409	56,710	0.1551	308,855	30.95	9,980	4.5
2016	411,350.69	44,967	54,948	0.1214	397,538	31.72	12,533	3.5
2017	634,480.64	49,904	60,981	0.0874	636,948	32.46	19,620	2.5
2018	352,529.82	16,790	20,517	0.0529	367,265	33.14	11,081	1.5
2019	942,535.69	15,194	18,567	0.0179	1,018,222	33.62	30,288	0.5
TOTAL	10,346,541.96	4,604,909	5,589,016		5,792,180		212,969	

COMPOSITE ANNUAL ACCRUAL RATE 2.06%
 COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR 0.54
 COMPOSITE AVERAGE AGE (YEARS) 17.21
 DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS) 22.00

Account #: Z1501 - DISTRIBUTION BIOGAZ - SERVITUDE
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: SQ
 ASL: 70
 Net Salvage: 0%
 Truncation Year: 2031

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2005	3,415.22	1,961	1,814	0.5311	1,601	11.50	139	14.5
TOTAL	3,415.22	1,961	1,814		1,601		139	

COMPOSITE ANNUAL ACCRUAL RATE 4.08%
 COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR 0.53
 COMPOSITE AVERAGE AGE (YEARS) 14.50
 DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS) 11.50

Account #: Z1550 - DISTRIBUTION BIOGAZ - MAIN PIPE - STEEL
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 65
 Net Salvage: -25%
 Truncation Year: 2031

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2002	46,541.92	35,337	32,046	0.5508	26,132	11.31	2,310	17.5
2003	2,000.00	1,483	1,344	0.5378	1,156	11.32	102	16.5
2005	1,895,519.45	1,329,210	1,205,425	0.5087	1,163,975	11.35	102,579	14.5
2006	14,847.51	10,080	9,141	0.4925	9,419	11.36	829	13.5
2007	13,566.40	8,881	8,054	0.4750	8,904	11.37	783	12.5
2018	336.81	49	44	0.1053	377	11.42	33	1.5
TOTAL	1,972,812.09	1,385,039	1,256,054		1,209,961		106,636	

COMPOSITE ANNUAL ACCRUAL RATE	5.41%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.64
COMPOSITE AVERAGE AGE (YEARS)	14.55
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	11.35

Account #: Z1560 - DISTRIBUTION BIOGAZ - COMPRESSION STATION - EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 25
 Net Salvage: -10%
 Truncation Year: 2031

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2005	2,428,920.72	1,656,825	1,646,521	0.6163	1,025,291	8.88	115,424	14.5
2006	456,098.85	298,620	296,763	0.5915	204,946	9.18	22,322	13.5
2007	373,464.15	233,937	232,482	0.5659	178,328	9.45	18,869	12.5
2008	635,502.91	379,320	376,961	0.5392	322,092	9.69	33,228	11.5
2010	34,526.59	18,403	18,289	0.4815	19,691	10.11	1,948	9.5
2013	23,304.48	9,760	9,699	0.3784	15,936	10.57	1,507	6.5
2014	35,000.00	13,076	12,995	0.3375	25,505	10.69	2,385	5.5
2016	18,250.00	4,883	4,852	0.2417	15,223	10.89	1,398	3.5
2017	16,147.60	3,298	3,277	0.1845	14,485	10.97	1,321	2.5
2019	14,417.28	687	683	0.0431	15,176	11.03	1,375	0.5
TOTAL	4,035,632.58	2,618,809	2,602,523		1,836,673		199,778	

COMPOSITE ANNUAL ACCRUAL RATE	4.95%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.64
COMPOSITE AVERAGE AGE (YEARS)	13.41
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	9.16

Account #: Z1561 - DISTRIBUTION BIOGAZ - COMPRESSION STATION - BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 40
 Net Salvage: -10%
 Truncation Year: 2031

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2005	1,630,813.47	1,023,774	996,658	0.5556	797,237	10.91	73,091	14.5
2006	18,926.46	11,490	11,185	0.5373	9,634	10.96	879	13.5
2007	33,603.07	19,652	19,131	0.5176	17,832	11.01	1,619	12.5
2008	63,484.97	35,602	34,659	0.4963	35,174	11.06	3,181	11.5
2010	13,649.72	6,912	6,729	0.4481	8,286	11.14	744	9.5
2016	7,000.00	1,821	1,773	0.2303	5,927	11.30	525	3.5
2017	86,205.50	17,167	16,713	0.1762	78,114	11.31	6,907	2.5
TOTAL	1,853,683.19	1,116,418	1,086,848		952,204		86,946	

COMPOSITE ANNUAL ACCRUAL RATE	4.69%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.59
COMPOSITE AVERAGE AGE (YEARS)	13.71
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	10.94

Account #: Z1570 - DISTRIBUTION BIOGAZ - METER STATION - EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 25
 Net Salvage: -25%
 Truncation Year: 2031

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2004	6,726.34	5,415	5,251	0.6246	3,157	8.57	369	15.5
2005	272,681.54	210,210	203,843	0.5980	137,008	9.01	15,204	14.5
2006	15,493.96	11,413	11,067	0.5714	8,300	9.41	882	13.5
TOTAL	294,901.84	227,038	220,162		148,465		16,454	

COMPOSITE ANNUAL ACCRUAL RATE	5.58%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.75
COMPOSITE AVERAGE AGE (YEARS)	14.47
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	9.02

Account #: Z1571 - DISTRIBUTION BIOGAZ - METER STATION - BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 40
 Net Salvage: -10%
 Truncation Year: 2031

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2004	2,242.24	1,451	1,418	0.5748	1,049	10.85	97	15.5
2005	162,717.74	102,149	99,814	0.5577	79,176	10.91	7,259	14.5
2006	5,164.63	3,135	3,064	0.5393	2,617	10.96	239	13.5
TOTAL	170,124.61	106,735	104,295		82,842		7,594	

COMPOSITE ANNUAL ACCRUAL RATE	4.46%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.61
COMPOSITE AVERAGE AGE (YEARS)	14.48
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	10.91

Account #: Z3050 - TRANSMISSION - SERVITUDES
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: SQ
 ASL: 70
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1983	4,718,624.91	2,441,166	4,718,625	1.0000	0	33.79	0	36.5
1984	4,111,057.62	2,068,114	4,111,058	1.0000	0	34.79	0	35.5
1985	89,183.52	43,591	89,184	1.0000	0	35.79	0	34.5
1986	296,473.96	140,674	291,748	0.9841	4,726	36.79	128	33.5
1987	3,106,086.89	1,429,434	2,964,545	0.9544	141,542	37.79	3,746	32.5
1989	149,026.33	64,325	133,405	0.8952	15,622	39.79	393	30.5
1990	30,256.63	12,628	26,189	0.8655	4,068	40.79	100	29.5
1991	49,679.00	20,024	41,528	0.8359	8,151	41.79	195	28.5
2007	166,176.67	28,996	60,136	0.3619	106,041	57.79	1,835	12.5
2008	23,065.00	3,695	7,663	0.3323	15,402	58.79	262	11.5
2013	2,170.00	193	400	0.1841	1,770	63.79	28	6.5
2014	2,027.31	151	313	0.1545	1,714	64.79	26	5.5
2015	27,637.92	1,664	3,451	0.1249	24,187	65.79	368	4.5
2016	0.00	0	0		0	66.79	0	3.5
2017	204.71	6	13	0.0656	191	67.79	3	2.5
2018	33,268.81	577	1,197	0.0360	32,072	68.79	466	1.5
2019	69.15	0	0	0.0063	69	69.79	1	0.5
TOTAL	12,805,008.43	6,255,237	12,449,453		355,556		7,551	

COMPOSITE ANNUAL ACCRUAL RATE 0.06%
 COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR 0.97
 COMPOSITE AVERAGE AGE (YEARS) 34.48
 DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS) 35.81

Account #: Z3100 - TRANSMISSION - MAIN PIPE
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 70
 Net Salvage: -15%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1983	82,868,187.73	50,972,999	85,237,971	0.8944	10,060,445	31.74	316,965	36.5
1984	156,663,023.90	93,954,627	157,112,628	0.8721	23,049,850	32.57	707,638	35.5
1985	10,611.62	6,199	10,366	0.8495	1,837	33.41	55	34.5
1986	225,795.02	128,367	214,658	0.8267	45,006	34.26	1,313	33.5
1987	31,934,681.90	17,650,000	29,514,650	0.8037	7,210,235	35.12	205,281	32.5
1988	878,186.50	471,365	788,226	0.7805	221,689	35.99	6,160	31.5
1989	283,614.19	147,669	246,935	0.7571	79,221	36.87	2,149	30.5
1991	1,372.20	670	1,120	0.7099	458	38.64	12	28.5
1993	100,118.33	45,582	76,223	0.6620	38,913	40.44	962	26.5
1994	482,078.62	211,484	353,647	0.6379	200,743	41.35	4,855	25.5
1997	54,076.03	21,006	35,127	0.5649	27,061	44.11	613	22.5
1999	67,119.62	23,802	39,803	0.5157	37,385	45.98	813	20.5
2000	23,464.52	7,922	13,248	0.4909	13,737	46.92	293	19.5
2001	498,814.82	159,906	267,398	0.4661	306,239	47.87	6,398	18.5
2002	844,736.76	256,359	428,688	0.4413	542,760	48.81	11,119	17.5
2003	79,114.83	22,653	37,882	0.4164	53,101	49.77	1,067	16.5
2005	53,060.00	13,368	22,355	0.3664	38,664	51.68	748	14.5
2006	88,806.22	20,843	34,855	0.3413	67,273	52.65	1,278	13.5
2007	5,325,698.86	1,157,993	1,936,417	0.3162	4,188,137	53.61	78,120	12.5
2008	106,019.63	21,219	35,482	0.2910	86,440	54.58	1,584	11.5
2009	658,047.07	120,304	201,175	0.2658	555,579	55.55	10,002	10.5
2010	39,000.43	6,454	10,792	0.2406	34,058	56.52	603	9.5
2013	2,095,948.94	237,590	397,303	0.1648	2,013,038	59.44	33,866	6.5
2014	3,815,841.84	366,143	612,270	0.1395	3,775,948	60.42	62,498	5.5
2015	2,628,699.88	206,449	345,227	0.1142	2,677,778	61.39	43,617	4.5
2016	1,029,860.19	62,933	105,237	0.0889	1,079,102	62.37	17,302	3.5

Account #: Z3100 - TRANSMISSION - MAIN PIPE
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 70
 Net Salvage: -15%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2017	2,181,785.93	95,273	159,317	0.0635	2,349,737	63.34	37,098	2.5
2018	1,991,894.87	52,217	87,317	0.0381	2,203,362	64.30	34,265	1.5
2019	2,316,848.91	20,263	33,884	0.0127	2,630,492	65.25	40,317	0.5
TOTAL	297,346,509.36	166,461,660	278,360,199		63,588,286		1,626,990	

COMPOSITE ANNUAL ACCRUAL RATE	0.55%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.94
COMPOSITE AVERAGE AGE (YEARS)	33.12
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	34.78

Account #: Z3120 - TRANSMISSION - COMPRESSION STATION EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 35
 Net Salvage: -10%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2018	37,366,840.31	2,029,330	3,078,808	0.0749	38,024,716	28.88	1,316,550	1.5
2019	266,121.35	4,894	7,425	0.0254	285,309	29.41	9,702	0.5
TOTAL	37,632,961.66	2,034,224	3,086,233		38,310,025		1,326,252	

COMPOSITE ANNUAL ACCRUAL RATE	3.52%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.08
COMPOSITE AVERAGE AGE (YEARS)	1.49
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	28.89

Account #: Z3130 - TRANSMISSION - COMPRESSION STATION CIVIL BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R2.5
 ASL: 45
 Net Salvage: -5%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2018	37,902,452.14	1,670,174	3,016,861	0.0758	36,780,713	34.24	1,074,121	1.5
2019	26,990.94	415	749	0.0264	27,592	33.68	819	0.5
TOTAL	37,929,443.08	1,670,588	3,017,610		36,808,305		1,074,941	

COMPOSITE ANNUAL ACCRUAL RATE	2.83%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.08
COMPOSITE AVERAGE AGE (YEARS)	1.50
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	34.24

Account #: Z4051 - STOCKING - ADMINISTRATIVE BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 40
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1979	286,046.15	242,430	257,885	0.9016	28,161	7.29	3,865	40.5
1984	87,389.77	68,841	73,230	0.8380	14,160	9.57	1,480	35.5
1985	16,538.38	12,799	13,615	0.8232	2,923	10.08	290	34.5
1990	6,496.00	4,520	4,808	0.7401	1,688	12.90	131	29.5
1991	6,215.40	4,217	4,486	0.7217	1,730	13.51	128	28.5
1992	58,058.30	38,355	40,800	0.7027	17,258	14.13	1,222	27.5
1993	838.75	539	573	0.6832	266	14.76	18	26.5
1994	258,811.82	161,352	171,638	0.6632	87,174	15.40	5,660	25.5
1995	22,524.89	13,607	14,474	0.6426	8,050	16.06	501	24.5
2001	3,492.30	1,670	1,776	0.5086	1,716	20.19	85	18.5
2002	16,840.00	7,671	8,160	0.4846	8,680	20.92	415	17.5
2003	669,373.63	289,531	307,989	0.4601	361,385	21.65	16,695	16.5
2004	330,308.17	135,133	143,748	0.4352	186,560	22.39	8,333	15.5
2005	570,904.95	219,955	233,977	0.4098	336,928	23.14	14,563	14.5
2006	108,488.43	39,168	41,665	0.3841	66,823	23.89	2,797	13.5
2009	1,145,445.12	327,646	348,534	0.3043	796,911	26.21	30,407	10.5
2015	42,986.96	5,457	5,805	0.1350	37,182	30.95	1,201	4.5
2017	271,903.02	19,442	20,681	0.0761	251,222	32.46	7,739	2.5
2018	72,832.26	3,154	3,355	0.0461	69,478	33.14	2,096	1.5
2019	3,500,000.00	51,293	54,563	0.0156	3,445,437	33.62	102,489	0.5

Account #: Z4051 - STOCKING - ADMINISTRATIVE BUILDING
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 40
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
TOTAL	7,475,494.30	1,646,781	1,751,764		5,723,730		200,116	
COMPOSITE ANNUAL ACCRUAL RATE				2.68%				
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR				0.23				
COMPOSITE AVERAGE AGE (YEARS)				8.75				
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)				27.66				

Account #: Z4052 - STOCKING - BUILDING INFRASTRUCTURE
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 45
 Net Salvage: -35%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1975	278,459.94	314,821	345,304	0.9186	30,617	8.64	3,545	44.5
1979	7,544,735.37	8,091,879	8,875,380	0.8714	1,310,013	10.48	125,024	40.5
1981	1,451.39	1,509	1,655	0.8445	305	11.50	26	38.5
1983	31,578.51	31,698	34,768	0.8155	7,863	12.59	625	36.5
1985	18,319.84	17,690	19,403	0.7845	5,329	13.73	388	34.5
1987	93,004.63	86,040	94,371	0.7516	31,186	14.93	2,089	32.5
1988	100,699.83	91,032	99,847	0.7345	36,098	15.54	2,323	31.5
1990	201,988.10	173,726	190,548	0.6988	82,136	16.80	4,888	29.5
1991	2,593,948.38	2,171,986	2,382,290	0.6803	1,119,540	17.45	64,158	28.5
1992	5,510.00	4,485	4,920	0.6614	2,519	18.11	139	27.5
1993	101.84	80	88	0.6421	49	18.77	3	26.5
1996	390,635.48	279,636	306,712	0.5816	220,646	20.82	10,599	23.5
1997	1,609,169.90	1,110,440	1,217,959	0.5607	954,421	21.52	44,356	22.5
1999	22,800.00	14,525	15,931	0.5176	14,849	22.94	647	20.5
2001	5,154.08	3,001	3,291	0.4730	3,667	24.40	150	18.5
2002	74,006.89	41,005	44,976	0.4502	54,934	25.14	2,185	17.5
2003	2,183,248.12	1,147,336	1,258,427	0.4270	1,688,958	25.89	65,244	16.5
2004	45,021.35	22,355	24,519	0.4034	36,260	26.64	1,361	15.5
2005	361,808.80	169,015	185,381	0.3795	303,061	27.40	11,059	14.5
2006	761,920.79	333,219	365,483	0.3553	663,110	28.17	23,538	13.5
2007	581,961.88	236,938	259,880	0.3308	525,769	28.95	18,163	12.5
2008	63,211.69	23,803	26,107	0.3059	59,228	29.73	1,992	11.5
2009	126,239.06	43,629	47,854	0.2808	122,569	30.51	4,017	10.5
2010	24,530.00	7,710	8,456	0.2554	24,659	31.30	788	9.5
2011	2,488,259.54	703,328	771,428	0.2296	2,587,722	32.10	80,623	8.5
2012	195,438.72	48,992	53,735	0.2037	210,107	32.89	6,388	7.5

Account #: Z4052 - STOCKING - BUILDING INFRASTRUCTURE
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 45
 Net Salvage: -35%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2013	3,436,720.49	750,478	823,143	0.1774	3,816,430	33.68	113,301	6.5
2014	200,425.26	37,229	40,834	0.1509	229,740	34.47	6,664	5.5
2015	434,968.26	66,473	72,909	0.1242	514,298	35.25	14,589	4.5
2016	291,314.17	34,833	38,206	0.0971	355,068	36.02	9,859	3.5
2017	1,193,854.48	102,670	112,611	0.0699	1,499,092	36.74	40,798	2.5
2018	127,781.53	6,652	7,296	0.0423	165,209	37.40	4,417	1.5
2019	2,107,021.49	37,115	40,709	0.0143	2,803,770	37.82	74,135	0.5
TOTAL	27,595,289.81	16,205,330	17,774,420		19,479,221		738,081	

COMPOSITE ANNUAL ACCRUAL RATE	2.67%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.64
COMPOSITE AVERAGE AGE (YEARS)	20.60
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	23.72

Account #: Z4101 - STOCKING - MECHANICAL EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 40
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1979	3,584,061.47	3,037,572	3,506,763	0.9784	77,299	7.29	10,609	40.5
1981	1,622.83	1,340	1,547	0.9530	76	8.14	9	38.5
1983	84,741.92	67,876	78,360	0.9247	6,382	9.07	704	36.5
1984	10,342.51	8,147	9,406	0.9094	937	9.57	98	35.5
1985	766,350.56	593,083	684,692	0.8934	81,658	10.08	8,102	34.5
1986	150,403.94	114,224	131,868	0.8768	18,536	10.61	1,747	33.5
1987	13,561.14	10,095	11,654	0.8594	1,907	11.16	171	32.5
1988	110,454.10	80,494	92,927	0.8413	17,527	11.72	1,495	31.5
1992	124,175.82	82,035	94,706	0.7627	29,470	14.13	2,086	27.5
1993	88,644.52	56,935	65,729	0.7415	22,915	14.76	1,553	26.5
1994	9,059.00	5,648	6,520	0.7197	2,539	15.40	165	25.5
1997	206,693.72	116,566	134,571	0.6511	72,123	17.40	4,146	22.5
1998	154,500.21	83,922	96,884	0.6271	57,616	18.08	3,186	21.5
1999	8,929.38	4,661	5,381	0.6026	3,549	18.78	189	20.5
2000	59,614.73	29,823	34,429	0.5775	25,186	19.48	1,293	19.5
2001	331,386.15	158,443	182,916	0.5520	148,470	20.19	7,353	18.5
2002	15,961.20	7,271	8,394	0.5259	7,567	20.92	362	17.5
2003	741,353.86	320,665	370,196	0.4994	371,158	21.65	17,146	16.5
2004	173,643.35	71,040	82,013	0.4723	91,631	22.39	4,093	15.5
2005	182,043.57	70,137	80,970	0.4448	101,073	23.14	4,369	14.5
2006	375,954.20	135,733	156,699	0.4168	219,255	23.89	9,177	13.5
2007	140,246.60	47,180	54,468	0.3884	85,779	24.66	3,479	12.5
2008	39,110.00	12,179	14,060	0.3595	25,050	25.43	985	11.5
2009	374,784.64	107,204	123,763	0.3302	251,021	26.21	9,578	10.5
2010	126,068.97	32,819	37,889	0.3005	88,180	26.99	3,267	9.5
2013	403,198.26	73,067	84,353	0.2092	318,845	29.37	10,857	6.5

Account #: Z4101 - STOCKING - MECHANICAL EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 40
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
2014	79,711.00	12,294	14,193	0.1781	65,518	30.16	2,172	5.5
2015	1,071,263.17	135,998	157,005	0.1466	914,259	30.95	29,543	4.5
2016	818,733.53	81,363	93,931	0.1147	724,802	31.72	22,850	3.5
2017	573,177.59	40,984	47,314	0.0825	525,863	32.46	16,199	2.5
2018	48,696.60	2,108	2,434	0.0500	46,262	33.14	1,396	1.5
2019	14,684,694.43	215,208	248,449	0.0169	14,436,245	33.62	429,427	0.5
TOTAL	25,553,182.97	5,816,113	6,714,485		18,838,698		607,804	

COMPOSITE ANNUAL ACCRUAL RATE	2.38%
COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR	0.26
COMPOSITE AVERAGE AGE (YEARS)	9.99
DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS)	27.15

Account #: Z4102 - STOCKING - ELECTRONIC EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R3
 ASL: 15
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1979	482,595.52	482,596	482,596	1.0000	0	0.00	0	40.5
1983	863.28	863	863	1.0000	0	0.00	0	36.5
1987	5,452.56	5,453	5,453	1.0000	0	0.00	0	32.5
1990	18,254.69	18,255	18,255	1.0000	0	0.00	0	29.5
1995	270,218.10	264,814	270,218	1.0000	0	0.50	0	24.5
1996	92,221.14	90,001	92,221	1.0000	0	0.58	0	23.5
1997	7,340.79	7,098	7,341	1.0000	0	0.77	0	22.5
2002	171,612.80	154,342	171,613	1.0000	0	1.96	0	17.5
2003	105,555.91	92,808	105,556	1.0000	0	2.27	0	16.5
2005	58,739.00	48,571	58,739	1.0000	0	3.04	0	14.5
2006	268,018.49	212,818	268,018	1.0000	0	3.50	0	13.5
2007	236,359.49	178,853	236,359	1.0000	0	4.02	0	12.5
2012	298,344.20	152,505	283,664	0.9508	14,680	7.17	2,047	7.5
2013	32,265.93	14,577	27,113	0.8403	5,153	7.89	653	6.5
2016	49,675.99	12,720	23,660	0.4763	26,016	10.17	2,558	3.5
2017	182,181.68	33,837	62,939	0.3455	119,243	10.96	10,880	2.5
2019	266,801.86	10,281	19,123	0.0717	247,679	12.48	19,853	0.5
TOTAL	2,546,501.43	1,780,392	2,133,731		412,770		35,992	

COMPOSITE ANNUAL ACCRUAL RATE 1.41%
 COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR 0.84
 COMPOSITE AVERAGE AGE (YEARS) 17.52
 DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS) 4.34

ADJUSTED RATE APPLICABLE TO BALANCES AFTER 2012 4.34%

Account #: Z4103 - STOCKING - SPECIALIZED EQUIPMENT
 CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION
 BASED ON ORIGINAL COST AS OF September 30, 2019

ELG - Remaining Life
 Survivor Curve: R4
 ASL: 30
 Net Salvage: 0%
 Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ELG Remaining Life	Annual Accrual	Average Age
1983	22,225.16	21,004	22,225	1.0000	0	2.12	0	36.5
1985	3,170.48	2,945	3,170	1.0000	0	2.64	0	34.5
1988	290,000.00	260,483	290,000	1.0000	0	3.57	0	31.5
1990	5,863.75	5,107	5,864	1.0000	0	4.37	0	29.5
1992	3,996.99	3,344	3,982	0.9962	15	5.37	3	27.5
1993	530,728.45	433,553	516,280	0.9728	14,448	5.94	2,433	26.5
1994	1,139,478.13	906,866	1,079,908	0.9477	59,570	6.54	9,108	25.5
1995	92,992.69	71,953	85,683	0.9214	7,310	7.16	1,020	24.5
2003	61,919.26	34,751	41,382	0.6683	20,538	12.90	1,592	16.5
2011	94,145.48	28,107	33,470	0.3555	60,676	19.97	3,038	8.5
2014	8,273.87	1,606	1,912	0.2311	6,361	22.84	279	5.5
2015	207,660.83	33,016	39,316	0.1893	168,345	23.80	7,072	4.5
2016	575,053.81	71,180	84,762	0.1474	490,292	24.78	19,789	3.5
2017	90,244.02	7,986	9,510	0.1054	80,734	25.75	3,135	2.5
2019	4,677,873.28	82,960	98,790	0.0211	4,579,083	27.69	165,349	0.5
TOTAL	7,803,626.20	1,964,859	2,316,254		5,487,373		212,817	

COMPOSITE ANNUAL ACCRUAL RATE 2.73%
 COMPOSITE ACTUAL ACCUMULATED DEPRECIATION FACTOR 0.30
 COMPOSITE AVERAGE AGE (YEARS) 8.09
 DIRECTED WEIGHTED ELG COMPOSITE REMAINING LIFE (YEARS) 21.32



9 ESTIMATION OF SURVIVOR CURVES

9.1 Average Service Life

All assets have a service life, which is defined as “the period of time from its installation until it is retired from service”³. All account groups of property are made up of various assets with differing service lives and investment values. To calculate a depreciation rate, one must first calculate an average life for all assets in a single account. This can be done by ascertaining the age at retirement for every asset in an account and plotting it as a percentage of the units surviving at each age interval (a “Survivor Curve”). From the average life for each account, remaining lives can then be found which are then used to calculate the annual depreciation accruals and ultimately depreciation rate. A discussion of the general concept of survivor curves is presented and the Iowa type survivor curves are reviewed.

9.2 Survivor Curves

A survivor curve is defined as “a graph of the percent of units remaining in service expressed as a function of age”⁴. To calculate the average life of the group, the remaining life expectancy, the probable life and the frequency curve, one must first create a survivor curve. Figure 1, shows a typical 40-R4 smoothed survivor curve as well as the accompanying derived curves. The type 40-R4 refers to the Iowa type curve, whose designation will be explained in further detail in the next section

To calculate the average service life, one must calculate the area under the survivor curve and divide by the percent surviving at age zero. The remaining life is equal to the area under the survivor curve and to the right of the current age, divided by the percent surviving at the current age. In Figure 1, for example, the hatched area to the right of age 45 divided by 28.9% surviving balance represents the remaining life for an asset that has reached that age. The probable life is “the total life expectancy of the property surviving at any age and is equal to the remaining life plus the current age”⁵The probable life for an entire account is calculated after calculating the probable life for each year of age. The frequency curve is calculated by taking the difference between the percent surviving on successive years on the survivor curve⁶. Alternatively, frequency can be empirically determined by finding the amount of retirements at any given age. Plotting retirement frequency from the youngest to oldest ages and then taking the cumulative frequencies will generate percent surviving versus age.

³ Wolf, Frank K. and W. Chester Fitch, *Depreciation Systems* (Iowa State University Press, 1994), 21.

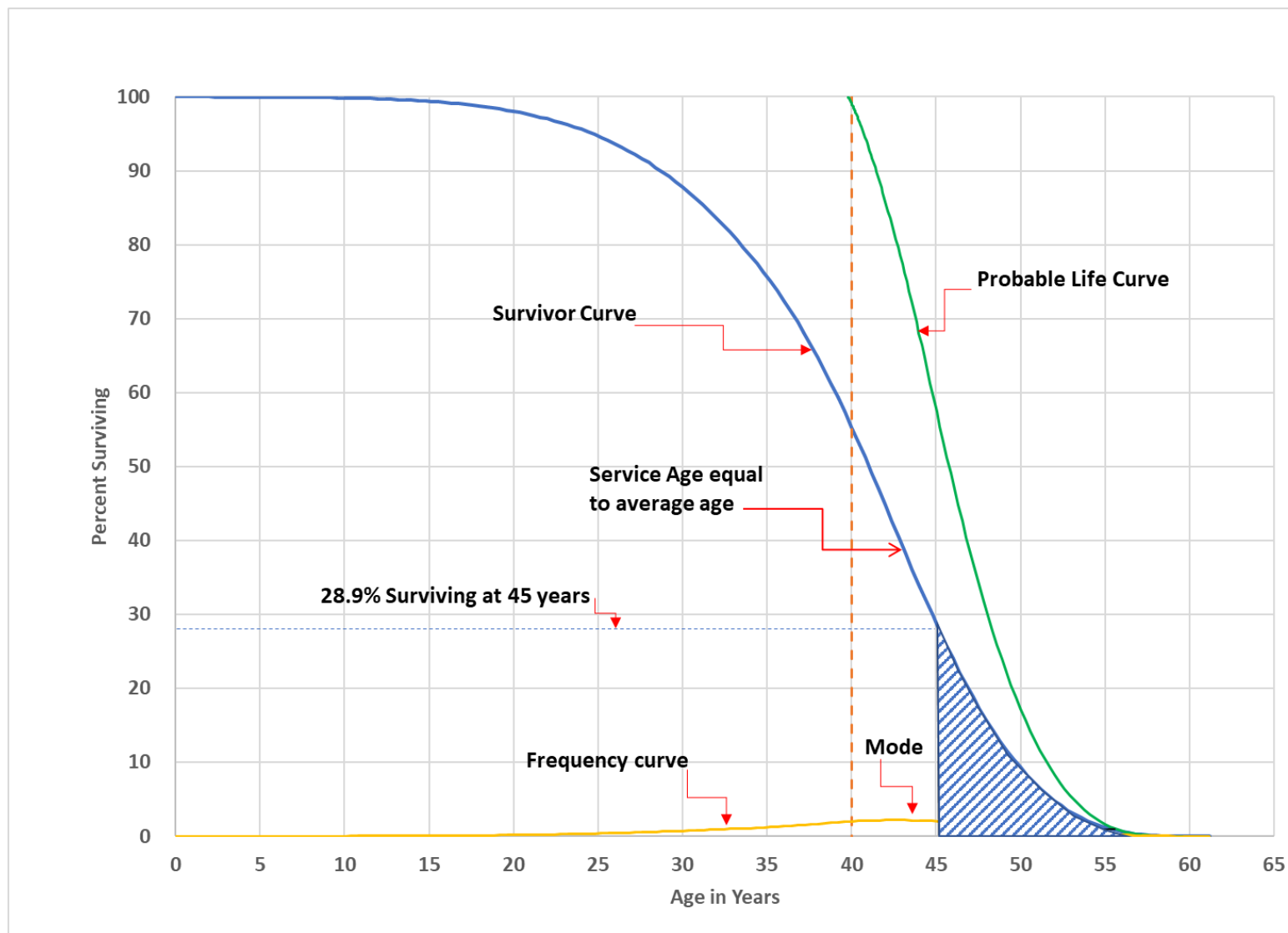
⁴ *Ibid*, 23.

⁵ *Ibid*, 29.

⁶ *Ibid*, 23-24.



FIGURE 1: TYPICAL SURVIVOR CURVE (40-R4) AND DERIVED CURVES





9.3 Iowa Type Curves

In 1931, Robley Winfrey and Edwin Kurtz of the Engineering Research Institute at Iowa State University published Bulletin 103, which laid the groundwork for what would eventually be known as the Iowa Curves. “The 13 type curves can be used as valuable aids in forecasting the probable future service lives of individual items and of groups of items of different kinds of physical equipment”⁷. The 13 curves described in Bulletin 103 eventually became a series of 22 generalized survivor curves which are used throughout the regulated utility industry. These 22 curves were described in Bulletin 125, published in 1967 by Harold A. Cowles, which became known as the Iowa curves.

The Iowa curves are organized with three variables: the average life of the plant; the location of the mode; and the variation of the life. All Iowa curves have both a letter and a number to represent the shape and height of the mode. The L curves, or left-moded curves, are used when the mode of the curve should be to the left of the average life. There are six L curves are presented in Figure 2. The R curves, or right-moded, are used when the mode of the curve should be to the right of the average life. There are six R curves, which are presented in Figure 3. The S curves, or symmetrically-moded, are used when the mode is equal to the average life. There are seven S curves, which are presented in Figure 4. The O curves, or origin curves, are used when the mode occurs at age 0. There are four O curves, which are presented in Figure 5. There are some occasions where it is appropriate to use a half curve. In these cases, the curve is assumed to be exactly half way between the two curves.

In addition to Bulletin 125, Iowa curves have also been presented in subsequent Experiment Station bulletins and in the text *Engineering Valuation and Depreciation*⁸. In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis⁹ presenting his development of the fourth family consisting of the four O-type survivor curves.

⁷ *Ibid*, 21

⁸ Marston, Anson, Robley Winfrey and Jean C. Hempstead, *Engineering Valuation and Depreciation* (The Iowa State University Press, 1953)

⁹ 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

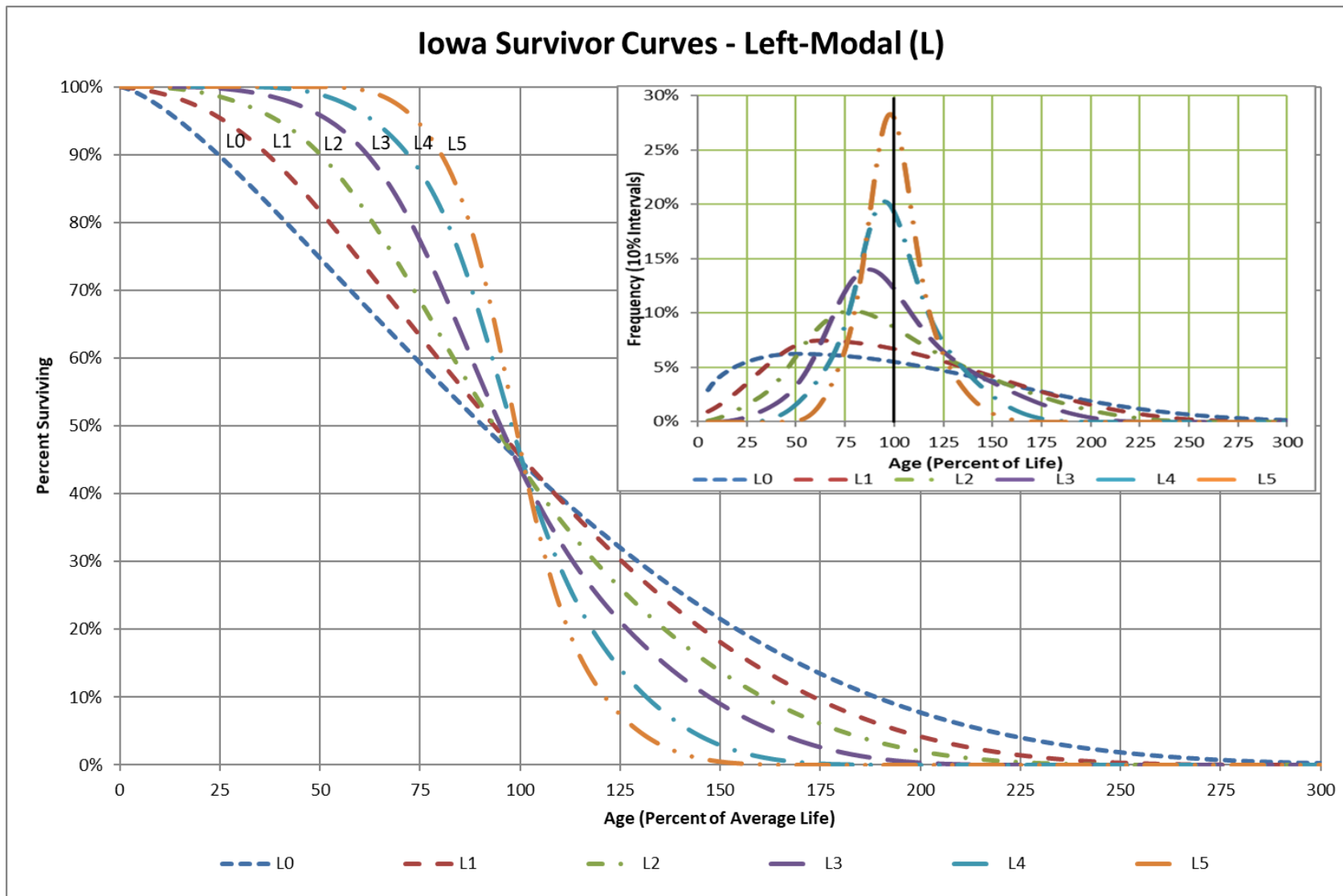




FIGURE 3: SYMMETRICAL OR "S" IOWA TYPE SURVIVOR CURVES

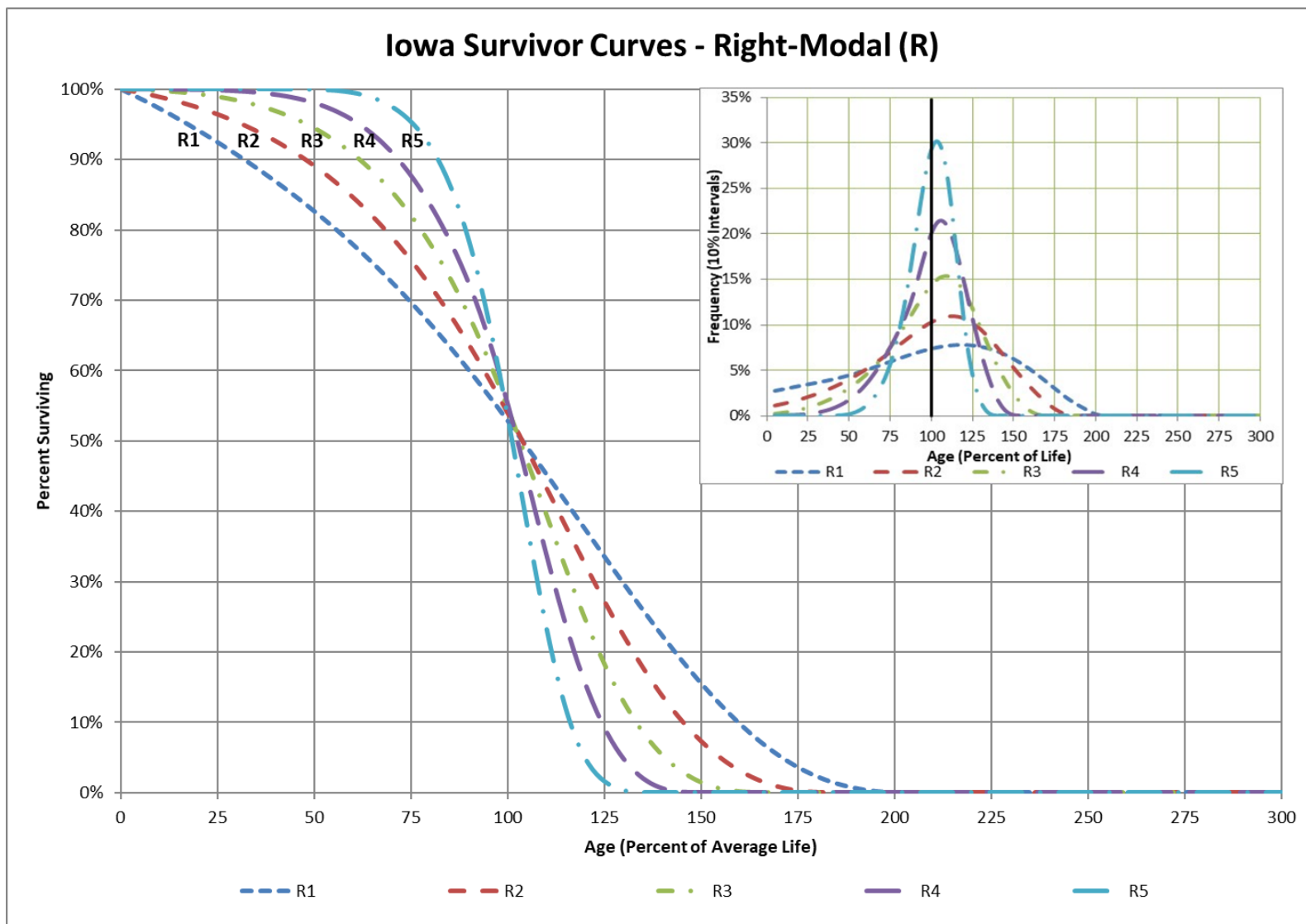




FIGURE 4: RIGHT MODAL OR "R" IOWA TYPE SURVIVOR CURVES

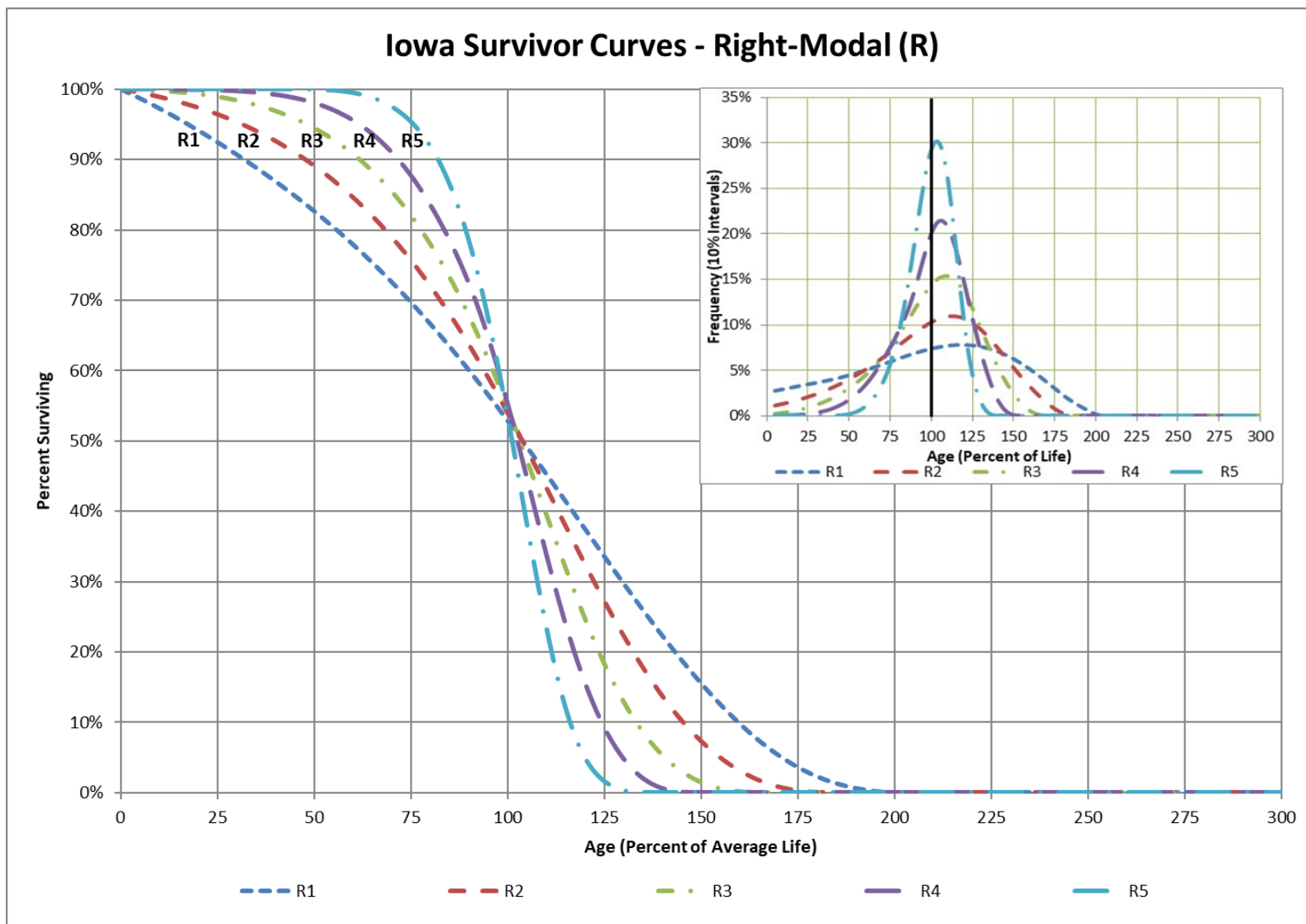
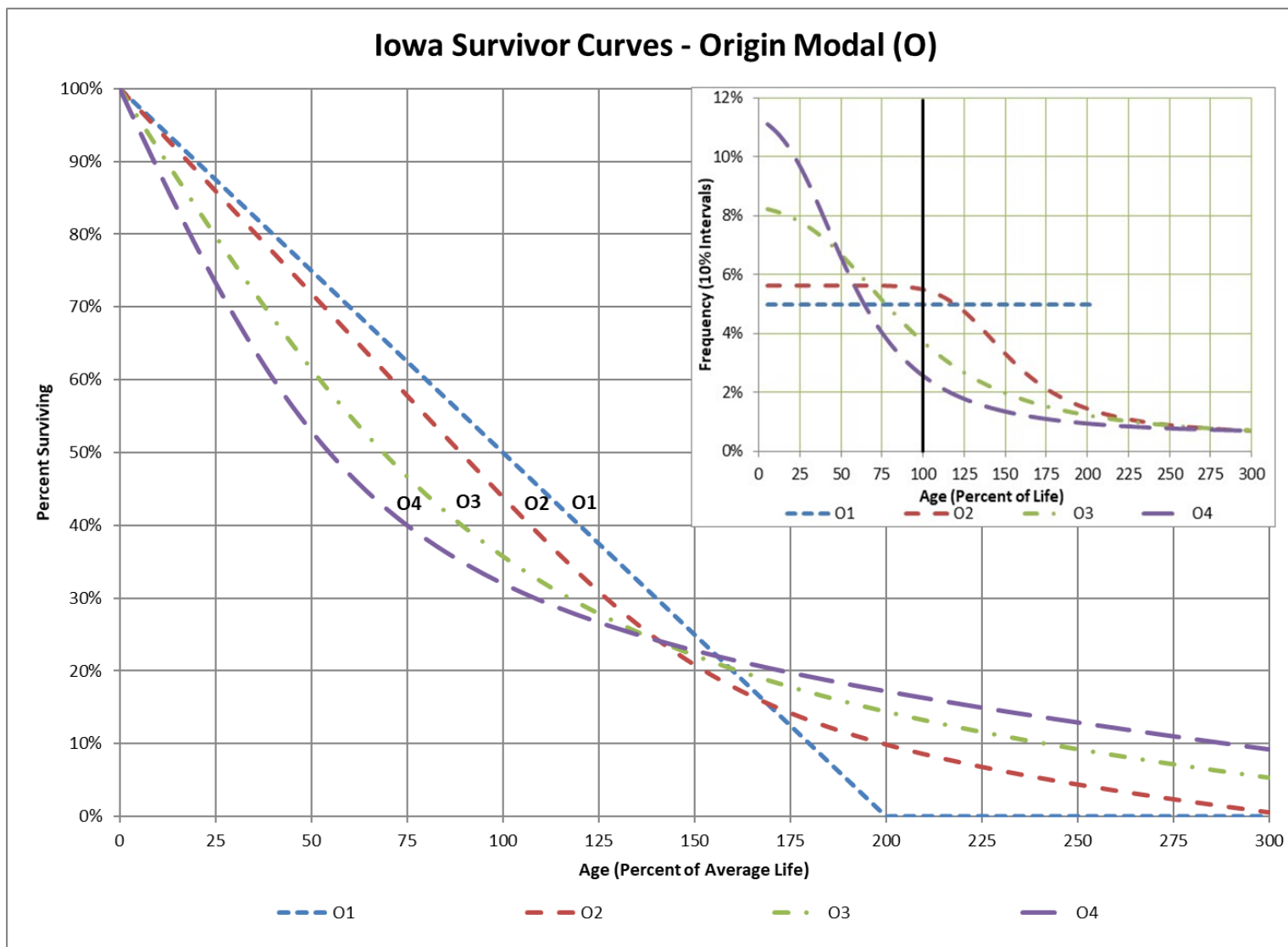




FIGURE 5: ORIGIN MODAL OR "O" IOWA TYPE SURVIVOR CURVES





9.4 Retirement Rate Method of Analysis

The Retirement Rate Method is a widely accepted actuarial method used to create survivor curves. This method is also referred to as an original life table. These survivor curves can then be used to determine the average service life of a plant account. The Retirement Rate Method is thoroughly explained in several publications, including *Statistical Analyses of Industrial Property Retirements*,¹⁰ *Engineering Valuation and Depreciation*¹¹ and *Depreciation Systems*.¹²

The Retirement Rate Method is a subgroup of the placement and the Experience Band Methods, as described in “Depreciation Systems”. The Placement Band Method creates a survivor curve which describes the life characteristics of assets placed into service during a selected timeframe. The Experience Band Method creates a survivor curve which describes the life characteristics of assets removed from service during a selected time frame. The Retirement Rate Method creates both placement and experience bands to give the most complete or representative data. 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.

9.5 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 2007-2017. In order to illustrate the summation of the aged data by age interval, the data was compiled in the manner presented in Schedules 1 and 2. In Schedule 1 (pg. 7-21), 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 asset invested in 2002 were retired in 2007. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years (2007 - 2002) on the basis that approximately one-half of the amount of property was installed prior to and after 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

¹⁰ Anson, Winfrey & Hempstead, *supra* note 6

¹¹ Anson, Winfrey & Hempstead, *supra* note 6

¹² Wolf & Fitch, *supra* note 1



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:

$$\$10 + \$12 + \$13 + \$11 + \$13 + \$13 + \$15 + \$17 + \$19 + \$20 = \$143 \text{ k}$$

Other transactions which affect the group are recorded in a similar manner in Schedule 2 (pg.7-22). 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 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											
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
(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 2003 – 2012

Summarized by age interval

Placed (1)	Acquisitions, Transfers and Sales, Thousands of Dollars										Total During Age Interval (12)	Age Interval (13)	
	During Year												
	2003 (2)	2004 (3)	2005 (4)	2006 (5)	2007 (6)	2008 (7)	2009 (8)	2010 (9)	2011 (10)	2012 (11)			
1998	-	-	-	-	-	-	60 ^a	-	-	-	-	-	13½-14½
1999	-	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2000	-	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2001	-	-	-	-	-	-	-	(5) ^b	-	-	60	-	10½-11½
2002	-	-	-	-	-	-	-	6 ^a	-	-	-	-	9½-10½
2003	-	-	-	-	-	-	-	-	-	-	(5)	-	8½-9½
2004	-	-	-	-	-	-	-	-	-	-	-	-	7½-8½
2005	-	-	-	-	-	-	-	-	-	-	-	-	6½-7½
2006	-	-	-	-	-	-	-	(12) ^b	-	-	-	-	5½-6½
2007	-	-	-	-	-	-	-	-	22 ^a	-	-	-	4½-5½
2008	-	-	-	-	-	-	-	(19) ^b	-	-	10	-	3½-4½
2009	-	-	-	-	-	-	-	-	-	-	-	-	2½-3½
2010	-	-	-	-	-	-	-	-	-	(102) ^c	(121)	-	1½-2½
2011	-	-	-	-	-	-	-	-	-	-	-	-	½-1½
2012	-	-	-	-	-	-	-	-	-	-	-	-	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.



9.6 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 (pg. 7-24). The surviving plant at the beginning of each year from 2007 through 2016 is recorded by year in the portion of the table titled "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 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 2012 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 2007-2016, 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:

$$\$255 + \$268 + \$ 284 + \$311 + \$334 + \$374 + \$405 + \$448 + \$501 + \$609 + \$3,789k$$



SCHEDULE 3: PLANT EXPOSED TO RETIREMENT AT THE BEGINNING OF EACH YEAR 2003 - 2012

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.



9.7 Original Life Tables

The original life table, illustrated in Schedule 4 (pg. 7-25) 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 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.



SCHEDULE 4: ORIGINAL LIFE TABLE - CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2007-2016			Placement Band 2002-2016		
Age at Beginning of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retirement Ratio	Survivor Ratio	% Surviving at Beginning of Age Interval
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	167	26	0.1557	0.8443	42.24
Total	44,780	1,606			

Exposure and Retirement Amounts are in Thousands of Dollars

- 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.



9.8 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 0% surviving of the original stub curve. Even if the original survivor curve is complete from 100% to 0%, 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 0%. 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 percentages 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 A L1 IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES

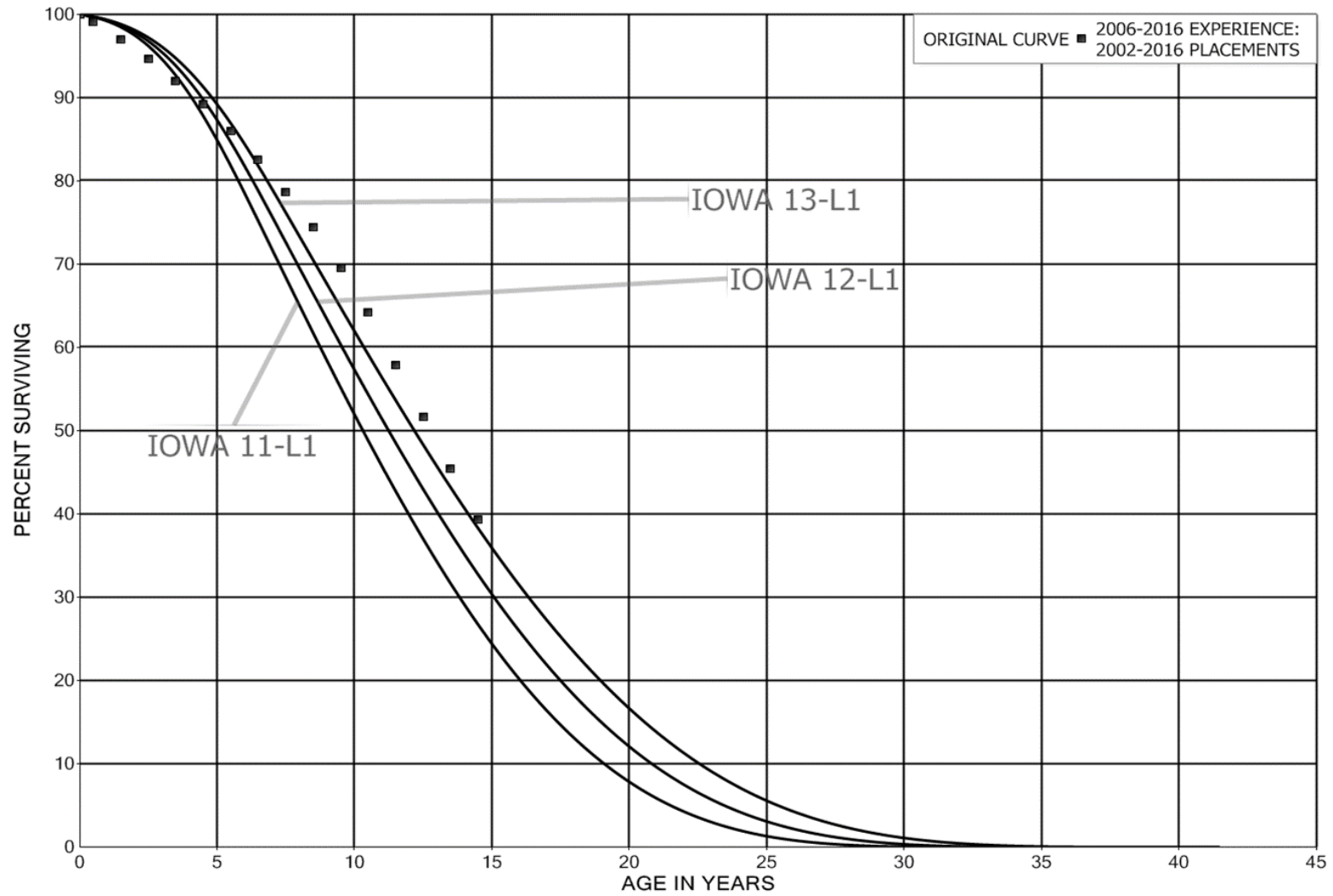




FIGURE 7: ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH A SO IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES

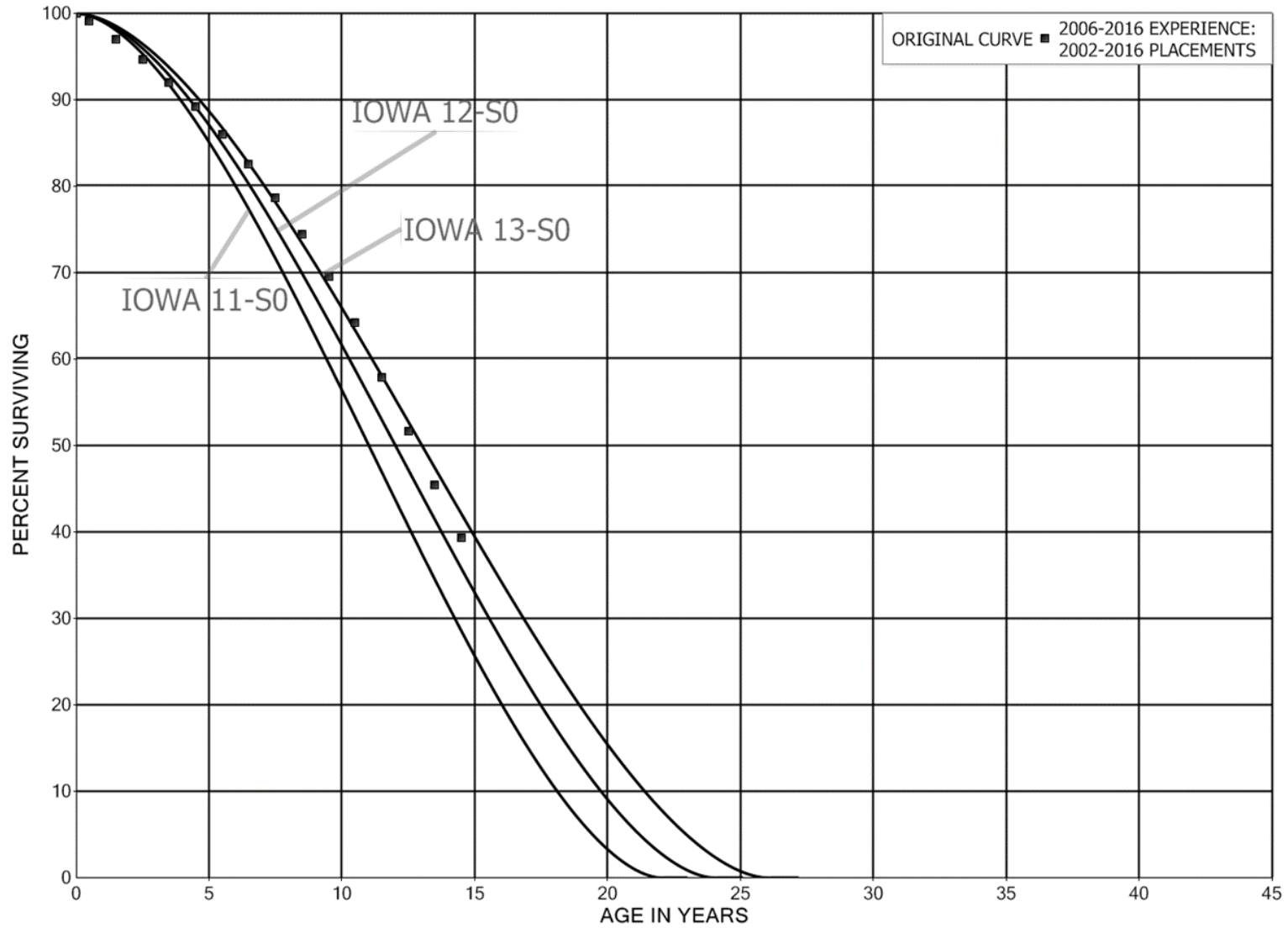




FIGURE 8: ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH A R1 IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES

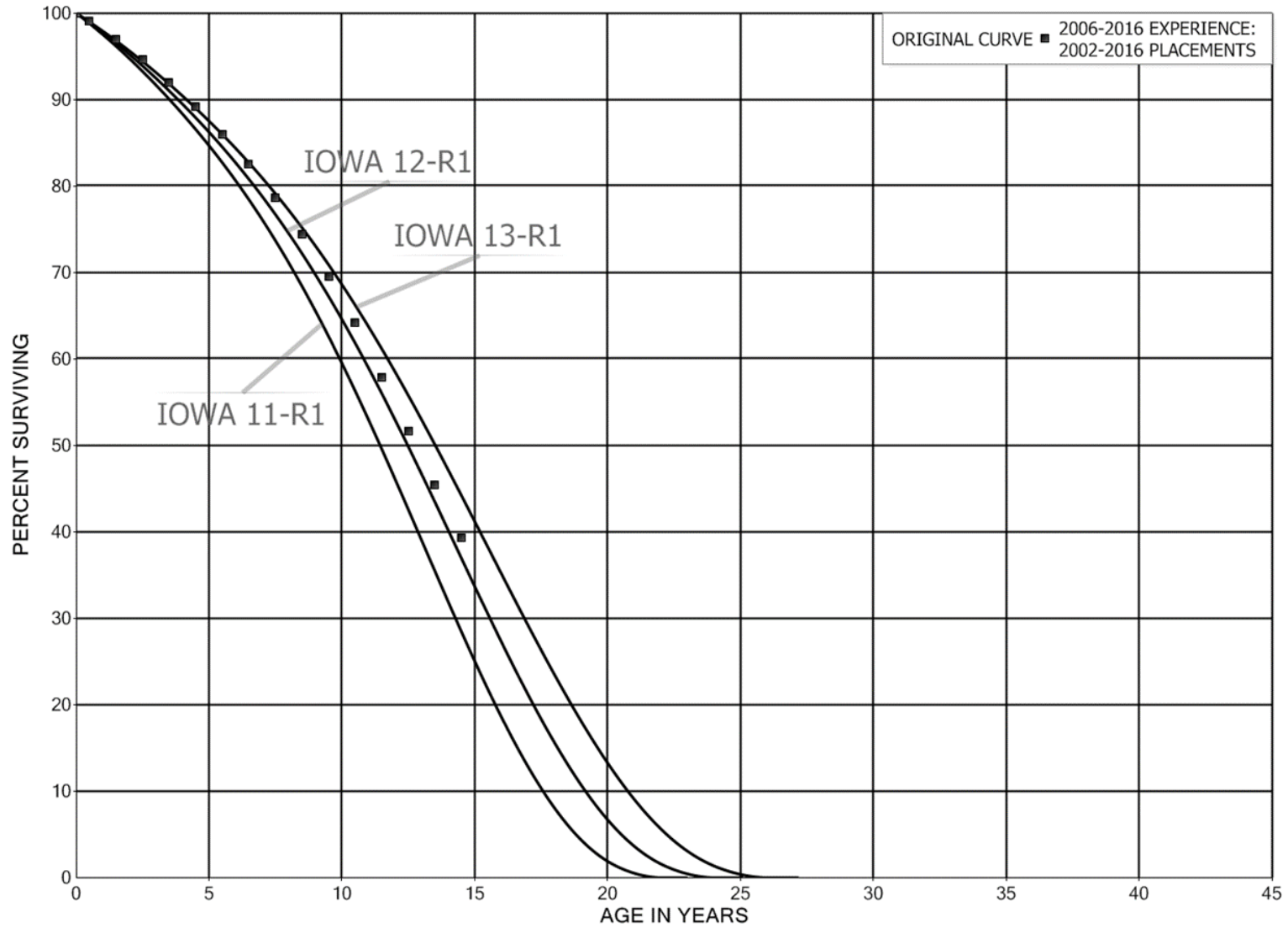
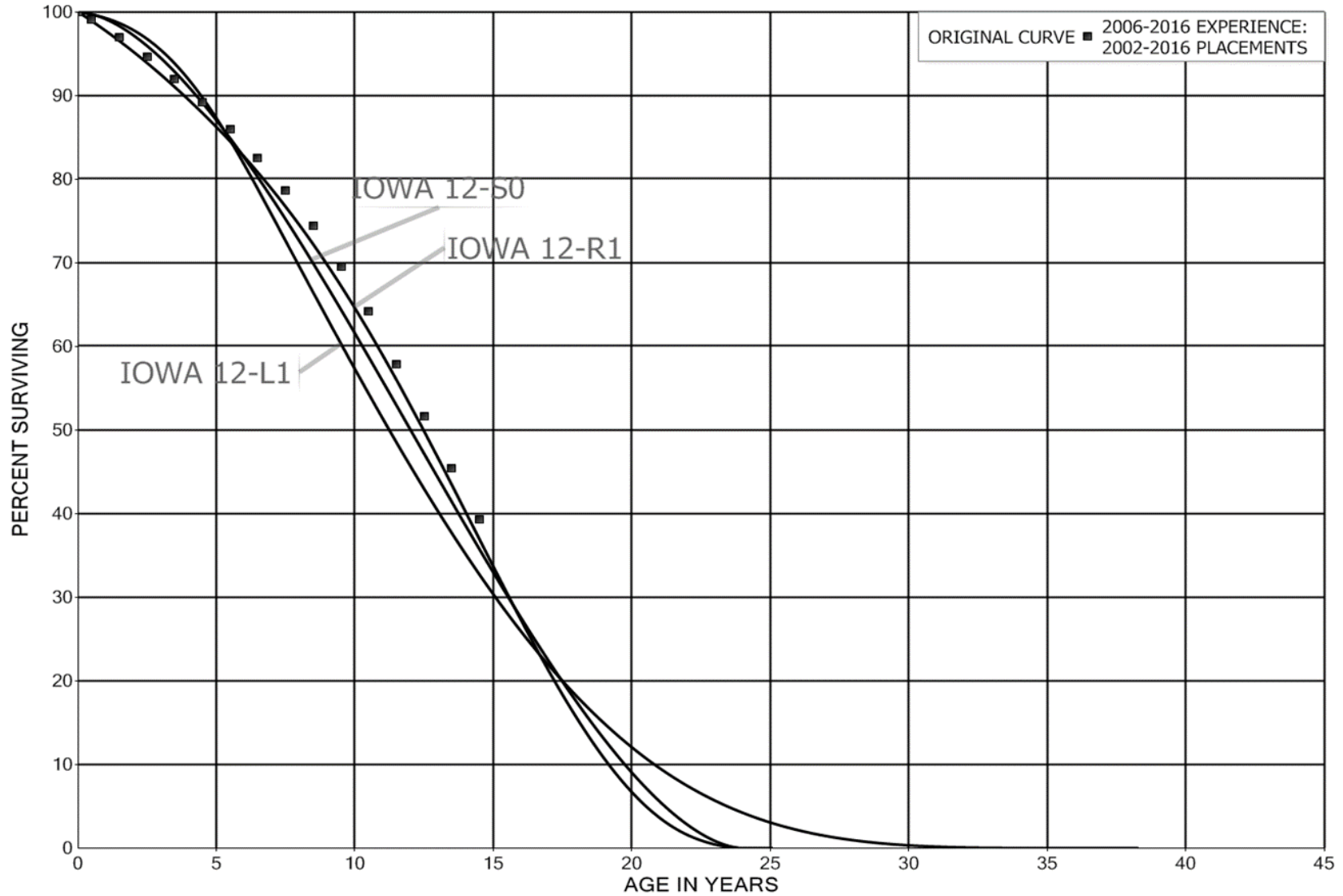




FIGURE 9: ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH A L1 IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES





SECTION 9

10 ESTIMATION OF NET SALVAGE

The estimates of net salvage were based primarily on the professional judgment of Concentric, based in part on historical data, and in part through a comparison to Canadian peer companies. The analysis of historic net salvage activity considered gross salvage and cost of removal as recorded to the depreciation reserve account. Net salvages as a percentage of the cost of plant retired are calculated for each plant component on both annual and three-year moving average bases.

The net salvage percentages estimated is usually determined using the “Traditional Approach” for net salvage estimation. 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 proceeds (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 account’s 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 as a percentage of the original cost is the result.

The estimation of the net salvage as a percentage of original cost as developed using the traditional approach, includes the following five steps.

1. The annual retirement, gross salvage and cost of removal transactions for the period of analysis is extracted from the plant accounting systems.
2. A net salvage amount (gross salvage proceeds less cost of retirement) is calculated for each historic year. Additionally, a net salvage amount is also calculated for each historic three-year rolling band and the most recent five-year rolling band.
3. The net salvage amount determined above is compared to the original booked costs retired for each period in the manner described, which results in a net salvage percentage of original costs retired for each year, in addition to three-year rolling bands and the most recent five-year rolling band. The annual, the three-year rolling average, and the most recent five-year rolling average net salvage percentages are analyzed to determine a reasonable estimated net salvage percentage. At this point the net salvage percentage is based purely upon statistical analysis.
4. Each account is then compared to the net salvage percentage currently approved, compared to Canadian peer companies, and discussed with company engineering staff. Based on the statistical analysis, the review of current and Canadian peer company net salvage percentages, and with the professional judgment of Concentric, a net salvage percentage is determined for each account.



5. The net salvage percentage is then used in the depreciation rate calculations in the technical update or report.

TAUX D'AMORTISSEMENT PROPOSÉS POUR LES CATÉGORIES D'INSTALLATIONS GÉNÉRALES

Ligne	Catégories actuelles	Taux actuels	Nouvelles catégories proposées	Taux proposés pour les catégories
1	Z2450 - Matériel Roulant - Voitures et camionnettes	20,00%		14,29%
2		(5 ans)		(7 ans)
3	Z2560 - Véhicules tout terrain	33,33%		20,00%
4		(3 ans)		(5 ans)
5	Z2650 - Remorques	10,00%		8,33%
6		(10 ans)		(12 ans)
7	Z2203 - Micro-ordinateur	25,00%	Z2204 - Imprimante, photocopieur, stockage, serveurs	20,00%
8		(4 ans)		(5 ans)

IMPACTS DE L'ÉTUDE DES TAUX SUR LA DÉPENSE D'AMORTISSEMENT DE LA CAUSE TARIFAIRE 2020-2021

Ligne	Catégories	Description	Nouvelle étude de taux		Ancienne étude des taux		Écart amort. prévu CT 2021
			Taux amort. proposé	Amort. prévu CT 2021	Taux amort. actuel	Amort. prévu CT 2021	
				000 \$		000 \$	000 \$
1		ACTIFS INTANGIBLES					
2	Z1400	Dis Mutation	2,50%	(51)	2,50%	(51)	-
3	Z2700	Inst Mutation	2,50%	(3)	2,50%	(3)	-
4	Z3150	Transm. - Mutation	2,50%	(9)	2,50%	(9)	-
5	Z4150	Stockage - Mutation	2,50%	(1)	2,50%	(1)	-
6		Total		(64)		(64)	-
7		ENTREPOSAGE					
8	Z4000	Stockage - Terrain	0,00%	-	0,00%	-	-
9	Z4051	stockage - bâtiment administratifs	2,68%	(238)	2,87%	(256)	17
10	Z4052	stockage - bâtiment infrastructures	2,67%	(716)	2,96%	(794)	78
11	Z4101	stockage - équipement mécaniques	2,38%	(319)	1,16%	(156)	(163)
12	Z4102	stockage - équipements électroniques	4,35%	(28)	0,36%	(2)	(25)
13	Z4103	stockage - équipements spécialisés	2,73%	(92)	5,63%	(190)	98
14	Z4200	Stock. - gaz coussin	0,00%	-	0,00%	-	-
15		Total		(1 394)		(1 398)	4
8		TRANSMISSION					
9	Z3000	Transm. - Terrain	0,00%	-	0,00%	-	-
10	Z3050	Transm. - Servitudes	0,06%	(2)	0,05%	(2)	(0)
11	Z3100	Transm. - Conduites	0,55%	(332)	0,36%	(219)	(114)
12	Z3110	Transm. - Inspections majeures conduites	10,00%	(192)	10,00%	(192)	-
13	Z3120	Transm. - Poste compression équipement	3,52%	(1 332)	4,32%	(1 633)	302
14	Z3130	Transm. - Poste de compression bâtiment civil	2,84%	(1 080)	4,29%	(1 632)	552
15		Total		(2 938)		(3 678)	739
16		DISTRIBUTION					
17	Z1000	Dis Terrain	0,00%	-	0,00%	-	-
18	Z1050	Dis Servitude	1,41%	(264)	1,42%	(265)	2
19	Z1251	Dis Poste liv civile	1,98%	(386)	2,46%	(480)	94
20	Z1301	Dis Poste dét civile	2,06%	(261)	3,05%	(387)	126
21	Z1106	Dis Br Fronte	0,00%	-	0,00%	-	-
22	Z1101	Dis Br cuivre inséré	0,00%	-	0,82%	(9)	9
23	Z1100	Dis Br Acier	2,94%	(5 571)	2,50%	(4 735)	(836)
24	Z1102	Dis Br Plast direct	4,30%	(42 211)	5,15%	(50 546)	8 334
25	Z1351	Distribution - CASEP	3,97%	175	2,10%	92	82
26	Z1352	Rev. Contr. cl. racc	3,97%	634	2,10%	335	299
27	Z1353	Rev. Condit. de racc	3,97%	35	2,10%	19	17
28	Z1354	Rev Cont rent. Inv.	2,91%	681	1,99%	466	216
29	Z1355	Rev Pénalité Entente	3,97%	10	2,10%	5	5
30	Z1103	Dis Br PI inséré	2,82%	(2 325)	2,27%	(1 868)	(457)
31	Z1107	Dis Br Aluminium	0,00%	-	0,00%	-	-
32	Z1104	Dis Br pré-dét PI d	5,13%	(102)	5,56%	(111)	9
33	Z1105	Dis Br pré-dét Acier	6,00%	(45)	7,23%	(54)	9
34	Z1154	Dis Cond Fonte	0,00%	-	0,00%	-	-
35	Z1150	Dis Cond Acier	3,25%	(28 583)	3,13%	(27 538)	(1 045)
36	Z1151	Dis Cond Plast dir	1,52%	(16 208)	1,56%	(16 672)	464
37	Z1152	Dis Cond Plast insé	1,23%	(786)	1,43%	(914)	128
38	Z1153	Dis Cond Aluminium	0,00%	-	0,00%	-	-
39	Z1155	Dis Bridage-joints	0,00%	-	0,00%	-	-
40	Z1250	Dis Poste liv équip	2,76%	(3 258)	2,03%	(2 398)	(860)
41	Z1300	Dis Poste dét équip	2,95%	(1 290)	3,77%	(1 651)	361
42	Z1200	Dis Compteurs	5,24%	(11 562)	7,19%	(15 855)	4 293
43	Z1501	Dis Biogaz Servitude	4,08%	(0)	3,97%	(0)	(0)
44	Z1550	Dis Biogaz Cond Aci	5,41%	(107)	5,33%	(105)	(1)
45	Z1560	Dis Biogaz P Comp éq	4,96%	(199)	5,77%	(232)	33
46	Z1561	Dis Biogaz P Comp pc	4,69%	(87)	4,92%	(91)	4
47	Z1570	Dis Biogaz P Mesu éq	5,58%	(16)	6,67%	(20)	3
48	Z1571	Dis Biogaz P Mesu pc	4,46%	(8)	4,88%	(8)	1
49	Z1350	Dis Cont. PCF	3,97%	501	2,10%	265	236
50	Z1650	Biométhane CP acier	5,00%	(62)	5,00%	(64)	2
51	Z1610	Biométhane servitude	5,00%	(0)	5,00%	(0)	0
52	Z1680	Biométhane poste de réception	5,00%	(44)	5,00%	(47)	3
53	Z1681	Biométhane poste de récep. Civil	5,00%	-	5,00%	-	-
54		Total		(111 337)		(122 867)	11 530

Énergir, s.e.c.
Cause tarifaire 2020-2021, R-4119-2020

Catégories	Description	Nouvelle étude de taux		Ancienne étude des taux		Écart amort. prévu CT 2021
		Taux amort. proposé	Amort. prévu CT 2021	Taux amort. actuel	Amort. prévu CT 2021	
	INSTALLATIONS GÉNÉRALES					
Z2000	Inst Terrain	-	-	-	-	-
Z2050	Inst Bâtiments	3,51%	(1 749)	3,51%	(1 749)	-
Z2051	Inst Infrastructures	2,25%	(336)	2,25%	(336)	-
Z2052	Inst Équip base immeubles	4,00%	(1 015)	4,00%	(1 015)	-
Z2053	Inst Équip fct immeubles	10,00%	(1 326)	10,00%	(1 326)	-
Z2053_	Inst Équip fct immeubles + LSR	10,00%	(1)	10,00%	(1)	-
Z2054	Inst Équip tech immeubles	20,00%	(87)	20,00%	(87)	-
Z2055	équipement 15 ans	6,67%	(372)	6,67%	(372)	-
Z2055_	équipement 15 ans - LSR	6,67%	(0)	6,67%	(0)	-
Z2100	Inst Amél. loc	Durée	(501)	Durée	(501)	-
Z2150	Inst Mobilier	10,00%	(1 394)	10,00%	(1 394)	-
Z2150_	Inst Mobilier - Usine LSR	10,00%	(20)	10,00%	(20)	-
Z2200	Inst Inform périphér	0,00%	-	25,00%	-	-
Z2201	Inst Ordi central	0,00%	-	Durée	-	-
Z2202	Inst Pag,cell,mike,caméra	50,00%	(1 471)	50,00%	(1 471)	-
Z2203	Inst Micro-ordinateur	25,00%	(2 865)	25,00%	(2 865)	-
Z2203_	Inst Micro-ordinateur	25,00%	(5)	25,00%	(5)	-
Z2204	Inst Imprim.,phot,lib.stock, serveurs	20,00%	(829)	20,00%	(829)	-
Z2204_	Inst Imprim.,phot,lib.stock, serveurs LSR	20,00%	(30)	20,00%	(30)	-
Z2205	Inst Syst.tél,mes.distance	10,00%	(34)	10,00%	(34)	-
Z2400	Inst Voiture-Fourgon	14,29%	(5 291)	14,29%	(5 291)	-
Z2400_	Inst Voiture-Fourgon - LSR	14,29%	-	14,29%	-	-
Z2450	Inst Camionnettes	14,29%	(789)	20,00%	(1 055)	266
Z2500	Inst Camions lourds 8 ans	12,50%	(706)	12,50%	(706)	-
Z2540	Inst Camions lourds 10 ans	10,00%	(457)	10,00%	(457)	-
Z2560	Inst Véhi Tt terrain	20,00%	(42)	33,33%	(51)	9
Z2650	Inst Remorques	8,33%	(123)	10,00%	(148)	25
Z2550	Inst Accessoir lourd	12,50%	(19)	12,50%	(19)	-
Z2600	Inst Machine lourde	10,00%	(223)	10,00%	(223)	-
Z2600_	Inst Machine lourde - LSR	10,00%	(5)	10,00%	(5)	-
Z2301	Inst Équip&Outillage	4,00%	(257)	4,00%	(257)	-
Z2301_	Inst Équip&Outillage - Usine LSR	4,00%	(6)	4,00%	(6)	-
Z2302	Inst Outils spéc, électro	20,00%	(466)	20,00%	(466)	-
Z2302_	Inst Outils spéc, électro - Usine LSR	20,00%	(3)	20,00%	(3)	-
Z2303	Inst Équip et outillage 12 ans	8,33%	(919)	8,33%	(919)	-
Z2303_	Inst Équip et outillage 12 ans - LSR	8,33%	(8)	8,33%	(8)	-
Z2300	Inst Mach&Outillage	12,50%	(1 134)	12,50%	(1 134)	-
Z2300_	Inst Mach&Outillage - Usine LSR	12,50%	(5)	12,50%	(5)	-
Z2250	Inst Communic.	8,33%	(0)	8,33%	(0)	-
Z2250_	Inst Communic. - Usine LSR	8,33%	-	8,33%	-	-
	Total		(22 489)		(22 788)	299
	Total avant travaux en cours et contributions		(138 223)		(150 795)	12 572
	CONTRIBUTIONS					
Z5001	Subv. - Distr Infra	2,26%	917	1,93%	783	134
Z5002	Subv. - Distr Pro m	3,25%	3 450	2,41%	2 556	894
Z5050	Subv. - Transmission	0,55%	1	0,08%	0	1
Z5000	Subv. - Distr Perd	2,26%	1 819	1,93%	1 552	266
Z5003	Subv - Dist Con pl d	1,52%	864	1,57%	894	(31)
Z5200	Subv.-Inst.générale	14,29%	8	14,29%	8	0
	Sous-total contributions		7 058		5 794	1 264
	Total avant travaux en cours		(131 165)		(145 001)	13 836
Z9000 à Z9355	Travaux en cours	-	-	-	-	-
	Sous-total TEC		-		-	-
	Total		(131 165)		(145 001)	13 836
	Amortissement imputé à d'autres comptes:					
	Matériel Roulant (20%)		1 531		1 591	(60)
	Droit de mutation		64		64	-
	Total dépense amortissement		(129 569)		(143 345)	13 776