REFERENCE:

Appendix 9.11

PREAMBLE TO IR (IF ANY):

Alliance Consulting Group has prepared depreciation estimates that are labelled as IFRS compliant: "This study calculates annual depreciation rates by subcomponent account using an IFRS compliant, straight line, average life group ("ALG") remaining life methodology." (pdf page 3).

Appendix 9.12 indicates:; "IFRS-compliant ASL level of componentization" was "determined by the Alliance study". (pdf page 5)

QUESTION:

a) Please provide the CV of Dane Watson and any other senior staff who worked on preparing Appendix 9.11.
b) Please provide an outline of the background in respect of accounting, and in particular IFRS accounting, for the parties mentioned in the response to (a).
c) Please provide a list of the utility depreciation studies prepared by the Alliance staff noted in the last 5 years, and indicate the accounting standards that apply to the utility.
d) Please provide a copy or link to any publicly available depreciation studies referenced in (c) which are based on IFRS standards.
e) Please provide all written correspondence and meeting or interview notes between Manitoba Hydro and Alliance that sets out the directions or interpretations provided by Manitoba Hydro related to the development of an account structure and componentization to achieve IFRS compliance.
f) Please indicate if any other party, such as external accounting advisors, were involved in the development of the opinion as to the degree of componentization required to achieve IFRS-compliance. If so, please provide the names of the parties, their CVs, and a detailed outline of the engagement issued to them, the scope of work completed and the timeline.
g) Please provide a copy of any reports generated as part of (f) above.

h) Please indicate the meaning of the ASL level of componentization being "determined by the Alliance study" (Appendix 9.12 pdf page 5). Did Alliance determine which and how many new accounts were needed, or did Manitoba Hydro?

i) Does Alliance indicate that anything less than 410 new accounts would not be IFRS compliant? If so, please provide a detailed description why this is the case.

j) Appendix 9.12 indicates Alliance completed the study using a remaining life technique rather than a whole life technique. Please indicate why this approach was adopted, and who made the decision to use a remaining life technique.

k) Appendix 9.12 indicates at pdf page 19 that a Theoretical Depreciation Reserve was calculated for each account. Please confirm this step is consistent with a whole life technique and indicate why this calculation was not carried forward into a whole life set of calculations within the study.

l) Please provide any reports or opinions that have been developed for or by Manitoba Hydro to conclude "In accordance with the financial reporting standards, implementation of an IFRS-compliant ASL deprecation methodology would be a change in accounting policy and as such, would require retrospective restatement of each year's financial results from April 1, 2014, (the opening balance sheet date of IFRS implementation) through to the IFRS-compliant ASL implementation date." (Appendix 9.12 pdf page 6).

m) Please provide calculations in support of the following: "IFRS-compliant ASL composite depreciation rates by existing source account were calculated based on the source account to sub-component mix of assets in service as at March 31, 2022 and applied to all assets in service and planned capital additions included in the long-term financial forecast scenario." (Appendix 9.12 pdf page 6).

n) Please provide detailed calculations in support of the annual loss on retirement as determined for each of IFRS-ASL, ELG and CGAAP-ALG as described in Appendix 9.12 pdf page 6-7. Please ensure historical losses on disposal from 2014/15 to 2021/22 are included, including the age and vintage of the assets retired and the calculations for the determination of the amount of loss on disposal.

o) Please provide the assumed amortization parameters and annual expense for the amortization of the existing deferral balance for each of IFRS-ASL, ELG and CGAAP-ALG as described in Appendix 9.12 pdf page 6-7.

p) At Section 1.2.2 of Appendix 9.12, there is a reference to whole-life based ELG depreciation rates indicating they are located at Appendix 9.10 Attachment 2. It does

not appear there is an Attachment 2 to Appendix 9.10. Please confirm the reference is to Appendix 9.12 Attachment 2.

~~*q) Appendix 9.12 Attachment 2 indicates: "A dollar-weighted average service life is computer for each source account by utility function*~~

r) Appendix 9.12 Appendix 2 provides a column (8) labelled as "adjustment required to apply Whole Life Technique". Please provide the calculations in support of this column, including a spreadsheet in Excel format showing the calculations.

s) Please provide a detailed description of the calculations performed in DAW-2, including the source data and the derivation of each column. Please specifically address which study is the source of the "2019 Dep Study Parameters (Alliance of Concentric) and indicate why the accounts do not appear to have the same parameters as published in either Appendix 9.11 or MFR 95 Attachment. For example, account 1199W (pdf page 67) indicates a life and dispersion of 35-SQ from the purported 2019 study, while Appendix 9.11 does not appear to have an account 1199W, and MFR 95 Attachment uses 20-SQ.

t) Please indicate whether truncation dates were used in preparing DAW-2 (Appendix 9.12 Attachment 1) and if not, please indicate why not.

u) Please reconcile a Concentric definition of average service life (e.g., Account 000A Dams Dykes and Weirs at 125-R4) with the Alliance comparator 000A Account (shown at Appendix 9.12 pdf page 64) where Alliance has no subaccount longer than 125 years, but many new subaccounts shorter than 125 years.

v) Please confirm the Concentric average service life for Account 000D (Spillway) is proposed to increase from 80-R3 to 90-R3.5 (MFR 95 Attachment pdf page 14) and that Manitoba Hydro personnel indicated "there may continue to be an extension of the service life for this account" (MFR 95 Attachment pdf page 14). Please reconcile this with Appendix 9.12 (pdf page 65) which indicates the IFRS ASL should be based on an average composite life of 86 years.

w) Please provide the Concentric Retirement Rate Analysis for the 000D account (as per MFR 95 Attachment pdf page 130) adding in an 85-R3.5, including the Residual Measure.

x) Please indicate if the Alliance Consulting depreciation study included in Appendix 9.11 represents an industry-standard approach applied by Alliance, and the conclusions of Alliance's depreciation experts as to the fair and reasonable annual depreciation expense for Manitoba Hydro. If not, please provide a detailed description why not.

y) If the Alliance Consulting depreciation study in Appendix 9.11 is not in compliance with the normal practice and industry-standard approach applied by Alliance in other

consulting assignments (e.g., if it is skewed by assumptions related to the imposed related to the PUB directive or other Manitoba Hydro driven directions), please indicate how the results would be different if Alliance had applied its normal practices and methods as used for utility clients. If available, please provide a version of Appendix 9.11 consistent with these Alliance methods and practices.

z) Is it Alliance Consulting's view that implementation of IFRS on a utility with a growing asset base will inevitably lead to higher depreciation expense in a year than would be the case absent IFRS imposed standards.

aa) Please indicate the process for review of Appendix 9.12 by each of Alliance Consulting and Concentric Consulting, and which parts of the Appendix were prepared by or signed off by these external parties as part of their evidence. If these parties have not (i) reviewed, and (ii) signed off on the contents of the Appendix, please provide a detailed explanation as to why.

bb) Please provide live Excel files for the calculations of Figures 9 to 16 of Appendix 9.12.

cc) Please provide (preferably in Excel format) the working calculations for Attachment DAW-1 pdf page 30-63 of Appendix 9.12. (e.g., in the format of MFR-95 Attachment pdf page 366-784, or other alternative format as used by Alliance).

dd) Please confirm that comparing Alliance Consulting ELG study (depreciation expense of $484 million per year per Appendix 9.12 pdf page 28) and Alliance ALG study ($458 million per year per Appendix 9.11 pdf page 7) shows a head-to-head basis comparison (e.g., equivalent life estimates, same Remaining Life technique) of the depreciation expense associated with the 2 procedures ELG/ALG. If not confirmed, please provide a detailed explanation as to why the Alliance reports cannot be compared in this manner.

RESPONSE:

a) The following response was provided by Alliance Consulting Group (Alliance):

Please refer to PUB/MH I-140 Attachment 2 which provides the resume and biography for Dane A. Watson. The resumes and biographies of the three senior consultants at Alliance, Dr. Karen Ponder, Ms. Rhonda Watts, and Ms. Rebecca Richards are provided in Attachment 1 to this response.

b) The following response was provided by Alliance:

The responses to part a) above include the accounting experience of individuals in Alliance. Additionally, Mr. Watson served on a project with American Gas Association (AGA)/Edison Electric Institute (EEI) related to the Electric and Gas industries response to the potential implementation of IFRS in the US. Alliance has completed depreciation studies for other clients that follow IFRS accounting standards listed in response to part c) below.

c) The following response was provided by Alliance:

A list of the depreciation studies completed by Alliance over the last 5 years is provided in Attachment 2 and includes the accounting standards used by each utility.

d) The following response was provided by Alliance:

PDF versions of the depreciation studies completed by Alliance for utility clients that use IFRS accounting standards are included in Attachments 3-6.

e) The following response was provided by Manitoba Hydro:

Please see Attachment 7 for the written correspondence and meeting or interview notes between Manitoba Hydro and Alliance regarding initial discussions on componentization. Please note these meetings occurred early in the engagement with Alliance and as such the information documented in these minutes may have been updated later in the depreciation study process.

f) The following response was provided by Alliance and Manitoba Hydro:

Neither Manitoba Hydro nor Alliance engaged with any external party when determining the level of componentization used in the depreciation study.

g) The following response was provided by Alliance and Manitoba Hydro:

Not applicable.

h) The following response was provided by Alliance:

The level of componentization utilized in the study relies on the knowledge and experience of Alliance obtained while managing property accounting and performing depreciation studies across the United States and Canada for more than 30 years and incorporates data analysis and information provided by Manitoba Hydro subject matter experts (SMEs) from various areas of the corporation including operations, management, and finance. For external reporting, IFRS standards require the cost of an asset (or group of assets) to be depreciated over its useful life. The componentization by Alliance was developed to provide asset groups with more homogeneous lives to calculate depreciation expense using an IFRS compatible ASL methodology. The ASL methodology, which refers to the Average Life Group procedure, applies the same average service life and dispersion curve to all assets within a homogenous group of assets. The assets within many of the existing source accounts have a wide range of estimated useful lives and do not consist of a homogenous group of assets. The level of componentization in the study groups similar-life assets into individual subcomponent accounts to depreciate the assets more concisely over the useful life of the group of assets. The number of different life characteristics within an original group determined how many subcomponent accounts to use in the depreciation study.

i) The following response was provided by Alliance:

No, although Alliance believes that the additional groups represent their best estimate for creating groups with homogeneous lives, Alliance does not indicate that using anything less than 410 new accounts would not be IFRS compliant.

j) The following response was provided by Alliance:

Please see response to PUB/MH I-128 c). Alliance chose the remaining life approach based on its preference for that technique. In Alliance's experience, it is also the most

widely used technique for regulated utility companies in North America and as discussed in the referenced response, has an automatic true-up provision in the depreciation rate calculation. The use of this technique spreads the amount to be recovered over the remaining life of the remaining assets and includes the difference between the theoretical and book reserve caused by changes in life parameters over time in the calculation of the depreciation rate.

k) The following response was provided by Alliance:

Yes, calculating a theoretical reserve is consistent with the whole life approach. Although it is not used in a remaining life approach, Alliance will also typically analyze theoretical reserve as part of its analysis when using the remaining life technique. Please see response to j) for explanation of why Alliance used the remaining life technique.

l) The following response has been provided by Manitoba Hydro:

Please refer to the response provided in PUB/MH I-115 b).

m) The following response was provided by Manitoba Hydro:

Please refer to Attachment 8 which provides the calculations in support of the IFRS-compliant ASL composite depreciation rates by existing source account for assets in service as at March 31, 2022.

Within Attachment 8, column [3] provides the IFRS-compliant ASL subcomponent breakdown of plant in service as at March 31, 2019 from original source account to new subcomponents as determined for development of the IFRS-Compliant ASL Depreciation Study (Appendix 9.11). Columns [7] and [11] reflect the percentage allocation of actual retirements and additions for the 2014/15 through 2018/19 fiscal years from original source account to IFRS-compliant ASL subcomponents as determined in preparation of the IFRS-Compliant ASL Depreciation Study data set.

n) The following response was provided by Manitoba Hydro:

Please refer to the Excel file provided in response to PUB/MH I-130 for the calculations in support of the annual historical and forecast losses described in Appendix 9.12 pages 6-7.

o) The following response was provided by Manitoba Hydro:

For the IFRS-compliant ASL forecast scenario described on pages 6-7 of Appendix 9.12, the regulatory deferral account balances have been amortized using the amortization periods proposed by Manitoba Hydro in Appendix 4.3. The annual expense resulting from application of these amortization periods is shown in Appendix 9.12 Figure 6. The amortization periods proposed by Manitoba Hydro are as follows:

- The change in depreciation method deferral account (Appendix 4.3 section 1.4.17) has been amortized on a straight-line basis over a period of 30 years for Manitoba Hydro, 42 years for WPLP and 62 years for KHLP effective September 1, 2023, based on the weighted average probable remaining life of the asset components contributing to the existing deferral account balance.
- The loss on retirement or disposal of assets deferral account (Appendix 4.3 Section 1.4.18) has been amortized on a straight-line basis over a period of 26 years for Manitoba Hydro, 27 years for WPLP and 58 years for KHLP effective September 1, 2023, based on the weighted average probable remaining life of the asset components contributing to the existing deferral account balance.
- The IFRS phase-in deferral account (Appendix 4.3 Section 1.4.16) has been amortized on a straight-line basis over a period of 30 years, with amortization commencing on October 1, 2023, based on weighted average probable remaining life of the accounts contributing to the difference in depreciation between CGAAP and IFRS.

p) The following response was provided by Manitoba Hydro:

Manitoba Hydro confirms that the schedule of whole-life based ELG depreciation rates described in Section 1.2.2 of Appendix 9.12 is provided in Appendix 9.12 Attachment 2.

q) *This Information Request has been withdrawn by MIPUG.*

r) The following response was provided by Manitoba Hydro:

Manitoba Hydro has separately provided the requested information in Excel format to the PUB and Registered Interveners.

s) The following response was provided by Alliance:

The calculation performed in DAW-2 is a weighted average service life for each source account incorporating the average service lives at the subcomponent account level determined in the Alliance ALG depreciation study. The DAW-2 schedule maps the investment amount by source account to the subcomponent accounts and multiplies the subcomponent balance by the life of the subcomponent (Alliance study) to calculate a weighted average service life at the source account level. The last two columns show the rounded weighted average life by source account and then assigns the existing dispersion curve from the 2019 Concentric depreciation study to each source account.

The 2019 depreciation study performed by Concentric (MFR 95) is the source of the data listed in columns 1 and 2, "Source Account" and "2019 Dep Study Parameters" respectively. The example mentioned for Account 1199W is incorrect in the table included in DAW-2 (Appendix 9.12 Attachment 1 page 40) and should show as 20 SQ. However, this error does not impact the results of this schedule. The Alliance depreciation study (Appendix 9.11) is the source for columns 3, 4, and 5 titled "Sub Component Account", "Sub Component Balance", and "IFRS ASL Parameters by Sub Component". Attachment 9 provides the calculations for DAW-2 including the source data.

t) The following response was provided by Alliance:

No, truncation dates are not applicable to the calculation of the weighted average service life by source account shown in DAW-2, Appendix 9.12 Attachment 1. The calculation performed in DAW-2 is explained in response to part s) above. If by "truncation dates" the question is referring to the terminal retirement dates for a

generating facility, those dates are used in the life span calculation of depreciation expense. The terminal retirement dates for each Hydraulic Generating Station used in the Alliance ASL depreciation study are listed in Appendix 9.11, Appendix B. The same terminal retirement dates for hydraulic generating stations were used in the ELG depreciation rate calculations included in DAW-1 (Appendix 9.12, Attachment 1).

u) The following response was provided by Alliance:

In analyzing the individual components of Source Group Account 000A Dams Dykes and Weirs, Alliance (along with Manitoba Hydro SMEs) did not believe setting any lives above 125 years was appropriate in modeling the assets in this account. There were, however, some assets that would not last 125 years and were modeled with shorter lives as appropriate. The Concentric depreciation study performed life analysis at the source account level to determine the average service life for each source account. Whereas the Alliance study performed life analysis at the subcomponent account level to determine an average service life for each subcomponent account. Due to this, Alliance recalculated updated ELG depreciation rates using the weighted average service life by source account so that a service life equivalent comparison could be made.

v) The following response was provided by Alliance:

The life assigned to source account 000D Spillway from the Concentric depreciation study is 90 R3.5 (MFR 95 page 14). The weighted average service life calculated by Alliance for source account 000D is 86 years and was rounded to 85 R3.5 as shown in Appendix 9.12 Attachment 1 (page 65) based on modeling the lives for the various subcomponents within the account. The weighted average service life uses the total investment for that source account and shows that portions of the investment in the source account are assigned average service lives ranging between 25 and 125 years for the various subcomponent accounts in the Alliance ALG study (Appendix 9.11). Figure 1 below summarizes what portion of the total investment in source Account 000D is attributed to each subcomponent account.

Figure 1 Source Group Account 000D Spillway

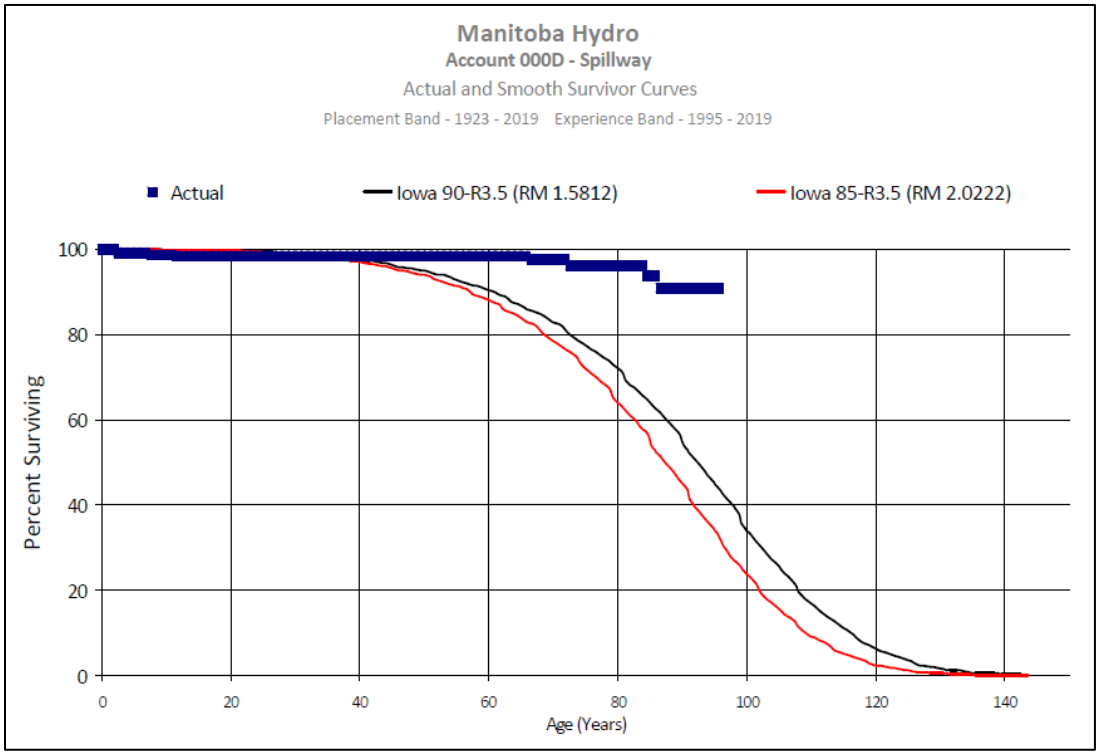
Source Group Account 000D Spillway Mapping from DAW-2			
Sub-component Group Account	**Sub-component Balance**	**IFRS ASL Parameters by Sub-component**	**Subcomponent Balance / Total Balance**
000A-01	56,432,668	125 R4	7.69%
000A-02	8,988,591	125 R4	1.22%
000A-05	622,004	75 R4	0.08%
000B-01	54,849	100 R4	0.01%
000B-03	191,973	55 R3	0.03%
000B-04	137,123	35 R2	0.02%
000B-05	73,132	25 R3	0.01%
000D-01	447,915,634	90 R5	61.03%
000D-02	7,877,409	45 R4	1.07%
000D-03	5,254,737	25 SQ	0.72%
000D-04	194,321,438	70 R5	26.48%
000D-05	7,572,787	35 R4	1.03%
000E-01	4,484,056	80 R4	0.61%
000F-01	43,017	50 R3	0.01%
Total Investment	**733,969,419**		

As shown in Figure 1 above, 61 percent of the investment in this source account is in subcomponent account 000D-01 and is using a 90-year life. Approximately 9 percent of the total investment is using a life of 100 years or more in subcomponent accounts 000A-01, 000A-02, and 000B-01. Since these calculations were based on conditions at the time of the Concentric study, expectations for life changes at some point in the future would not be factored into the calculations beyond what was considered by Concentric.

w) The following response was provided by Concentric Advisors (ULC):

Figure 2 below provides the Concentric Retirement Rate Analysis for account 000D Spillway as shown in the 2019 Depreciation Study (MFR 95 page 130) with the addition of the 85-R3.5 smooth survivor curve.

Figure 2 Account 000D Spillway Actual and Smooth Survivor Curves



x) The following response was provided by Alliance:

Yes. While the level of componentization may be higher than some other utilities due to IFRS considerations, the conclusions in the depreciation study completed for Manitoba Hydro by Alliance Consulting Group in Appendix 9.11 represent fair and reasonable depreciation expense using the straight line, average life group, and remaining life methodology. This depreciation methodology is used predominantly by the utility clients of Alliance Consulting Group and is the methodology frequently used by regulated utilities in the United States.

y) The following response was provided by Alliance:

Please see response to part x) above.

z) The following response was provided by Alliance:

No. The same standard combinations of depreciation methods, procedures, and techniques are used to calculate depreciation expense whether the utility uses IFRS accounting standards or other accounting standards. The amount of depreciation expense computed for a utility with a growing asset base is impacted by the increasing gross investment, depreciation methodology used, life and net salvage parameters established, and the historical accumulated depreciation position.

aa) The following response was provided by Manitoba Hydro:

Appendix 9.12 was prepared by Manitoba Hydro. Consultant involvement in the preparation of this appendix was limited to Alliance's development of the remaining-life based ELG depreciation rates included in Attachment 1 to the Appendix. Neither Alliance nor Concentric was asked to review or sign off on the content of Appendix 9.12 for the following reasons:

- The engagements with Alliance and Concentric were limited to preparation and support of depreciation studies based on the plant in service as at March 31, 2019.
- Sections 1.1 and 1.2 of Appendix 9.12 provide a comparison IFRS-ASL and ELG when applied to Manitoba Hydro's long term financial forecast scenario. Preparation of these sections required the development of forecast scenarios reflecting the application of IFRS-Compliant ASL and whole-life based ELG depreciation rates to Manitoba's Hydro current asset base and forecast capital additions. The development of forecasts was not included in the scope of the depreciation studies as Manitoba Hydro has the internal capability to develop depreciation forecasts without the need for engagement of external consultants.
- Section 1.3 of Appendix 9.13 provides a theoretical cross-over analysis for a limited number of Iowa curves, with commentary on the relevance of each presented case to Manitoba Hydro's asset base. The development of these theoretical scenarios was not included in the scope of the depreciation studies. Manitoba Hydro has a Certified Depreciation Professional on staff who has the expertise to conduct this theoretical analysis, and as such, preparation of this material did not require the assistance of consultants.

bb) The following response was provided by Manitoba Hydro:

Manitoba Hydro has separately provided the PUB and registered interveners with a response to this request in Excel format. The Excel file contains the data used to prepare Figures 9 to 17 of Appendix 9.12. The data points for Appendix 9.12 Figures 9, 10, 12, 13, 15 and 16 were calculated through use of a model developed by Manitoba Hydro using content derived from the proprietary model provided by Concentric for purposes of calculating gains and losses when using the ELG procedure. Within the provided Excel workbook, information proprietary to Concentric has been removed from the R5, R3 and R1 worksheets, and formulae have also been removed to prevent derivation of this proprietary information.

cc) The following response was provided by Alliance:

The Excel files in response to this question have separately been provided to the PUB and Registered Interveners.

dd) The following response was provided by Manitoba Hydro:

As discussed in Appendix 9.12, section 1.2.2 and quantified in Appendix 9.12 Attachment 2 with supporting calculations in the Excel spreadsheet provided in response to MIPUG/MH I-91 r), the choice of whole life vs remaining life technique delivers materially different results when applied in combination with the ELG procedure. The Alliance ELG results provided in Appendix 9.12 Attachment 1 were determined for the same asset base and using equivalent life estimates as the Alliance ALG study provided in Appendix 9.11, and as such provide a fair comparison of ALG and ELG when applied using a remaining life technique. However, since Manitoba Hydro applies ELG on a whole-life basis, a comparison of ALG vs ELG outcomes resulting from use of the remaining-life technique is not relevant to the determination of whether Manitoba Hydro's use of the ELG applied on a whole-life basis is acceptable for rate setting purposes.

KAREN HALLAMAN PONDER, PH.D.,CDP

SENIOR CONSULTANT, ALLIANCE CONSULTING GROUP

Profile

- Recognized expert in the field, particularly with regard to historical analyses of life and net salvage.
- More than 40 years of experience in utility property accounting, depreciation, and valuation.
- Involved in dozens of depreciation studies through all facets of the process including regulatory support through information discovery and rate proceedings.
- Prepared depreciation studies for all types of utilities including electric, gas water and wastewater.
- Taught courses on depreciation models and theory, actuarial analysis, and simulated plant record analysis for more than 35 years in nationally recognized training venues.
- Completed all requirements to become a Certified Depreciation Professional (CDP) as recognized by the Society of Depreciation Professional

Professional Experience:

- 2004-present
    - Senior Consultant - Alliance Consulting Group, Plano, TX

      Involved in all aspects of conducting depreciation studies from data gathering to analysis and supporting recommendations through testimony. Participated in more than 310 depreciation studies. Subject matter expert on depreciation theory and data analytics. Performed depreciation studies for various entities ranging from electric, gas, mining, water and wastewater.
- 1993-2004
    - Capital Recovery Specialist - Texas Utilities, Dallas, TX.

      Responsible for studies and analysis of asset data in a variety of assignments ranging from the engineering department to property accounting.
- 1985-1997
    - Faculty Member - Depreciation Programs of Kalamazoo, Michigan

      Taught classes on Depreciation Models, Simulated Plant Record Method Analysis, and Actuarial Analysis. Participants included company representatives, staff of various state commissions and consultants from the United States and Canada.
- 1978-1984
    - Senior Engineer - Texas Utilities, Dallas, TX.

Held positions of increasing responsibility in various utility departments including general office engineering, economic research and budgets. Responsibilities included preparing depreciation studies and rate case support.

Education

- Ph.D., Industrial Engineering with specialty in Engineering Valuation, Iowa State University
- M.S., Statistics, Iowa State University
- B.S., Mathematical Statistics *summa cum laude*, McNeese State University, Lake Charles, LA

Memberships

- Society of Depreciation Professionals
- Society of Depreciation Professionals, Training Faculty, 2007 to present
- Society of Depreciation Professionals, Secretary, 2014 to 2015
- Society of Depreciation Professionals, Training Deputy Chair, 2018 to present

RHONDA WATTS

SENIOR CONSULTANT, ALLIANCE CONSULTING GROUP

Profile

- 33 years of experience in utility accounting, property accounting, depreciation, and regulatory processes. Participated in over 250 depreciation studies.
- Industry reputation with experience as Expert Witness in depreciation.
- Performed numerous depreciation studies through all facets of the process including regulatory support and testimony. Experienced focus on historical analyses of life and net salvage.
- Prepares depreciation studies for all types of utilities including electric, gas, telecommunication, water and wastewater.

Professional Experience

- 2009-present
    - Senior Consultant - Alliance Consulting Group, Plano, TX

      Senior Consultant involved in all aspects of depreciation studies. Performs depreciation studies for electric, gas, communication, water and wastewater utility clients. Provides study support during rate case litigation including drafting study narratives and testimony and responding to interrogatories. Provided testimony before state regulatory bodies.
- 1996-2009
    - Senior Manager - Deloitte & Touche LLP

      Senior Manager in the Energy and Resources Group with concentration in the areas of depreciation and fixed asset accounting systems. Areas of expertise include the principles and procedures of capital recovery, utility organization, accounting and information systems and regulatory practices.
- 1990-1996
    - Accountant - Nevada Power Company

      Accountant and Analyst positions of increasing responsibility. Areas of responsibility include plant and receivables accounting, depreciation study updating, rate case schedule preparation and support, regulatory compliance reporting, financial report preparation, and budget variance analysis.
- 1986-1990
    - Primary Accountant - UNLV Foundation

      Primary Accountant responsible for the proper processing and accounting of donations to the UNLV Foundation in support of academic excellence. Also compiled financial reports for the Board of Directors and Trustees.

Major Projects

- Conducted numerous depreciation studies and assisted in regulatory support through testimony, information discovery and rate proceedings for various electric, gas, water and wastewater utility companies.
- Assisted various audit teams in the review of client's implementation of FASB 143 and Interpretation No. 47 (Asset Retirement Obligations). The review encompasses the Company's processes, assessments, calculations and supporting documentation.
- Managed teams in the conduct of Sarbanes Oxley Section 404 readiness testing for international advertising, marketing and communication services companies in 2004 and 2005.

Education

- Bachelor of Science in Business Administration, Accounting and Finance emphasis, University of Nevada, Las Vegas

Certifications and Memberships

- Member of EEI/AGA Property Accounting and Valuation Committee and Society of Depreciation Professionals
- Past President and other leadership positions for the Society of Depreciation Professionals

Other Professional Activities

- Review and content contributor for Hahne-Aliff "Accounting for Public Utilities", Chapter 6 Public Utility Depreciation during tenure at Deloitte
- Former Board member as well as Treasurer, Secretary, Vice President and President of the Society of Depreciation Professionals
- Presenter at AGA/EEI Accounting Committee Meetings
- Taught client requested Depreciation Basics

REBECCA RICHARDS, CDP

SENIOR CONSULTANT, ALLIANCE CONSULTING GROUP

Profile

- 17 years of experience in utility property accounting, depreciation, and corporate finance.
- Coordinated several depreciation studies for all types of utilities including electric, gas, water, and steam heating
- Completed all requirements to become a Certified Depreciation Professional (CDP) as recognized by the Society of Depreciation Professionals

Professional Experience

- 2015-present
    - Senior Consultant - Alliance Consulting Group, Plano, TX

      Senior Consultant involved in all aspects of depreciation studies. Perform depreciation studies for electric, gas, communication, water and wastewater utility clients. Provide support during rate case litigation including drafting study narratives and responding to interrogatories.
- 2006-2015
    - Team Lead Property Accounting - We Energies, Milwaukee, WI

      Managed all fixed asset internal and external reporting and property accounting functions in compliance with state and federal regulatory requirements. Established and maintained the Company's capitalization and depreciation policies. Initiated and oversaw all process improvement initiatives related to fixed asset finance systems and processes. Coordinated depreciation studies and supported rate case and regulatory proceedings. Vast working knowledge of fixed asset and finance systems including SAP, UI, and PowerPlant.
- 1995-2006
    - Operations Manager - Courtyard by Marriott, Brookfield, WI

      Hired, trained, and developed all front desk associates and maintained Marriott's high quality customer service standards.

Education

- Bachelor of Science in Accounting, Marquette University, Milwaukee, WI
- Associates Degree in Accounting, Milwaukee Area Technical College, Milwaukee, WI

Memberships

- EEI/AGA Property Accounting and Valuation Committee

- Society of Depreciation Professionals

BIOGRAPHIES

KAREN PONDER, SENIOR CONSULTANT

Dr. Karen Ponder is a Senior Consultant at Alliance with over forty years of experience in utility financial matters. Dr. Ponder is a Certified Depreciation Professional (CDP) and has a doctorate degree in engineering valuation from Iowa State University where her dissertation was entitled, "Some Aspects of Statistically Modeling the Simulated Plant Record Method." She is considered a subject matter expert in depreciation and capital recovery in the utility industry and has performed studies for regulated and non-regulated entities involving property of various types. Dr. Ponder has conducted statistical analysis of life and net salvage components and incorporated knowledge of equipment failure, new technological trends, and company practices to develop life and net salvage estimates. She has provided support during rate case litigation including study write-up, testimony, and responses to interrogatories. She was an instructor for many years at Depreciation Programs, Inc. in Kalamazoo, Michigan and serves as a faculty member for the Society of Depreciation Professional's Annual Training courses.

RHONDA WATTS, SENIOR CONSULTANT

Rhonda Watts is a Senior Consultant at Alliance with over thirty years of experience in utility accounting, depreciation, and regulatory matters, which included working for Deloitte's Regulatory Group and a large regulated electric utility. Rhonda participates in all of the various activities related to the completion of the depreciation study and the provision of Expert Witness testimony if needed. Rhonda is considered a subject matter expert in depreciation and capital recovery in the utility industry and performs studies for regulated entities involving property of electric, gas, water and wastewater and communication utilities. She routinely performs statistical analysis of life and net salvage components and incorporates knowledge of equipment failure, new technological trends, and company practices to develop life and net salvage estimates. She provides support during rate case litigation including study write-up, testimony, and responses to interrogatories. Rhonda has also testified before three state regulatory bodies.

REBECCA RICHARDS, SENIOR CONSULTANT

Rebecca Richards is a Senior Consultant at Alliance and is a Certified Depreciation Professional (CDP). She was previously employed as a Team Lead of Property Accounting at We Energies and has nine years of experience at a Fortune 500 company in utility property accounting, depreciation, and areas of corporate finance. She has a vast working knowledge of fixed asset and finance systems including SAP, UI, and PowerPlan. Rebecca has managed fixed asset accounting for both regulated and non-regulated entities. She has coordinated depreciation studies for all types of utilities including electric, gas, water, and steam heating. She actively serves as a board member for the Society of Depreciation Professionals.

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Asset Location	Commission	Docket (If Applicable	Company	Year	Description	Accounting Standards
Florida	Florida Public Service Commission	20220219	People Gas System	2022	Gas Depreciation Study	US GAAP Standards
Michigan	Michigan Public Service Commission	U-21329	Michigan Gas Utilities Corporation	2022	Gas Depreciation Study	US GAAP Standards
Dominica	Independent Regulatory Commission		Dominica Electricity Services LTD	2022	Electric Depreciation Study	IFRS Standards
New Mexico	New Mexico Public Regulation Commission	22-00270-UT	Public Service of New Mexico	2022	Electric Depreciation Study	US GAAP Standards
New Mexico	New Mexico Public Regulation Commission	22-00286-UT	Southwestern Public Service Company	2022	Electric Technical Update	US GAAP Standards
Minnesota	Minnesota Public Utilities Commission	22-299	Northern States Power-Minnesota	2022	Electric Gas and Common Depreciation Study	US GAAP Standards
California	California Public Utilities Commission	A.22-08-010	Bear Valley Electric	2022	Electric Depreciation Study	US GAAP Standards
Michigan	Michigan Public Service Commission	U-21294	SEMCO Gas	2022	Gas Depreciation Study	US GAAP Standards
Arkansas	Arkansas Public Service Commission	22-064-U	Liberty Pine Bluff Water	2022	Water Depreciation Study	US GAAP Standards
Colorado	Colorado Public Utilities Commission	22AL-0348G	Atmos Energy	2022	Gas Depreciation Study	US GAAP Standards
New York	FERC	ER22-2581-000	New York Power Authority	2022	Transmission and General Depreciation Study	US GAAP Standards
South Carolina	South Carolina Public Service Commission	2022-89-G	Piedmont Natural Gas	2022	Natural Gas Depreciation Study	US GAAP Standards
California	California Public Utilities Commission	A.22-007-001	California American Water	2022	Water and Waste Water Depreciation Study	US GAAP Standards
Alaska	Regulatory Commission of Alaska	U-22-034	Chugach Electric Association	2022	Electric Depreciation Study	US GAAP Standards
Georgia	Georgia Public Service Commission	44280	Georgia Power Company	2022	Electric Depreciation Study	US GAAP Standards
California	California Public Utilities Commission	22-005-xxx	San Diego Gas and Electric	2022	Electric Gas and Common Depreciation Study	US GAAP Standards
California	California Public Utilities Commission	22-005-xxx	Southern California Gas	2022	Gas Depreciation Study	US GAAP Standards
Colorado	Colorado Public Utilities Commission	22AL-0046G	Public Service of Colorado	2022	Gas Depreciation given potential for climate change	US GAAP Standards
Texas	Public Utility Commission of Texas	53601	Oncor Electric Delivery	2022	Electric Depreciation Study	US GAAP Standards
New Jersey	New Jersey Board of Public Utilities	GR2222040253	South Jersey Gas	2022	Gas Depreciation Study	US GAAP Standards
Oklahoma	Corporation Commission of Oklahoma	PUD 202100163	Empire District Electric Company	2022	Electric Depreciation Study	US GAAP Standards
Michigan	Michigan Public Service Commission	U-21176	Consumers Gas	2021	Gas Depreciation Study	US GAAP Standards
New Jersey	New Jersey Board of Public Utilities	GR21121254	Elizabethtown Natural Gas	2021	Gas Depreciation Study	US GAAP Standards

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Asset Location	Commission	Docket (If Applicable	Company	Year	Description	Accounting Standards
Ontario Canada	Ontario Energy Board	EB-2021-0110	Hydro One	2021	Electric Depreciation Study	IFRS Standards
Alaska	Regulatory Commission of Alaska	TA116-118, TA115-97, TA160-37 and TA110-290	Fairbanks Water and Wastewater	2021	Water and Waste Water Depreciation Study	US GAAP Standards
Colorado	Public Utilities Commission of Colorado	21AL-0317E	Public Service of Colorado	2021	Electric and Common Depreciation Study	US GAAP Standards
Alaska	Regulatory Commission of Alaska	U-21-025	Golden Valley Electric Association	2021	Electric Depreciation Study	US GAAP Standards
Wisconsin	Public Service Commission of Wisconsin	5-DU-103	WE Energies	2021	Electric and Gas Depreciation Study	US GAAP Standards
Kentucky	Public Service Commission of Kentucky	2021-00214	Atmos Kentucky	2021	Gas Depreciation Study	US GAAP Standards
Missouri	Missouri Public Service Commission	ER-2021-0312	Empire District Electric Company	2021	Electric Depreciation Study	US GAAP Standards
Wisconsin	Public Service Commission of Wisconsin	4220-DU-111	Northern States Power Wisconsin	2021	Transmission, Distribution General and Common Depreciation Study	US GAAP Standards
Louisiana	Louisiana Public Service Commission	U-35951	Atmos Energy	2021	Statewide Gas Depreciation Study	US GAAP Standards
Minnesota	Minnesota Public Utilities Commission	E015-D-21-229	Allete Minnesota Power	2021	Intangible, Transmission, Distribution, and General Depreciation Study	US GAAP Standards
Michigan	Michigan Public Service Commission	U-20849	Consumers Energy	2021	Electric and Common Depreciation Study	US GAAP Standards
Texas	Texas Public Utility Commission	51802	Southwestern Public Service Company	2021	Electric Technical Update	US GAAP Standards
MultiState	FERC	RP21-441-000	Florida Gas Transmission	2021	Gas Depreciation Study	US GAAP Standards
New Mexico	New Mexico Public Regulation Commission	20-00238-UT	Southwestern Public Service Company	2021	Electric Technical Update	US GAAP Standards
Yukon Territory Canada	Yukon Energy Board	2021 General Rate Application	Yukon Energy	2020	Electric Depreciation Study	IFRS Standards
MultiState	FERC	ER21-709-000	American Transmission Company	2020	Electric Depreciation Study	US GAAP Standards
Texas	Texas Public Utility Commission	51611	Sharyland Utilities	2020	Electric Depreciation Study	US GAAP Standards
Texas	Texas Public Utility Commission	51536	Brownsville Public Utilities Board	2020	Electric Depreciation Study	US GAAP Standards
New Jersey	New Jersey Board of Public Utilities	WR20110729	Suez Water New Jersey	2020	Water and Waste Water Depreciation Study	US GAAP Standards
Idaho	Idaho Public Service Commission	SUZ-W-20-02	Suez Water Idaho	2020	Water Depreciation Study	US GAAP Standards

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Asset Location	Commission	Docket (If Applicable	Company	Year	Description	Accounting Standards
Texas	Texas Public Utility Commission	50944	Monarch Utilities	2020	Water and Waste Water Depreciation Study	US GAAP Standards
Michigan	Michigan Public Service Commission	U-20844	Consumers Energy/DTE Electric	2020	Ludington Pumped Storage Depreciation Study	US GAAP Standards
Mexico	Comision Reguladora de Energia	G/352/TRA/2015 UH-250/125738/2019	Arguelles Depreciation Study	2020	Gas Depreciation Study	IFRS Standards
Tennessee	Tennessee Public Utility Commission	2000086	Piedmont Natural Gas	2020	Gas Depreciation Study	US GAAP Standards
Texas	Railroad Commission of Texas	OS-00005136	CoServ Gas	2020	Gas Depreciation Study	US GAAP Standards
Texas	Railroad Commission of Texas	GUD 10988	EPCOR Gas Texas	2020	Gas Depreciation Study	US GAAP Standards
Florida	Florida Public Service Commission	20200166-GU	People Gas System	2020	Gas Depreciation Study	US GAAP Standards
Mississippi	Federal Energy Regulatory Commission	ER20-1660-000	Mississippi Power Company	2020	Electric Depreciation Study	US GAAP Standards
Texas	Public Utility Commission of Texas	50557	Corix Utilities	2020	Water and Waste Water Depreciation Study	US GAAP Standards
Georgia	Georgia Public Service Commission	42959	Liberty Utilities Peach State Natural Gas	2020	Gas Depreciation Study	US GAAP Standards
Texas	Public Utility Commission of Texas	50734	Oncor Electric Delivery	2020	Life of Intangible Plant	US GAAP Standards
New Jersey	New Jersey Board of Public Utilities	GR20030243	South Jersey Gas	2020	Gas Depreciation Study	US GAAP Standards
Kentucky	Kentucky Public Service Commission	2020-00064	Big Rivers	2020	Electric Depreciation Study	US GAAP Standards
Colorado	Colorado Public Utilities Commission	20AL-0049G	Public Service of Colorado	2020	Gas Depreciation Study	US GAAP Standards
New York	Federal Energy Regulatory Commission	ER20-716-000	LS Power Grid New York, Corp.	2019	Electric Transmission Depreciation Study	US GAAP Standards
Mississippi	Mississippi Public Service Commission	2019-UN-219	Mississippi Power Company	2019	Electric Depreciation Study	US GAAP Standards
Texas	Public Utility Commission of Texas	50288	Kerrville Public Utility District	2019	Electric Depreciation Study	US GAAP Standards
Texas	Railroad Commission of Texas	GUD 10920	CenterPoint Gas	2019	Gas Depreciation Study and Propane Air Study	US GAAP Standards
Texas, New Mexico	Federal Energy Regulatory Commission	ER20-277-000	Southwestern Public Service Company	2019	Electric Production and General Plant Depreciation Study	US GAAP Standards
New Mexico	New Mexico Public Regulation Commission		New Mexico Gas	2019	Gas Depreciation Study	US GAAP Standards
Alaska	Regulatory Commission of Alaska	U-19-086	Alaska Electric Light and Power	2019	Electric Depreciation Study	US GAAP Standards
Texas	Railroad Commission of Texas	GUD 10900	Atmos Energy West Texas Division - Triangle	2019	Depreciation Rates for Natural Gas Property	US GAAP Standards
Delaware	Delaware Public Service Commission	19-0615	Suez Water Delaware	2019	Water Depreciation Study	US GAAP Standards

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Asset Location	Commission	Docket (If Applicable	Company	Year	Description	Accounting Standards
California	California Public Utilities Commission	A.19-08-015	Southwest Gas Northern California	2019	Gas Depreciation Study	US GAAP Standards
California	California Public Utilities Commission	A.19-08-015	Southwest Gas Southern California	2019	Gas Depreciation Study	US GAAP Standards
Texas	Railroad Commission of Texas	GUD 10895	CenterPoint Propane Air	2019	Depreciation Rates for Propane Air Assets	US GAAP Standards
Texas	Public Utility Commission of Texas	49831	Southwestern Public Service Company	2019	Electric Depreciation Study	US GAAP Standards
New Mexico	New Mexico Public Regulation Commission	19-00170-UT	Southwestern Public Service Company	2019	Electric Depreciation Study	US GAAP Standards
Georgia	Georgia Public Service Commission	42516	Georgia Power Company	2019	Electric Depreciation Study	US GAAP Standards
Georgia	Georgia Public Service Commission	42315	Atlanta Gas Light	2019	Gas Depreciation Study	US GAAP Standards
Arizona	Arizona Corporation Commission	G-01551A-19-0055	Southwest Gas Corporation	2019	Gas Removal Cost Study	US GAAP Standards
New Hampshire	New Hampshire Public Service Commission	DE 19-064	Liberty Utilities	2019	Electric Distribution and General	US GAAP Standards
New Jersey	New Jersey Board of Public Utilities	GR19040486	Elizabethtown Natural Gas	2019	Gas Depreciation Study	US GAAP Standards
Texas	Public Utility Commission of Texas	49421	CenterPoint Houston Electric LLC	2019	Electric Depreciation Study	US GAAP Standards
North Carolina	North Carolina Utilities Commission	Docket No. G-9, Sub 743	Piedmont Natural Gas	2019	Gas Depreciation Study	US GAAP Standards
Minnesota	Minnesota Public Utilities Commission	E-015/D-18-226	Allete Minnesota Power	2018	Electric Compliance Filing	US GAAP Standards
Colorado	Colorado Public Utilities Commission	19AL-0063ST	Public Service of Colorado	2019	Steam Depreciation Study	US GAAP Standards
Alaska	Regulatory Commission of Alaska	U-18-121	Municipal Power and Light City of Anchorage	2018	Electric Depreciation Study	US GAAP Standards
Various	FERC	RP19-352-000	Sea Robin	2018	Gas Depreciation Study	US GAAP Standards
Texas New Mexico	Federal Energy Regulatory Commission	ER19-404-000	Southwestern Public Service Company	2018	Electric Transmission Depreciation Study	US GAAP Standards
California	Federal Energy Regulatory Commission	ER19-221-000	San Diego Gas and Electric	2018	Electric Transmission Depreciation Study	US GAAP Standards
Kentucky	Kentucky Public Service Commission	2018-00281	Atmos Kentucky	2018	Gas Depreciation Study	US GAAP Standards
Texas	Public Utility Commission of Texas	48500	Golden Spread Electric Coop	2018	Electric Depreciation Study	US GAAP Standards
Alaska	Regulatory Commission of Alaska	U-18-054	Matanuska Electric Coop	2018	Electric Generation Depreciation Study	US GAAP Standards
California	California Public Utilities Commission	A17-10-007	San Diego Gas and Electric	2018	Electric and Gas Depreciation Study	US GAAP Standards
Texas	Public Utility Commission of Texas	48401	Texas New Mexico Power	2018	Electric Depreciation Study	US GAAP Standards
Nevada	Public Utility Commission of Nevada	18-05031	Southwest Gas	2018	Gas Depreciation Study	US GAAP Standards

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Asset Location	Commission	Docket (If Applicable	Company	Year	Description	Accounting Standards
Texas	Public Utility Commission of Texas	48231	Oncor Electric Delivery	2018	Depreciation Rates	US GAAP Standards
Kansas	Kansas Corporation Commission	18-KCPE-480-RTS	Kansas City Power and Light	2018	Electric Depreciation Study	US GAAP Standards
Louisiana	Louisiana Public Service Commission	U-34803	Atmos LGS	2018	Gas Depreciation Study	US GAAP Standards
Arkansas	Arkansas Public Service Commission	18-027-U	Liberty Pine Bluff Water	2018	Water Depreciation Study	US GAAP Standards
Minnesota	Minnesota Public Utilities Commission	E-015/D-18-226	Allete Minnesota Power	2018	Electric Depreciation Rate	US GAAP Standards
Kentucky	Kentucky Public Service Commission	2017-00349	Atmos KY	2018	Gas Depreciation Rates	US GAAP Standards
Tennessee	Tennessee Public Utility Commission	18-00017	Chattanooga Gas	2018	Gas Depreciation Study	US GAAP Standards
Texas	Railroad Commission of Texas	10679	Si Energy	2018	Gas Depreciation Study	US GAAP Standards

PIPELINE DE ARGUELLES, S. DE R.L. DE C.V.

ESTUDIO DE TASA DE DEPRECIACIÓN

31 DE DICIEMBRE DE 2019

http://Www.utilityalliance.com

PIPELINE DE ARGUELLES, S. DE R.L. DE C.V.

ESTUDIO DE TASA DE DEPRECIACIÓN

RESUMEN EJECUTIVO

Energy Transfer ("Compañía") contrató a Alliance Consulting Group para llevar a cabo un estudio de depreciación de los activos amortizables de la planta de servicios públicos de transmisión de Arguelles el 31 de diciembre de 2019. Para determinar las tasas de amortización para el período de tiempo proyectado, los saldos históricos se utilizaron el 31 de diciembre de 2019. En una planta total amortizable de aproximadamente $299.5 millones de pesos, el gasto anual de depreciación recomendado en este estudio es de aproximadamente $4.4 millones de pesos por año.

PIPELINE DE ARGUELLES, S. DE R.L. DE C.V.

ESTUDIO DE TASA DE DEPRECIACIÓN

31 DE DICIEMBRE DE 2019

Tabla de contenidos

Propósito

El objetivo de este estudio es desarrollar tasas de depreciación para la propiedad amortizable de Arguelles sobre la base de saldos de plantas el 31 de diciembre de 2019. Las tasas de depreciación basadas en la cuenta se diseñaron para recuperar la inversión total no depreciada restante durante la vida restante de la propiedad de Arguelles en línea recta. Este estudio excluyó la propiedad no amortizable y amortizada.

El sistema de **gasoductos** Arguelles se interconecta con HPL en el centro del río Grande y se extiende aproximadamente 1,7 millas (unos 2,7 kilómetros) en México hasta una interconexión con el Centro Nacional de Control del Gas Natural (Cenagas) que se encuentra en la zona de Reynosa, Tamaulipas, en la frontera con los Estados Unidos. El sistema se utiliza para satisfacer la demanda de la Comisión Federal de Electricidad (CFE) en esa área. Desde los Estados Unidos, el **oleoducto** entra en México y se dirige a la Estación Arguelles 3.

RESULTADOS DEL ESTUDIO

Las tasas de depreciación global de los bienes amortizables de transmisión se muestran en el Apéndice A. El Apéndice A también presenta los parámetros de vida propuestos por cuenta. El Apéndice B presenta una comparación de los gastos de amortización anuales a las tasas de acumulación de amortización actuales frente a las propuestas. Esta comparación muestra una disminución de aproximadamente $1.2 millones de pesos en gastos anuales de depreciación. El Apéndice C muestra la lista de empresas encuestadas y los parámetros de vida de cada cuenta. El Apéndice D muestra el cálculo de vida restante para la Cuenta 1414 Tubería. El Apéndice E muestra un mapa de las instalaciones.

DISCUSIÓN GENERAL

Definición

El término "depreciación" tal como se utiliza en este estudio se considera en el sentido contable, es decir, un sistema de contabilidad que distribuye el costo de los activos, menos el salvamento neto (si existe), a lo largo de la vida útil estimada de los activos de manera sistemática y racional. Es un proceso de asignación de costes, no de valoración de mercado. Este gasto se asigna sistemáticamente a períodos contables a lo largo de la vida de las propiedades. El importe asignado a cualquier período contable no representa necesariamente la pérdida o disminución del valor de mercado que se producirá durante ese período en particular. La Compañía acumula depreciación sobre la base del costo original de todos los bienes amortizables incluidos en cada grupo de propiedades funcionales. Al retirarse, el costo total de la propiedad amortizable, menos el valor neto de recuperación, se carga a la reserva de amortización.

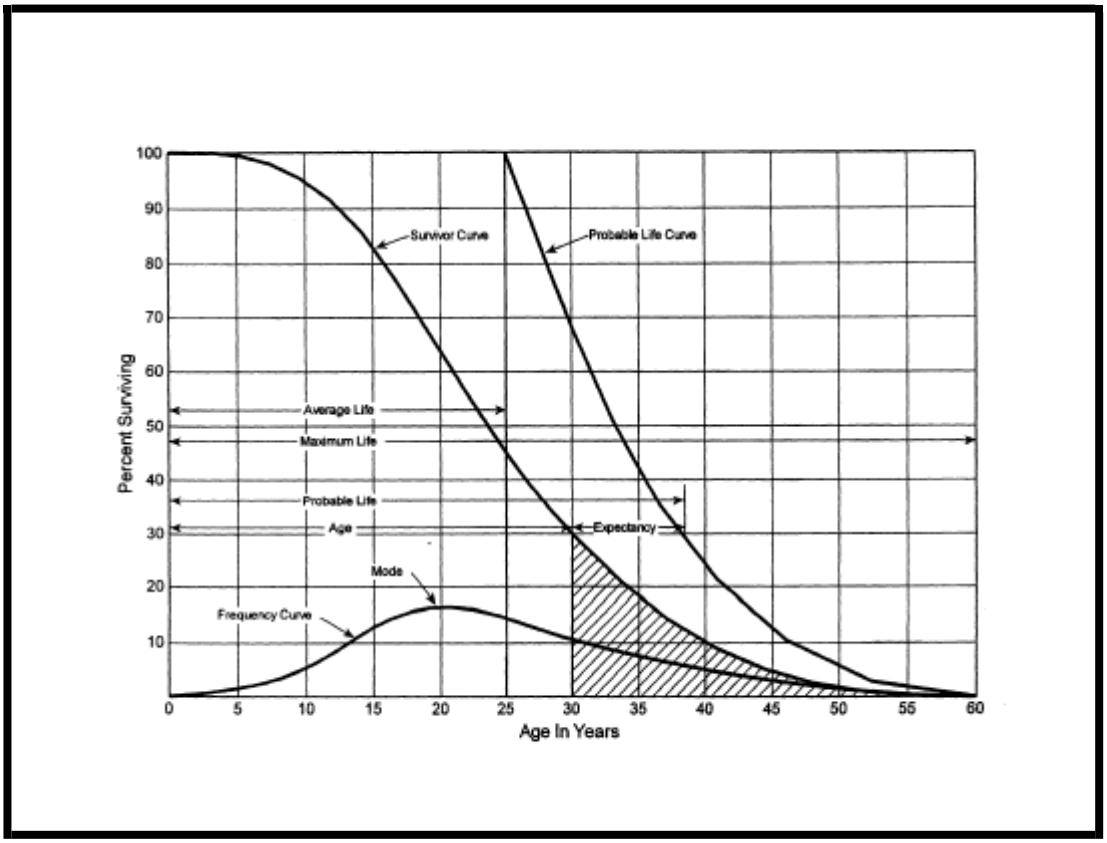
Base de estimaciones de amortización

El sistema de amortización de vida restante, grupo de vida amplio (promedio) y línea recta (promedio) se empleó para calcular la amortización anual y devengada en este estudio. En este sistema, el gasto de amortización anual para cada grupo se calcula dividiendo el coste original de la reserva de amortización menos asignada del activo fijo menos el valor neto estimado por su vida restante del grupo de vida promedio respectivo. Se acumularon los importes de acumulación anuales resultantes de la propiedad amortizable de transmisión, y el total se dividió por el costo original de la propiedad amortizable de transmisión para determinar la tasa de depreciación. El resto de vidas y las tasas anuales de acumulación de depreciación se basaron en las edades alcanzadas de la planta en servicio y en las vidas de servicio estimadas y las curvas de supervivencia por cuenta de planta. Los cálculos de las tasas de depreciación funcional anual se muestran en el Apéndice A. Las vidas restantes que se encuentran en el Apéndice A se calculan dentro del software propietario,

PowerPlant. Para ayudar a explicar el cálculo y el concepto, el Apéndice D muestra el cálculo utilizando la Cuenta CRE 1414 - Tuberías,

Curvas de superviviente

Para comprender completamente las proyecciones de depreciación en una configuración de utilidad regulada, debe haber una comprensión básica de las curvas de supervivencia. Las unidades de propiedad individuales dentro de un grupo normalmente no tienen vidas idénticas o montos de inversión. La vida media de un grupo se puede determinar construyendo primero una curva de superviviente que se traza como un porcentaje de las unidades que sobreviven a cada edad. Una curva de superviviente representa el porcentaje de propiedad que permanece en servicio en varios intervalos de edad. Las curvas de Iowa son el resultado de una extensa investigación de las características de la vida de la propiedad física hecha en Iowa State College Engineering Experiment Station en la primera mitad del siglo anterior. A través del uso común, la revalidación y la aceptación regulatoria, estas curvas se han convertido en un estándar descriptivo para las características de la vida de la propiedad industrial. A continuación se muestra un ejemplo de una curva de Iowa.


Survivor Curve
Probable Life Curve
Average Life
Maximum Life
Probable Life
Age
Expectancy
Mode
Frequency Curve
Percent Surviving
Age In Years
100
90
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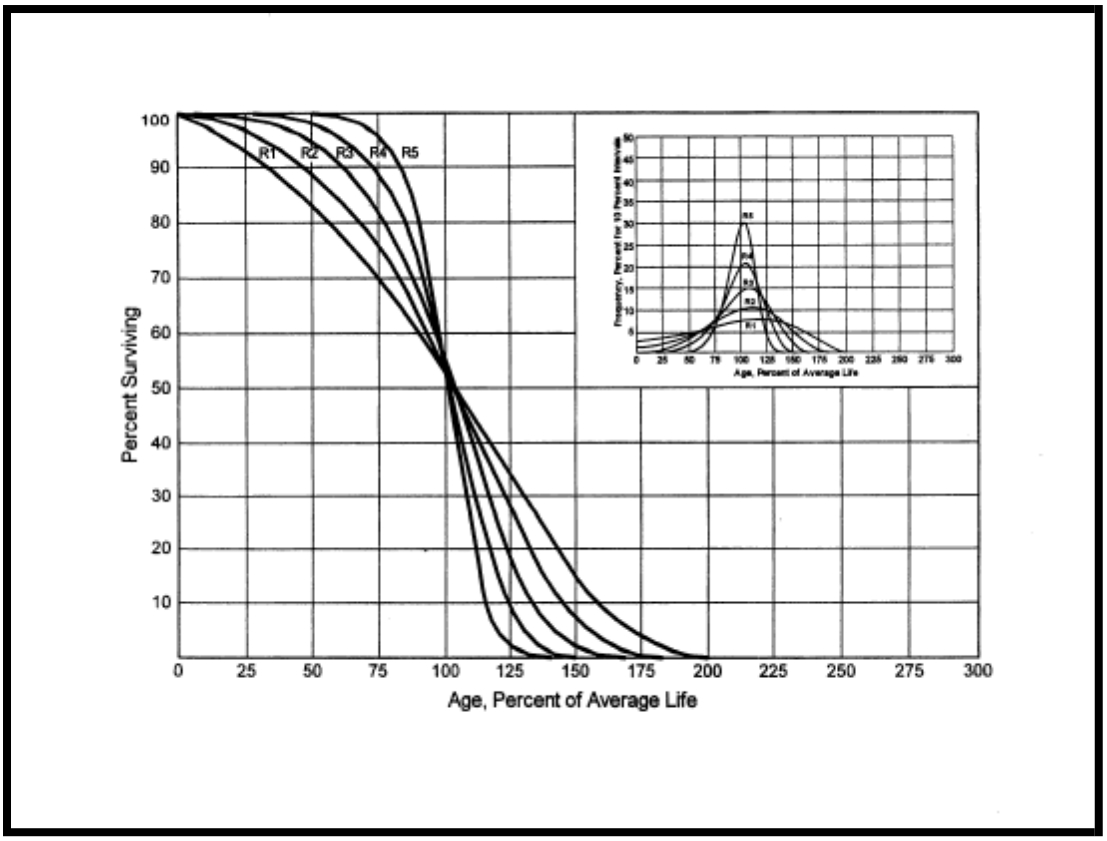
Hay cuatro familias en las curvas de Iowa que se distinguen por la relación de la edad en el modo de jubilación (mayor frecuencia de jubilación anual) y la vida promedio. Para distribuciones con la edad de modo mayor que la vida media, se utiliza una designación "R" (es decir, modal derecho). La familia de curvas en modo modo "R" se muestra a continuación.



Del mismo modo, se utiliza una designación "S" (es decir, modal simétrico) para la familia cuya edad de modo es simétrica sobre la vida media. Una designación "L" (es decir, modal izquierdo) se utiliza para la familia cuya edad de modo es menor que la vida media. Un caso especial de dispersión modal izquierda es la "O" o la familia de curvas modales de origen. Dentro de cada familia de curvas, las designaciones numéricas se utilizan para describir la magnitud relativa de las frecuencias de jubilación en el modo. Un "6" indica que las jubilaciones no están muy dispersas del modo (es decir, frecuencia de modo alto) mientras que un "1" indica una gran dispersión sobre el modo (es decir,

frecuencia de modo bajo). Por ejemplo, una curva con una vida media de 30 años y una dispersión "L3" es una curva modal izquierda moderadamente dispersa que se puede designar como una curva de 30 L3. Una curva de sobreviviente SQ, o cuadrada, ocurre donde no hay dispersión presente (es decir, las unidades de edad común se retiran simultáneamente).

La mayoría de los grupos de propiedades se pueden ajustar estrechamente a una curva de Iowa con una vida útil promedio única. La combinación de juicio sobre las condiciones actuales y las tendencias futuras junto con la coincidencia de datos históricos permite al analista de depreciación hacer una selección informada del patrón de dispersión media de vida y jubilación de una cuenta.

Juicio

Cualquier estudio de depreciación requiere un juicio informado por parte del analista que realiza el estudio. Se necesita un conocimiento de la propiedad que se está estudiando, políticas y procedimientos de la empresa, tendencias generales en la tecnología y la práctica de la industria, y una base sólida para entender la teoría de la depreciación para aplicar este juicio informado. El juicio se utilizó en áreas como el modelado y selección de curvas de supervivientes, la selección del método de depreciación y el análisis actuarial o de recuperación neta.

El juicio no se define como utilizado en casos en los que hay información específica y significativa que influye en la elección de una vida o curva. Esos casos serían simplemente un reflejo de hechos específicos en el análisis. Cuando hay múltiples factores, actividades, acciones, características de propiedad, inconsistencias estadísticas, implicaciones de la aplicación de ciertas curvas, combinación de propiedades en cuentas o una multitud de otras consideraciones que afectan el análisis (potencialmente en varias direcciones), el juicio se utiliza para tomar todos estos factores y sintetizarlos en una dirección general o comprensión de las características de la propiedad. Individualmente,

ningún factor en estos casos puede tener un impacto sustancial en el análisis, pero en general, puede arrojar luz sobre la utilización y las características de los activos. El juicio también puede definirse como deducción, inferencia, sabiduría, sentido común o la capacidad de tomar decisiones sensatas. No hay un único resultado correcto del análisis estadístico; por lo tanto, no hay respuesta a la ausencia de juicio. En este estudio, hay pocos activos y no tienen historia material que ayude en el análisis para determinar sus ciclos de vida. Se utilizó una encuesta sobre las vidas disponibles públicamente para activos comparables en los Estados Unidos como apoderado de la información específica de Arguelles. Debido a esto, el juicio se utilizó más ampliamente para asegurar que los datos obtenidos de otras empresas de servicios públicos fueran representativos de los activos de Arguelles.

El establecimiento de una vida útil media adecuada, las dispersiones de jubilación y el salvamento neto de los activos de transmisión requieren que el juicio incorpore la comprensión del funcionamiento del sistema con la información contable disponible.

Las aplicaciones y tendencias actuales en el uso del equipo también deben tenerse en cuenta en las opciones de la vida y de las curvas de sobrevivientes para que se elijan las características de mortalidad adecuadas.

Depreciación media del grupo de vida

Arguelles ha estado utilizando la depreciación media del grupo de vida desde su creación. En la depreciación de grupo, cada activo se acumula completamente al retirarse, sin que se produzcan ganancias ni pérdidas. Cualquier acumulación inferior o superior se recuperará durante el resto de la vida de los activos supervivientes. Este estudio recomendó el uso continuado del procedimiento de depreciación del grupo de vida promedio ("ALG"), que es la metodología más común utilizada en los estudios de depreciación de la empresa regulados.

Después de seleccionar una vida útil media y la dispersión para cada

cuenta, esos parámetros se utilizaron para estimar qué parte de la inversión sobreviviente de cada añada se esperaba que se retirara. La depreciación del grupo continúa hasta que se retira toda la inversión en el grupo vintage. ALG se define por sus respectivas estimaciones de dispersión de cuentas, vida y salvamento. Una tasa en línea recta para cada ALG se calcula calcula calculando una vida restante compuesta para cada grupo en todas las añadas dentro del grupo, dividiendo la inversión restante a recuperar por la vida restante para encontrar el gasto de depreciación anual y dividiendo el gasto de depreciación anual por la inversión sobreviviente. La tasa resultante para cada grupo ALG está diseñada para recuperar todas las jubilaciones cuando la última unidad se jubile. El procedimiento ALG recupera el costo neto del libro a lo largo de la vida de cada cuenta promediando muchos componentes.

Reserva de amortización teórica

La reserva de amortización contable se derivó de los registros de la Compañía en los que las reservas se habían mantenido sobre la base de una cuenta. Este estudio utilizó un modelo de reserva que se basaba en un concepto prospectivo que relacionaba los patrones futuros de jubilación y acumulación de propiedades, dadas las estimaciones actuales de la vida. La reserva teórica de un grupo se desarrolla a partir de la vida restante estimada, la vida total del grupo inmobiliario. La reserva teórica representa la parte del coste del grupo que se habría acumulado si se utilizaran las previsiones actuales a lo largo de la vida del grupo para futuras acumulaciones de amortización. El cálculo implica multiplicar los balances vintage dentro del grupo por la relación de reserva teórica para cada añada. El método del grupo de vida promedio requiere una estimación de la dispersión (es decir, la curva de superviviente discutida anteriormente) y la vida útil para establecer la cantidad de cada cosecha que se espera que se retire en cada año hasta que se retiren todas las propiedades dentro del grupo. Las vidas de servicio promedio estimadas y la dispersión determinan la cantidad dentro de cada grupo de vida promedio. La

relación de reserva teórica de línea recta restante-vida a cualquier edad dada (RR) es calculado como:

$$\text{Proporción de Reserva} = 1 - \frac{\text{Promedio de Vida Restante}}{\text{Promedio de Vida de Servicio}}$$

DISCUSIÓN DETALLADA

Proceso de estudio de amortización

Este estudio de depreciación abarcó cuatro fases distintas. La primera fase incluyó la recopilación de datos y entrevistas de campo. La segunda fase fue donde se produjo el análisis de datos inicial. La tercera fase fue la evaluación de la información y el análisis. Una vez completadas las tres primeras etapas, comenzó la cuarta fase. Esta fase implicó el cálculo de los tipos de amortización y la documentación de las recomendaciones correspondientes.

Durante el proceso de recopilación de datos de Fase 1, se compilaron datos históricos a partir de registros de propiedades continuos y sistemas de contabilidad general. Los datos se validaron para su exactitud extrayendo y comparando con múltiples fuentes del sistema financiero. La auditoría de estos datos se validó con datos históricos de períodos anteriores, fuentes históricas de contabilidad general y discusiones de personal de campo. Estos datos se revisaron exhaustivamente para poner en el formato adecuado para un estudio de depreciación. También como parte del proceso de recopilación de datos de la Fase 1, se llevaron a cabo discusiones con el personal de la Compañía para obtener información que ayudaría a formular recomendaciones de vida en este estudio. Uno de los elementos más importantes para realizar un estudio de depreciación adecuado es entender cómo la Compañía utiliza los activos y el entorno de esos activos. Las entrevistas con los expertos en la materia son formas importantes de permitir que el analista obtenga información que sea beneficiosa al evaluar los resultados de los programas de vida y de salvamento neto en relación con la utilización y el entorno real de los activos de la Compañía.

La fase 2 es donde se realiza el análisis del ciclo de vida de los activos. Las fases 2 y 3 se superponen en un grado significativo. La información detallada de los registros de propiedades se utiliza en la Fase 2 para realizar el

análisis histórico de la edad media y la vida restante. En la mayoría de los casos, esta fase es donde se realiza el análisis actuarial o de registro de planta simulado. Debido a la corta edad de los activos, no había datos transaccionales suficientes para obtener una muestra estadísticamente válida para analizar. Como apoderado de esta información, se realizó una búsqueda detallada de vidas disponibles públicamente utilizadas por otras empresas de oleoductos en los Estados Unidos. El resultado de esta búsqueda fue obtener información de vida disponible al público de otras 36 empresas de gasoductos. Esta información se puede encontrar en el Apéndice C y luego se llevó a la Fase 3 para el proceso de evaluación.

La Fase 3 es el proceso de evaluación que sintetiza vidas utilizadas por otras compañías de tuberías, el análisis limitado, la información específica de la empresa y las características operativas en una selección final de la vida de los activos. Las fases 2 y 3 permiten al analista de depreciación validar las características de los activos como se ve en las transacciones contables limitadas y las vidas experimentadas por otros servicios públicos con experiencia operativa real de la Compañía.

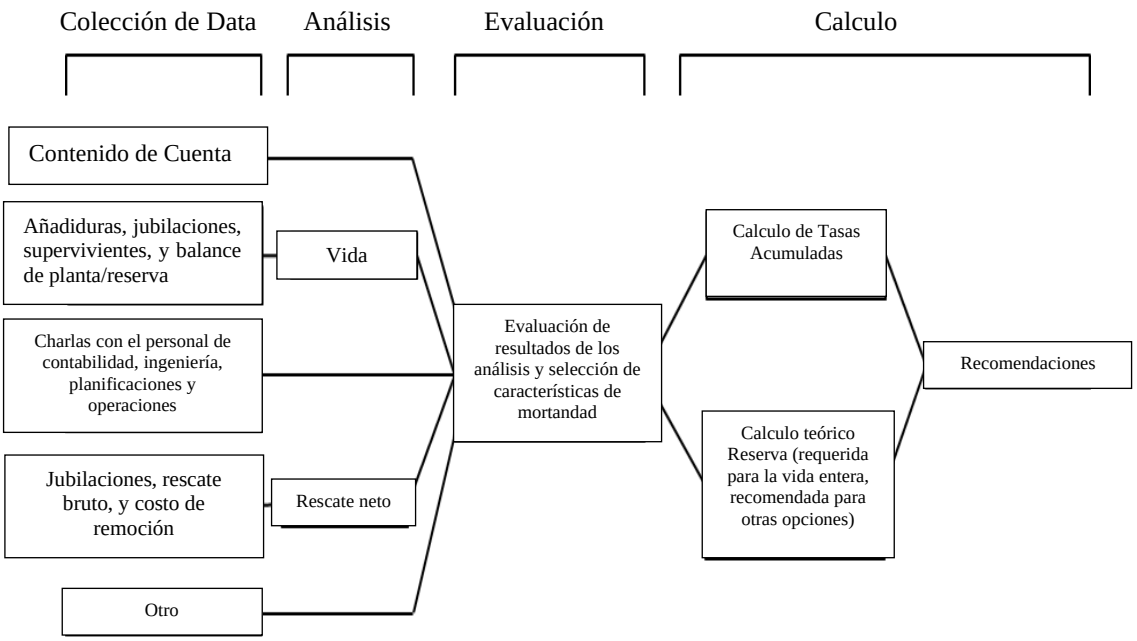
Por último, la Fase 4 implicó el cálculo de los tipos de acumulación, formulando recomendaciones y documentando las conclusiones en un informe final. El cálculo de las tasas de acumulación se encuentra en el Apéndice A. Las recomendaciones para las distintas cuentas figuran en el debate detallado de este informe. El diagrama de flujo de estudio de depreciación que se muestra como Figura 1 documenta los pasos utilizados en la realización de este estudio. Sistemas de amortización, página 289, documenta los mismos procesos básicos en la realización de un estudio de depreciación que son: Análisis estadístico, evaluación del análisis estadístico, discusiones con la gestión, suposiciones de previsión y recomendaciones de documentos.

Figura 1

Arguelles

PROCESO DE ESTUDIO DE AMORTIZACIÓN

Diagrama de Estudio del Libro de Amortización



Source: Introduction to Depreciation for Public Utilities and Other Industries, AGA EEI , 2013.

*Aunque no se ha anotado específicamente, el análisis matemático puede requerir información de otras fuentes (por ejemplo, para determinar el análisis de las bandas de vida y ajustes a data en todos los análisis.

Cálculo de la tasa de depreciación

Los importes de gastos de amortización anuales para las cuentas amortizables de Arguelles se calcularon mediante el método de línea recta, el procedimiento de grupo de vida media y la técnica de vida restante. Con este enfoque, las vidas restantes se calcularon de acuerdo con las técnicas estándar de expectativa de ALG, utilizando las curvas de supervivencia de Iowa que se indica en el cálculo. Para cada cuenta de centro, la diferencia entre la inversión superviviente y la reserva de amortización contable asignada se dividió por la vida restante promedio para producir el gasto de amortización anual. Los cálculos se muestran en el Apéndice A.

Proceso de cálculo de la depreciación de la transmisión

Los importes de gastos de amortización anuales para las cuentas de transmisión se calcularon mediante la línea recta, procedimiento de vida restante. En una representación de toda la vida, la tasa de acumulación anual se calcula mediante la siguiente ecuación:

$$\text{Promedio de Amortización Acumulada} = \frac{1}{\text{Promedio de Servicio de Vida}}$$

En el caso de la transmisión con una vida útil terminal y una curva de jubilación provisional, cada añada dentro del grupo tiene una vida útil promedio única y una vida útil restante determinada por la computación del área bajo la curva truncada de Iowa junto con la vida terminal del grupo.

El uso del sistema de amortización de vida restante añade un mecanismo de autocorrer, que explica cualquier diferencia entre la reserva de amortización teórica y la reserva de amortización contable durante la vida restante del grupo. Para cada añada modelada con una curva de jubilación provisional y una vida útil terminal,

$$\text{Vida Restante}(i) = \frac{\text{Area Bajo la Curva de Superviviente a la Edad Correcta } (i)}{\text{Supervivientes } (i)} Y$$

$$\text{Promedio de Servicio de Vida} = \frac{\text{Area Bajo la Curva de Superviviente}}{\text{Superviviente a la edad de cero}}$$

Con la línea recta, la vida restante, el sistema de grupo de vida promedio usando Curvas de Iowa, vidas se calcularon calculando un promedio ponderado directo de cada vida restante por la vendimia dentro del grupo. Dentro de cada grupo (cuenta de centro/unidad), para cada cuenta de centro, la diferencia entre la inversión superviviente y la reserva de amortización contable asignada se dividió por la vida restante compuesta para producir el gasto de amortización anual como se señala en esta ecuación:

$$\text{Gastos de Amortizacion Anual} = \frac{\text{Costo Original} - \text{Reserva de Libro}}{\text{Promedio de Vida Restante}}$$

Dentro de un grupo, la suma de los importes de gastos de amortización anual del grupo, como porcentaje de la inversión de costes original amortizable sumada, proporciona la tasa de amortización anual como se muestra a continuación:

$$\text{Indice de Amortización Anual} = \frac{\sum \text{Gasto de Amortización Anual}}{\sum \text{Costo Original}}$$

Estos cálculos se muestran en el Apéndice A. Los cálculos de los valores de reserva de amortización teórica Y los cálculos de vida restante correspondientes se muestran en los documentos de trabajo. Las reservas de depreciación contable se tomaron de los libros y registros de la empresa a nivel de cuenta de planta y se utilizaron cálculos teóricos de reservas para calcular la vida restante de cada grupo.

Los grupos se basan en el plan de cuentas de la CRE, ya que prevé la agrupación de activos similares. Esos grupos, las cuentas correspondientes de

ferC, el año en servicio y otros atributos clave asociados a este estudio se muestran en la siguiente tabla, así como en el Apéndice A. La sección Análisis de vida a continuación analiza cada cuenta con más detalle.

CRE Cuenta	Descripción CRE	Cuenta FERC	Años En Servicio	Vida de Servicio Inicial	Vida Propuesta	Curva Propuesta
1411	Derechos de Paso	365.2	2016	25	75	R4
1411	Derechos de Paso	365.2	2016	25	75	R4
1412	Estructuras para compresores y Equipo de Regulación y Medidas y Mejoramiento	366	2016	30	50	R2
1416	Equipo de Regulación y Medidas	369	2016	25	45	R1
1414	Tubería	367	2016	25	70	R2
1417	Estructuras y Equipo de Telecomunicación	370	2016	25	25	R2

ANÁLISIS DE VIDA

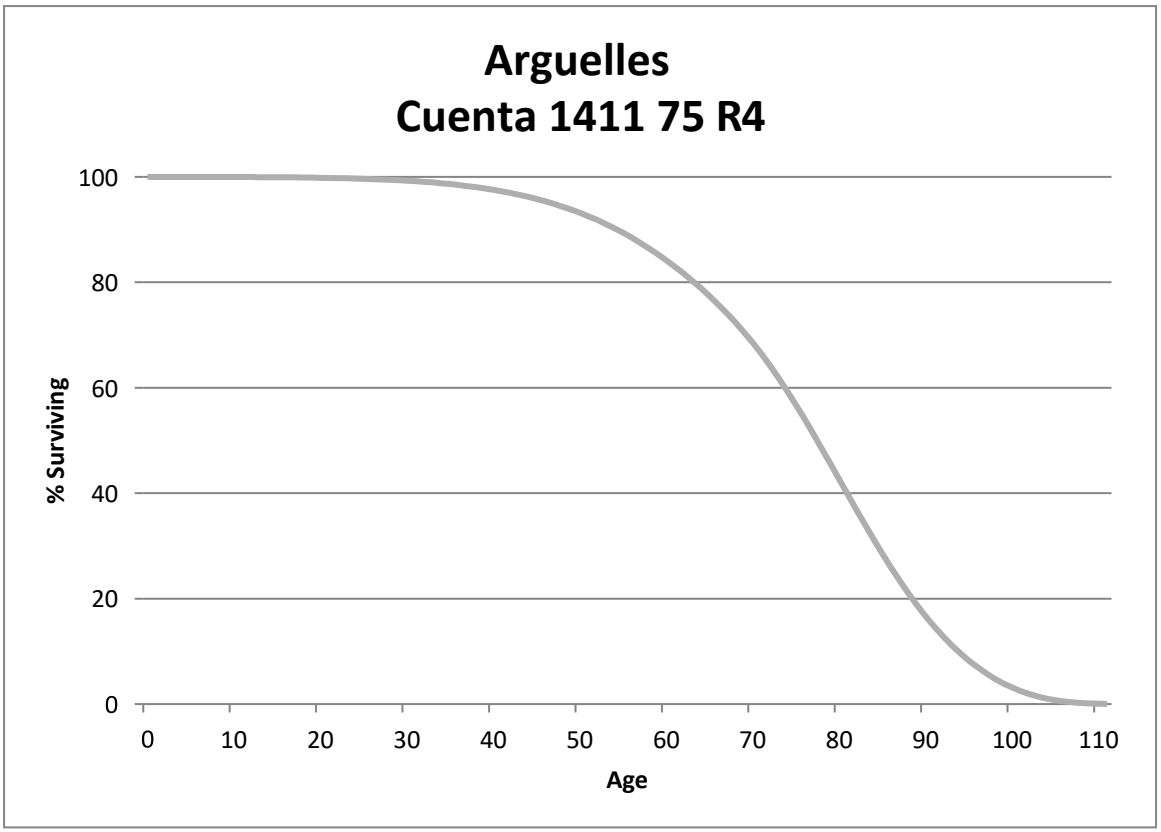
En el Análisis de Vida para la Planta de Transmisión, hay dos enfoques estándar: un concepto de vida útil y un concepto de vida media. El enfoque de vida útil supone una fecha de jubilación de terminal para el gasoducto y las jubilaciones provisionales durante la vida útil del gasoducto. Este enfoque es utilizado principalmente por la Comisión Federal de Reguladores de Energía de los Estados Unidos ("FERC"). El enfoque de vida media supone que se espera que los activos de la tubería tengan una vida continua (es decir, no hay fecha de jubilación de terminal para el gasoducto). En Otro Palabras Adiciones Y Jubilaciones será continuando Ocurrir Crear Un Promedio Servicio Vida. Dada la importancia estratégica de este oleoducto que conecta Estados Unidos y México, el enfoque utilizado en este estudio es el enfoque de vida promedio.

Había información histórica limitada sobre la cual realizar análisis actuariales (es decir, el oleoducto es muy joven y no hay una muestra estadísticamente válida sobre la que basar las proyecciones de vida). Por lo tanto, las recomendaciones de vida propuestas se basan en la experiencia de

otras 36 empresas de gasoductos estadounidenses (cuyas proyecciones de vida son información pública y en números suficientes para añadir una validez estadística a la encuesta), discusiones con expertos de la empresa y juicio profesional. Por este motivo, este informe hace referencia a las cuentas FERC aplicables en varios momentos junto con los números de cuenta CRE correspondientes.

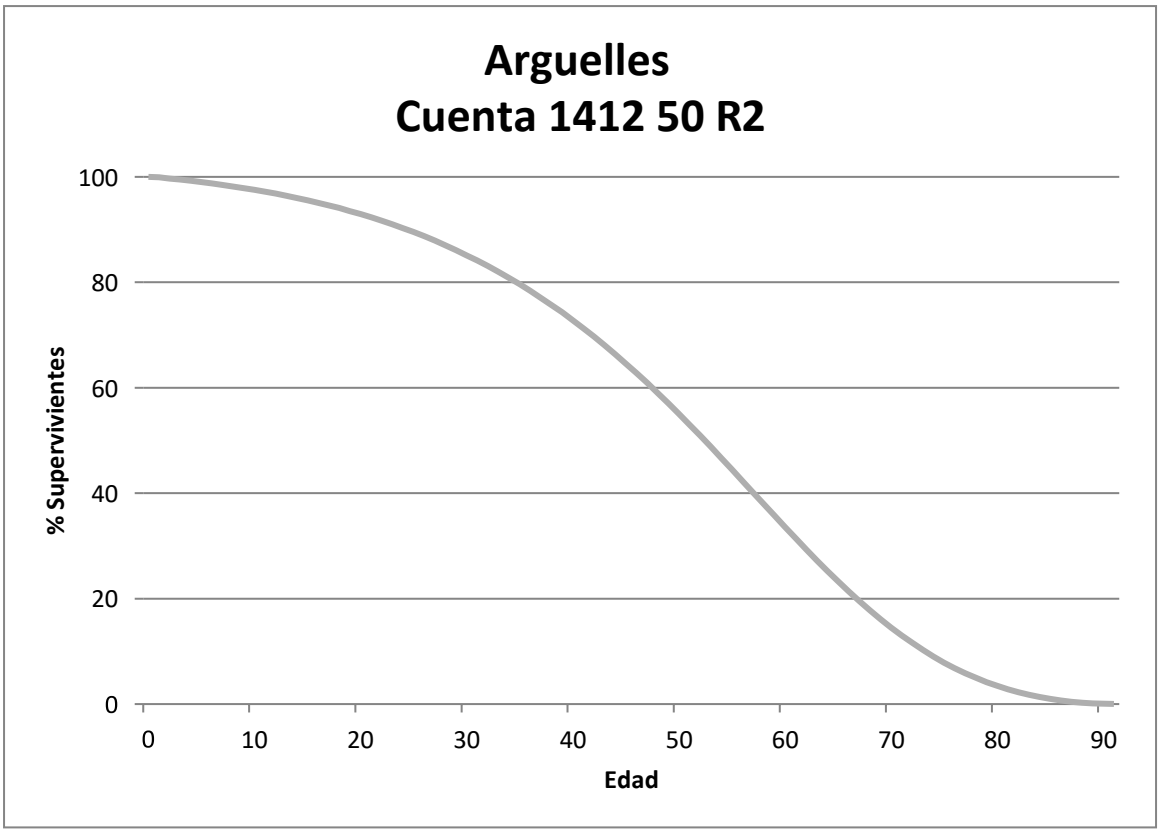
Cuenta 1411 Derecho de Paso (75 R4)

Esta Cuenta CRE 1411 incluye el costo de los derechos de vía en relación con la planta de transmisión. El saldo de la planta al 31 de diciembre de 2019, es de aproximadamente $31.5 millones de pesos. A los efectos de la encuesta, los activos de esta cuenta se incluyen como Cuenta 365.2 – Derechos de paso basados en el Código de Regulaciones Federales de Energía ("FERC") ("CFR"). En una tabulación de documentos públicos fácilmente disponibles que contienen vidas amortizables aprobadas para compañías de gasoductos de gas natural (incluidas 36 empresas en todo Estados Unidos), los activos en esta cuenta oscilaron entre 50 años y 110 años. Entre las empresas, la mediana era de 75 años, el modo era de 65 años y la media (promedio) era de 76 años. Después de redondear el promedio al múltiplo de cinco años más cercano, se recomienda una vida útil de 75 años para esta cuenta. Para predecir la forma del patrón de jubilación, se utilizó el juicio para seleccionar una dispersión R4. Este estudio recomienda una vida útil de 75 años y una dispersión R4. A continuación se muestra un gráfico de la vida y la dispersión


Arguelles
Cuenta 1411 75 R4
% Surviving
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
100
110
Age

Cuenta 1412 Estructuras y mejoras (50 R2)

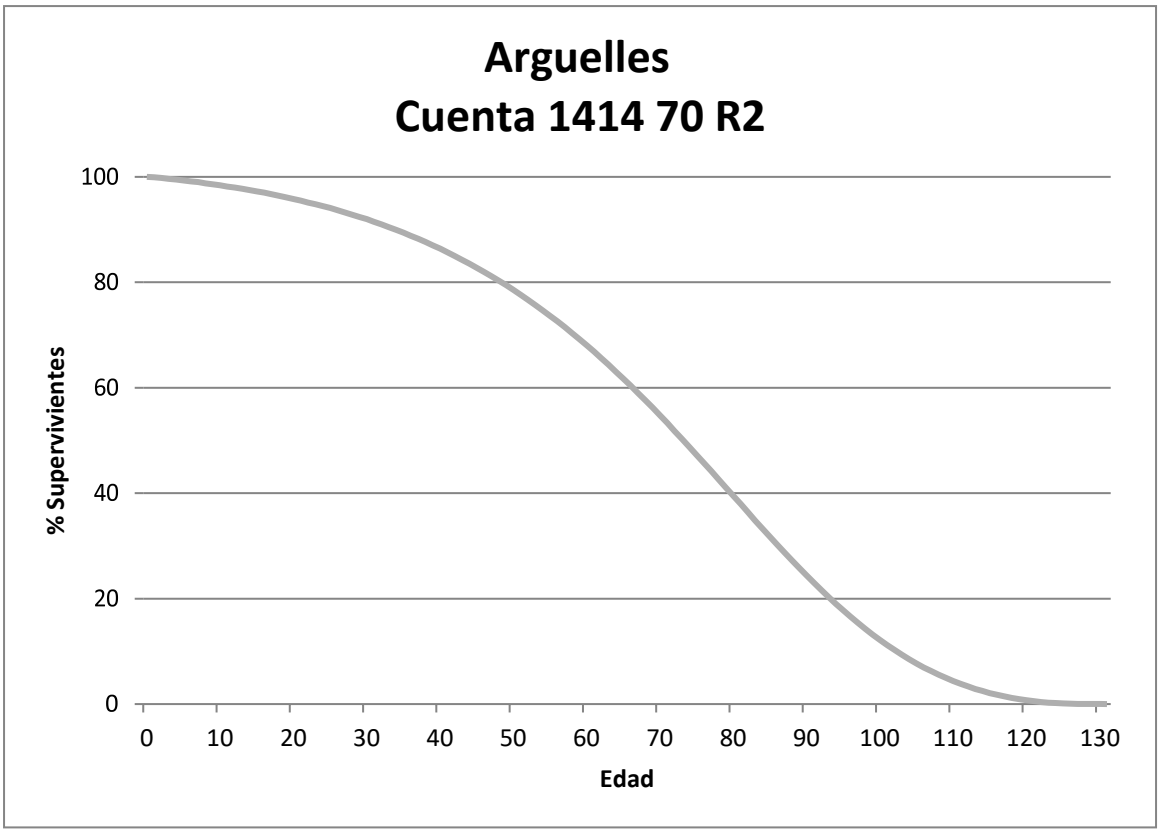
La Cuenta CRE 1412 incluye el costo de las estructuras y mejoras utilizadas en relación con las operaciones de transmisión. Actualmente no hay ninguna planta en esta cuenta. A los efectos de la encuesta, los activos de esta cuenta se incluyen como Cuenta 366 – Estructuras y Mejoras basadas en el CFR ferC. En una tabulación de documentos públicos fácilmente disponibles que contienen vidas amortizables aprobadas para compañías de gasoductos de gas natural (incluidas 36 empresas en todo Estados Unidos), los activos en esta cuenta oscilaron entre 30 años y 85 años. Entre las empresas, la mediana era de 50 años, el modo era de 35 años y la media (promedio) era de 51 años. Después de redondear el promedio al múltiplo de cinco años más cercano, se recomienda una vida útil de 50 años para esta cuenta. Para predecir la forma del patrón de jubilación, se utilizó el juicio para seleccionar una dispersión R2. Este estudio recomienda una vida útil de 50 años y una dispersión R2. A continuación se muestra un gráfico de la vida y la dispersión


Arguelles
Cuenta 1412 50 R2
% Supervivientes
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
Edad

Cuenta 1414 Tuberías (70 R2)

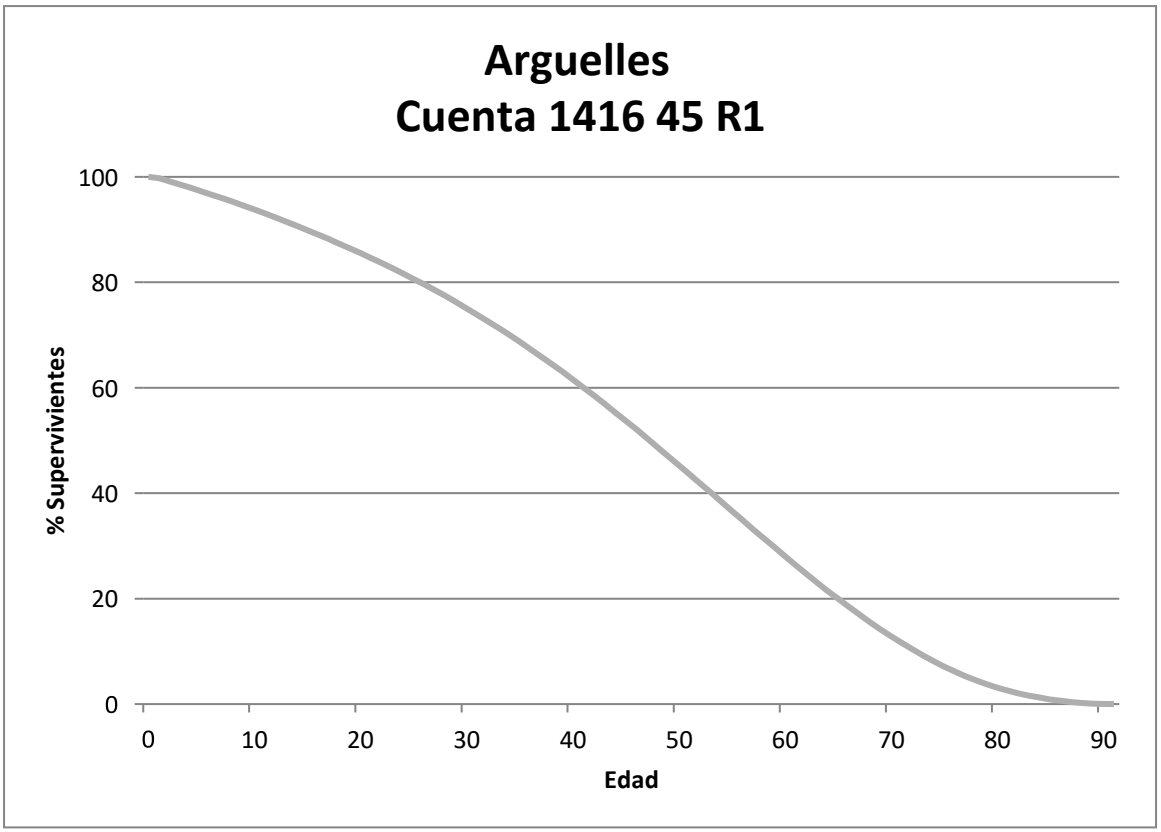
La Cuenta CRE 1414 incluye el costo de la red de transmisión, hecha de acero recubierto y envuelto. Hay aproximadamente $239.5 millones de pesos en planta en esta cuenta. El sistema de transporte fue diseñado de acuerdo con la Norma Oficial Mexicana NOM-007-SECRE-2010, Transporte de Gas Natural (NOM-007) y consiste en un tubo de acero al carbono API 5L X-70 de 24 pulgadas de diámetro. Al determinar el espesor mínimo de la tubería, el solicitante también consideró un exceso de espesor debido a la pérdida de corrosión de 0.00626 pulgadas.

A efectos de la encuesta, los activos de esta cuenta se incluyen como Cuenta 367 - Red principal basada en el CFR de FERC. En una tabulación de documentos públicos fácilmente disponibles que contienen vidas amortizables aprobadas para compañías de gasoductos de gas natural (incluidas 36 empresas en todo Estados Unidos), los activos en esta cuenta oscilaron entre 45 años y 100 años. Entre estas empresas, la mediana era de 69 años, el modo era de 65 años y la media (promedio) de 69 años. Después de redondear el promedio al múltiplo de cinco años más cercano (el redondeo se basa en el juicio y también se ve en muchos casos para grupos de activos de larga duración), se recomienda una vida útil de 70 años para esta cuenta. Para predecir la forma del patrón de jubilación, se utilizó el juicio para seleccionar una dispersión R2. Este estudio recomienda una vida útil de 70 años y una dispersión R2. A continuación se muestra un gráfico de la vida y la dispersión


Arguelles
Cuenta 1414 70 R2
% Supervivientes
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
100
110
120
130
Edad

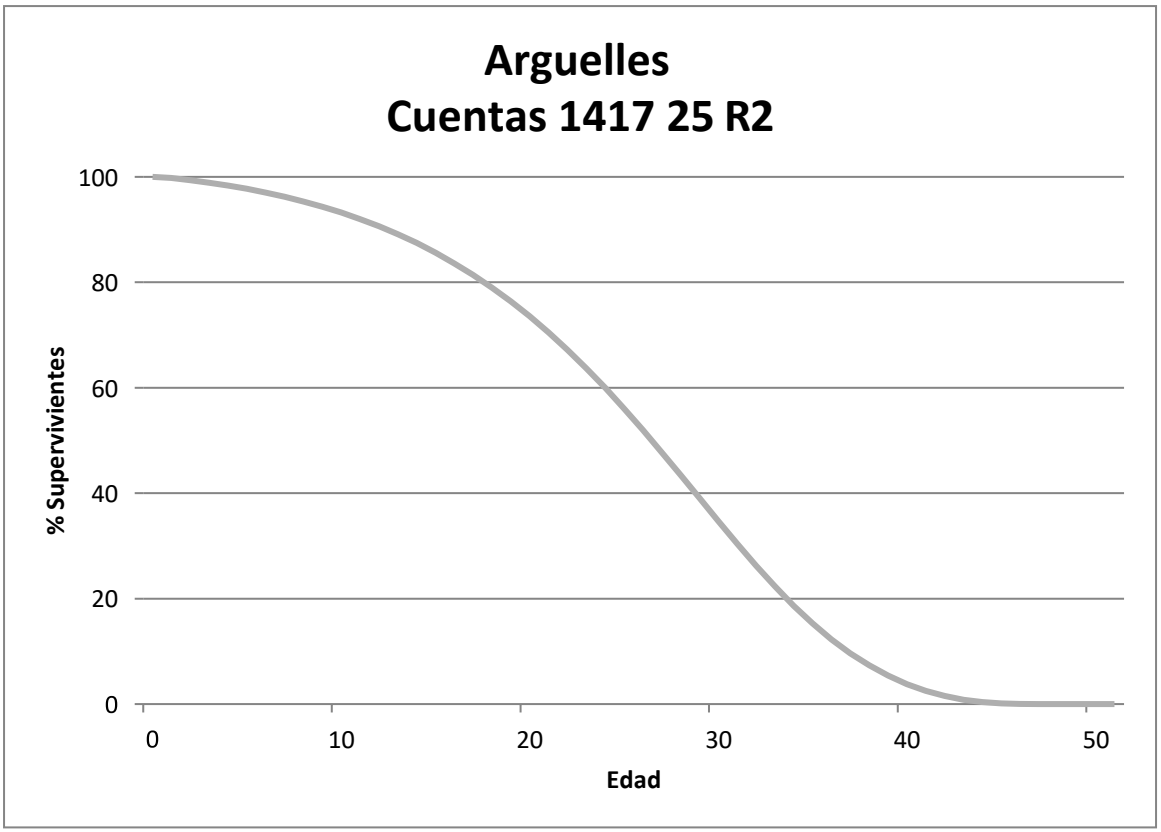
Cuenta 1416 Equipos de estación de medición y regulación (45 R1)

La Cuenta CRE 1416 incluye el costo de medir y regular los equipos de estación utilizados en relación con las operaciones de transmisión. Hay aproximadamente $21.2 millones de pesos en esta cuenta. A los efectos de la encuesta, los activos de esta cuenta se incluyen como Cuenta 369 – Medición y regulación de equipos de estación basados en el CFR ferC. En una tabulación de documentos públicos fácilmente disponibles que contienen vidas amortizables aprobadas para compañías de gasoductos de gas natural (incluidas 36 empresas en todo Estados Unidos), los activos en esta cuenta oscilaron entre 20 años y 60 años. Entre las empresas, la mediana fue de 43 años, el modo era de 40 años y la media (promedio) de 40 años. Después de redondear el promedio al múltiplo de cinco años más cercano, se recomienda una vida útil de 45 años para esta cuenta. Para predecir la forma del patrón de jubilación, se utilizó el juicio para seleccionar una dispersión R1. Este estudio recomienda una vida útil de 45 años y una dispersión R1. A continuación se muestra un gráfico de la vida y la dispersión


Arguelles
Cuenta 1416 45 R1
% Supervivientes
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
Edad

Cuenta 1417 Equipo de comunicación (25 R2)

La Cuenta CRE 1417 incluye el costo de los equipos de comunicación utilizados en relación con las operaciones de transmisión. Hay aproximadamente $7.2 millones de pesos en esta cuenta. A efectos de la encuesta, los activos de esta cuenta se incluyen como Cuenta 370 – Equipo de comunicación basado en el CFR ferC. En una tabulación de documentos públicos fácilmente disponibles que contienen vidas amortizables aprobadas para compañías de gasoductos de gas natural (incluidas 36 empresas en todo Estados Unidos), los activos en esta cuenta oscilaron entre 10 años y 55 años. Entre las empresas, la mediana era de 25 años, el modo era de 25 años y la media (promedio) de 27 años. Después de redondear el promedio al múltiplo de cinco años más cercano, se recomienda una vida útil de 25 años para esta cuenta. Para predecir la forma del patrón de jubilación, se utilizó el juicio para seleccionar una dispersión R2. Este estudio recomienda una vida útil de 25 años y una dispersión R2. A continuación se muestra un gráfico de la vida y la dispersión


Arguelles
Cuentas 1417 25 R2
100
80
60
40
20
0
% Supervivientes
0
10
20
30
40
50
Edad

ANÁLISIS DEL VALOR RESIDUAL

Cuando se retira un activo de capital, se retira físicamente del servicio y finalmente se elimina, se dice que se ha producido la baja de la terminal. El valor residual de una baja terminal se denomina salvamento bruto. El salvamento neto es la diferencia entre el salvamento bruto (para qué se vendió el activo) y el costo de eliminación (costo para eliminar y eliminar el activo). Los porcentajes de costo de rescate y remoción se calculan dividiendo el costo Actual de rescate o remoción por el Texto original en el costo instalado del activo. Algunos activos de la planta pueden experimentar porcentajes significativos de costos de remoción negativos debido al momento de lo añadido originalmente antes de la jubilación.

En las siguientes Normas Internacionales de Contabilidad Financiera ("NIIF"), la empresa no se acumula por los costos de remoción en sus tasas de depreciación. Con la mayoría de los activos enterrados y serán abandonados en vigor en las jubilaciones, se espera un salvamento bruto nominal. Como resultado, el rescate neto no se tiene en cuenta en el cálculo de las tasas de depreciación en este estudio.

APÉNDICE A

Cálculos de tasa de depreciación

ARGUELLES
COMPUTACIÓN PROPUESTA DE ÍNDICE DE AMORTIZACIÓN

Acct	Descripción	Descripción en Detalle	Año en Servicio	Edad	Servicio de Vida Inicial	Vida Propuesta	Curva Propuesta	Planta	Reserva	Cantidad no Acumulada	Vida Restante	Acumulamiento Annual	de Acumulamiento
								Pesos	Pesos	Pesos	Yrs	Pesos	%
1411	Derecho de Paso	Derecho de Paso	2015	4.5	25	75	R4	31,537,904.72	3,102,413.74	28,435,490.98	70.51	403,309.63	1.28%
1414	Tubería	Acero al Carbono API 5L-X-70 24 pulgadas en diametro	2015	4.5	25	70	R2	239,504,530.77	28,060,355.74	211,444,175.03	65.96	3,205,831.50	1.34%
1416	Equipo de Regulación y Medidas	Estacion de Medidas -latitud 26º 11´46.88" N y longitud 98º 26´7.63" O;	2015	4.5	25	45	R1	21,231,929.87	2,032,151.56	19,199,778.31	41.71	460,370.37	2.17%
1417	Estructuras y equipo de telecomunicación	Equipo Electrico/Telemetría	2015	4.5	25	25	R2	7,204,753.98	683,534.91	6,521,219.07	21.03	310,135.20	4.30%
								299,479,119.34	33,878,455.95	265,600,663.39		4,379,646.70	1.46%

APÉNDICE B

Comparación de Gastos de Depreciación Actuales frente a Propuestos

Arguelles
Cotejo de Gastos de Amortización

Cuenta	Descripción	Planta	Actual Tasa	Actual Gasto	Propuesta d Tasa Acumulada	Propuesta de Gasto Acumulado	Diferencia de Gastos
		Pesos	%	Pesos	%	Pesos	Pesos
1411	Derecho de Paso	31,537,904.72	1.54%	485,683.73	1.28%	403,309.63	(82,374.10)
1412	Estructuras y Mejoramiento	0.00	5.00%	0.00	2.00%	0.00	0.00
1414	Tubería	239,504,530.77	1.54%	3,688,369.77	1.34%	3,205,831.50	(482,538.27)
1416	Equipo de Regulación y Medidas	21,231,929.87	5.00%	1,061,596.49	2.17%	460,370.37	(601,226.13)
1417	Estructuras y equipo de telecomunicación	7,204,753.98	5.00%	360,237.70	4.30%	310,135.20	(50,102.50)
	Total	299,479,119.34	1.87%	5,595,887.70	1.46%	4,379,646.70	(1,216,241.00)

Nota: Al momento no hay una planta para la cuenta 1412 Estructuras y Mejoramiento. Si se añade una planta se recomienta una tasa de 2%. basada en 1 dividido por la vida de servicio propuesta de 50 años.

APÉNDICE C

Lista de empresas de EE. UU. y parámetros de vida por cuenta

ARGUELLES PIPLINE, S. DE R.L. DE C.V.
RESUMEN DE LA VIDA DE AMORTIZACIÓN DE EMISIÓN DE LAS COMPAÑÍAS DE GAS NATURAL

Numero	Compañía	Lista de Casos	Entidad Reguladora	365 Derechos de Tierra	
				Curva	Vida
1	SEMCO	U-18452	Michigan Public Service Commission	R4	80
2	Minnesota Northern States Power	17-581	Minnesota Public Utilities Commission		
3	WG GAS PLANT	05-DU-102	Wisconsin Public Service Commission		
4	Granite State Gas	10-896	FERC	S4	70
5	SW Gas Nevada	18-05031	Public Utility Commission of Nevada	SQ	75
6	ANR Pipeline Company	RP16-877	FERC	R5	80
7	Eastern Shore Natural Gas Company	RP17-363	FERC	S0	100
8	Eastern Shore Natural Gas Company	RP17-968	FERC	S0	100
9	Texas Eastern Transmission	RP19-343-000	FERC	S3	60
10	Panhandle Eastern Pipe Line Company	RP19-1523	FERC	S2	110
11	Trailblazer Pipeline Company	RP18-922	FERC	S5	65
12	WBI Energy Transmission	RP19-165	FERC	R4	100
13	National Fuel Gas Supply Corporation	RP19-1426	FERC	S3	105
14	Atmos Pipeline Texas	GUD 10580	Texas Railroad Commission	R4	85
15	West Texas Gas	GUD 10235	Texas Railroad Commission	SQ	45
16	KOT Transmission	RP16-097-000	FERC	R2	60
17	Florida Gas Transmission	RP15-101	FERC	S2.5	53
18	Public Service of Colorado	12AL-1268G & 17AL-0363G	Colorado Public Utility Commission	R4	65
19	South Jersey Gas	GR200302	New Jersey Board of Public Utilities		
20	New Mexico Gas	Informal	New Mexico Regulation Commission	L3	70
21	Atlanta Gas Light	Docket 42315	Georgia Public Service Commission	R5	85
22	Elizabethtown Gas	GR19040486	New Jersey Board of Public Utilities	R2	70
23	Piedmont Carolinas	Docket No. G-9, Sub 743	North Carolina Utilities Commission	R4	80
24	Enable Mid Stream	Unregulated	NA	R2	65
25	Consumers Energy Gas	U-18127	Michigan Public Service Commission	R3	75
26	Atmos Mississippi	2017-UN-041	Mississippi Public Service Commission	R5	85
27	Atmos Kentucky	2018-00281	Kentucky Public Service Commission	R5	75
28	Atmos Tennessee	14-00146	Tennessee Regulatory Authority	R5	75
29	Atmos LGS	U-34803	Louisiana Public Service Commission	R1.5	92
30	Michigan Gas Utilities	U-18488	Michigan Public Service Commission	R5	80
31	Liberty Utilities Mid States Gas	GR-2018-0013	Missouri Public Service Commission		
32	Source Gas Arkansas	15-011-U	Arkansas Public Service Commission	R1	50
33	Northern Natural Gas	RP19-1353 & RP19-59	FERC	R2	65
34	Enable Mississippi River Transmission Co	RP18-923	FERC	R2	95
35	Kansas Gas Service	18-KGSG-560-RTS	Kansas Corporation Commission	R1.5	70
36	Oklahoma Natural Gas	PUD 201500213	Corporate Commission of Oklahoma	R1	65
			Promedio		76.5625
			Medio		75
			Modo		65
			Recomendacion	R4	75

ARGUELLES PIPLINE, S. DE R.L. DE C.V.
RESUMEN DE LA VIDA DE AMORTIZACIÓN DE EMISIÓN DE LAS COMPAÑÍAS DE GAS NATURAL

Numero	Compañía	Lista de Casos	Entidad Reguladora	366 Estructuras Y Impr	
				Curva	Vida
1	SEMCO	U-18452	Michigan Public Service Commission	R1.5	38
2	Minnesota Northern States Power	17-581	Minnesota Public Utilities Commission	R4	65
3	WG GAS PLANT	05-DU-102	Wisconsin Public Service Commission	R5	36
4	Granite State Gas	10-896	FERC	R2.5	35
5	SW Gas Nevada	18-05031	Public Utility Commission of Nevada	R3	45
6	ANR Pipeline Company	RP16-877	FERC	R5	85
7	Eastern Shore Natural Gas Company	RP17-363	FERC	S6	55
8	Eastern Shore Natural Gas Company	RP17-968	FERC	S6	55
9	Texas Eastern Transmission	RP19-343-000	FERC	R1	90
10	Panhandle Eastern Pipe Line Company	RP19-1523	FERC	R4	60
11	Trailblazer Pipeline Company	RP18-922	FERC	R1	50
12	WBI Energy Transmission	RP19-165	FERC	R2	75
13	National Fuel Gas Supply Corporation	RP19-1426	FERC	S1	70
14	Atmos Pipeline Texas	GUD 10580	Texas Railroad Commission	L0	45
15	West Texas Gas	GUD 10235	Texas Railroad Commission		
16	KOT Transmission	RP16-097-000	FERC	R3	45
17	Florida Gas Transmission	RP15-101	FERC	R4	43
18	Public Service of Colorado	12AL-1268G & 17AL-0363G	Colorado Public Utility Commission	R1.5	55
19	South Jersey Gas	GR200302	New Jersey Board of Public Utilities	R4	50
20	New Mexico Gas	Informal	New Mexico Regulation Commission	S5	42
21	Atlanta Gas Light	Docket 42315	Georgia Public Service Commission	R5	55
22	Elizabethtown Gas	GR19040486	New Jersey Board of Public Utilities		
23	Piedmont Carolinas	Docket No. G-9, Sub 743	North Carolina Utilities Commission	R4	50
24	Enable Mid Stream	Unregulated	NA	R2	45
25	Consumers Energy Gas	U-18127	Michigan Public Service Commission	R2	65
26	Atmos Mississippi	2017-UN-041	Mississippi Public Service Commission	R1	40
27	Atmos Kentucky	2018-00281	Kentucky Public Service Commission	R4	58
28	Atmos Tennessee	14-00146	Tennessee Regulatory Authority	SQ	30
29	Atmos LGS	U-34803	Louisiana Public Service Commission	R2	35
30	Michigan Gas Utilities	U-18488	Michigan Public Service Commission	R1.5	35
31	Liberty Utilities Mid States Gas	GR-2018-0013	Missouri Public Service Commission	S3	50
32	Source Gas Arkansas	15-011-U	Arkansas Public Service Commission	R2.5	35
33	Northern Natural Gas	RP19-1353 & RP19-59	FERC	R1	40
34	Enable Mississippi River Transmission Co	RP18-923	FERC	R4	60
35	Kansas Gas Service	18-KGSG-560-RTS	Kansas Corporation Commission	S0.5	60
36	Oklahoma Natural Gas	PUD 201500213	Corporate Commission of Oklahoma	R2	30
			Promedio		50.7941
			Medio		50
			Modo		35
			Recomendacion	R2	50

APÉNDICE C
Pagina 3 de 7

ARGUELLES PIPLINE, S. DE R.L. DE C.V.
RESUMEN DE LA VIDA DE AMORTIZACIÓN DE EMISIÓN DE LAS COMPAÑÍAS DE GAS NATURAL

				367 Acero		367 Cañerias		367 Cañerias	
Numero	**Compañía**	**Lista de Casos**	**Entidad Reguladora**	**Principal**		**Otro Equipo**		**Anodo**	
				Curva	**Vida**	**Curva**	**Vida**	**Curva**	**Vida**
1	SEMCO	U-18452	Michigan Public Service Commission	S4	67				
2	Minnesota Northern States Power	17-581	Minnesota Public Utilities Commission	R2.5	75				
3	WG GAS PLANT	05-DU-102	Wisconsin Public Service Commission	R2	55				
4	Granite State Gas	10-896	FERC	L2	40				
5	SW Gas Nevada	18-05031	Public Utility Commission of Nevada	R1.5	68				
6	ANR Pipeline Company	RP16-877	FERC	R4	85				
7	Eastern Shore Natural Gas Company	RP17-363	FERC	L4	65				
8	Eastern Shore Natural Gas Company	RP17-968	FERC	L4	65				
9	Texas Eastern Transmission	RP19-343-000	FERC	R1	100				
10	Panhandle Eastern Pipe Line Company	RP19-1523	FERC	S2	90				
11	Trailblazer Pipeline Company	RP18-922	FERC	S1	90				
12	WBI Energy Transmission	RP19-165	FERC	R3	85				
13	National Fuel Gas Supply Corporation	RP19-1426	FERC	L1	95				
14	Atmos Pipeline Texas	GUD 10580	Texas Railroad Commission	L0	70				
15	West Texas Gas	GUD 10235	Texas Railroad Commission	R2	45				
16	KOT Transmission	RP16-097-000	FERC	RQ	45				
17	Florida Gas Transmission	RP15-101	FERC	S2	53				
18	Public Service of Colorado	12AL-1268G & 17AL-0363G	Colorado Public Utility Commission	R3	72				
19	South Jersey Gas	GR200302	New Jersey Board of Public Utilities	R4	68				
20	New Mexico Gas	Informal	New Mexico Regulation Commission	R2	65	R1.5	37	SQ	20
21	Atlanta Gas Light	Docket 42315	Georgia Public Service Commission	R3	75				
22	Elizabethtown Gas	GR19040486	New Jersey Board of Public Utilities	R2	71				
23	Piedmont Carolinas	Docket No. G-9, Sub 743	North Carolina Utilities Commission	R4	65				
24	Enable Mid Stream	Unregulated	NA	R2	65				
25	Consumers Energy Gas	U-18127	Michigan Public Service Commission	R3	75				
26	Atmos Mississippi	2017-UN-041	Mississippi Public Service Commission	R1	75			R2	25
27	Atmos Kentucky	2018-00281	Kentucky Public Service Commission	R1.5	70			R4	25
28	Atmos Tennessee	14-00146	Tennessee Regulatory Authority	R4	60			SQ	25
29	Atmos LGS	U-34803	Louisiana Public Service Commission	R1.5	82			SQ	20
30	Michigan Gas Utilities	U-18488	Michigan Public Service Commission	R5	78				
31	Liberty Utilities Mid States Gas	GR-2018-0013	Missouri Public Service Commission	R2.5	70	SQ	25		
32	Source Gas Arkansas	15-011-U	Arkansas Public Service Commission	R1	50				
33	Northern Natural Gas	RP19-1353 & RP19-59	FERC	R2	65				
34	Enable Mississippi River Transmission Co	RP18-923	FERC	R5	70				
35	Kansas Gas Service	18-KGSG-560-RTS	Kansas Corporation Commission	R1.5	52				
36	Oklahoma Natural Gas	PUD 201500213	Corporate Commission of Oklahoma	R1	65				
			Promedio						
			Medio		69.0556				
			Modo		69				
			Recomendacion		65				

R2	70

Promedio
Medio
Modo
Recomendacion

ARGUELLES PIPLINE, S. DE R.L. DE C.V.
RESUMEN DE LA VIDA DE AMORTIZACIÓN DE EMISIÓN DE LAS COMPAÑÍAS DE GAS NATURAL

Numero	Compañía	Lista de Casos	Entidad Reguladora	368 Compresores	
				Curva	Vida
1	SEMCO	U-18452	Michigan Public Service Commission	R3	35
2	Minnesota Northern States Power	17-581	Minnesota Public Utilities Commission		
3	WG GAS PLANT	05-DU-102	Wisconsin Public Service Commission		
4	Granite State Gas	10-896	FERC		
5	SW Gas Nevada	18-05031	Public Utility Commission of Nevada	R2	47
6	ANR Pipeline Company	RP16-877	FERC	R5	45
7	Eastern Shore Natural Gas Company	RP17-363	FERC	S6	35
8	Eastern Shore Natural Gas Company	RP17-968	FERC	S6	35
9	Texas Eastern Transmission	RP19-343-000	FERC	S1	80
10	Panhandle Eastern Pipe Line Company	RP19-1523	FERC	L1	65
11	Trailblazer Pipeline Company	RP18-922	FERC	R3	40
12	WBI Energy Transmission	RP19-165	FERC	R2	65
13	National Fuel Gas Supply Corporation	RP19-1426	FERC	O1	60
14	Atmos Pipeline Texas	GUD 10580	Texas Railroad Commission	L0	32
15	West Texas Gas	GUD 10235	Texas Railroad Commission	R2	15
16	KOT Transmission	RP16-097-000	FERC		
17	Florida Gas Transmission	RP15-101	FERC	R3	40
18	Public Service of Colorado	12AL-1268G & 17AL-0363G	Colorado Public Utility Commission	L2	35
19	South Jersey Gas	GR200302	New Jersey Board of Public Utilities		
20	New Mexico Gas	Informal	New Mexico Regulation Commission	R4	54
21	Atlanta Gas Light	Docket 42315	Georgia Public Service Commission		
22	Elizabethtown Gas	GR19040486	New Jersey Board of Public Utilities		
23	Piedmont Carolinas	Docket No. G-9, Sub 743	North Carolina Utilities Commission	R4	35
24	Enable Mid Stream	Unregulated	NA	R4	35
25	Consumers Energy Gas	U-18127	Michigan Public Service Commission	R3	48
26	Atmos Mississippi	2017-UN-041	Mississippi Public Service Commission	R2	40
27	Atmos Kentucky	2018-00281	Kentucky Public Service Commission		
28	Atmos Tennessee	14-00146	Tennessee Regulatory Authority		
29	Atmos LGS	U-34803	Louisiana Public Service Commission		
30	Michigan Gas Utilities	U-18488	Michigan Public Service Commission	S6	42
31	Liberty Utilities Mid States Gas	GR-2018-0013	Missouri Public Service Commission		
32	Source Gas Arkansas	15-011-U	Arkansas Public Service Commission	R2	37
33	Northern Natural Gas	RP19-1353 & RP19-59	FERC	L0	25
34	Enable Mississippi River Transmission Co	RP18-923	FERC	R4	45
35	Kansas Gas Service	18-KGSG-560-RTS	Kansas Corporation Commission	SL	35
36	Oklahoma Natural Gas	PUD 201500213	Corporate Commission of Oklahoma		
			Promedio		42.7083
			Medio		40
			Modo		35
			Recomendacion	R4	40

ARGUELLES PIPLINE, S. DE R.L. DE C.V.
RESUMEN DE LA VIDA DE AMORTIZACIÓN DE EMISIÓN DE LAS COMPAÑÍAS DE GAS NATURAL

Numero	Compañía	Lista de Casos	Entidad Reguladora	369 Medidas & Reg	
				Curva	Vida
1	SEMCO	U-18452	Michigan Public Service Commission	R2.5	36
2	Minnesota Northern States Power	17-581	Minnesota Public Utilities Commission	R1	40
3	WG GAS PLANT	05-DU-102	Wisconsin Public Service Commission	R3	36
4	Granite State Gas	10-896	FERC	S1.5	44
5	SW Gas Nevada	18-05031	Public Utility Commission of Nevada	R1	42
6	ANR Pipeline Company	RP16-877	FERC	R1	65
7	Eastern Shore Natural Gas Company	RP17-363	FERC	S4	40
8	Eastern Shore Natural Gas Company	RP17-968	FERC	S4	40
9	Texas Eastern Transmission	RP19-343-000	FERC	S2	45
10	Panhandle Eastern Pipe Line Company	RP19-1523	FERC	R1	60
11	Trailblazer Pipeline Company	RP18-922	FERC	S5	55
12	WBI Energy Transmission	RP19-165	FERC	L0	45
13	National Fuel Gas Supply Corporation	RP19-1426	FERC	L0	60
14	Atmos Pipeline Texas	GUD 10580	Texas Railroad Commission	L0	37
15	West Texas Gas	GUD 10235	Texas Railroad Commission	R3	20
16	KOT Transmission	RP16-097-000	FERC	R3	45
17	Florida Gas Transmission	RP15-101	FERC	L2	31
18	Public Service of Colorado	12AL-1268G & 17AL-0363G	Colorado Public Utility Commission	R2	50
19	South Jersey Gas	GR200302	New Jersey Board of Public Utilities	S6	30
20	New Mexico Gas	Informal	New Mexico Regulation Commission	R0.5	55
21	Atlanta Gas Light	Docket 42315	Georgia Public Service Commission	R4	55
22	Elizabethtown Gas	GR19040486	New Jersey Board of Public Utilities	S2	45
23	Piedmont Carolinas	Docket No. G-9, Sub 743	North Carolina Utilities Commission	R4	45
24	Enable Mid Stream	Unregulated	NA	L0.5	45
25	Consumers Energy Gas	U-18127	Michigan Public Service Commission	R1	43
26	Atmos Mississippi	2017-UN-041	Mississippi Public Service Commission	R3	40
27	Atmos Kentucky	2018-00281	Kentucky Public Service Commission	R1.5	50
28	Atmos Tennessee	14-00146	Tennessee Regulatory Authority	R4	40
29	Atmos LGS	U-34803	Louisiana Public Service Commission	R1	55
30	Michigan Gas Utilities	U-18488	Michigan Public Service Commission		
31	Liberty Utilities Mid States Gas	GR-2018-0013	Missouri Public Service Commission	R2.5	40
32	Source Gas Arkansas	15-011-U	Arkansas Public Service Commission	R1	39
33	Northern Natural Gas	RP19-1353 & RP19-59	FERC	L0	35
34	Enable Mississippi River Transmission Co	RP18-923	FERC	R2	45
35	Kansas Gas Service	18-KGSG-560-RTS	Kansas Corporation Commission	L0	40
36	Oklahoma Natural Gas	PUD 201500213	Corporate Commission of Oklahoma	L0.5	40
			Promedio		45.0882
			Medio		43
			Modo		40
			Recomendacion	R1	45

ARGUELLES PIPLINE, S. DE R.L. DE C.V.
RESUMEN DE LA VIDA DE AMORTIZACIÓN DE EMISIÓN DE LAS COMPAÑÍAS DE GAS NATURAL

Numero	Compañía	Lista de Casos	Entidad Reguladora	370 Equipo Commun	
				Curva	Vida
1	SEMCO	U-18452	Michigan Public Service Commission	R2	25
2	Minnesota Northern States Power	17-581	Minnesota Public Utilities Commission		
3	WG GAS PLANT	05-DU-102	Wisconsin Public Service Commission		
4	Granite State Gas	10-896	FERC		
5	SW Gas Nevada	18-05031	Public Utility Commission of Nevada	R4	20
6	ANR Pipeline Company	RP16-877	FERC	SQ	10
7	Eastern Shore Natural Gas Company	RP17-363	FERC	SQ	10
8	Eastern Shore Natural Gas Company	RP17-968	FERC	SQ	10
9	Texas Eastern Transmission	RP19-343-000	FERC	S2	75
10	Panhandle Eastern Pipe Line Company	RP19-1523	FERC	R5	40
11	Trailblazer Pipeline Company	RP18-922	FERC	L3	40
12	WBI Energy Transmission	RP19-165	FERC		
13	National Fuel Gas Supply Corporation	RP19-1426	FERC		
14	Atmos Pipeline Texas	GUD 10580	Texas Railroad Commission	L2	25
15	West Texas Gas	GUD 10235	Texas Railroad Commission		
16	KOT Transmission	RP16-097-000	FERC	R2	25
17	Florida Gas Transmission	RP15-101	FERC	R2	27
18	Public Service of Colorado	12AL-1268G & 17AL-0363G	Colorado Public Utility Commission	R1.5	25
19	South Jersey Gas	GR200302	New Jersey Board of Public Utilities	S3	25
20	New Mexico Gas	Informal	New Mexico Regulation Commission		
21	Atlanta Gas Light	Docket 42315	Georgia Public Service Commission		
22	Elizabethtown Gas	GR19040486	New Jersey Board of Public Utilities		
23	Piedmont Carolinas	Docket No. G-9, Sub 743	North Carolina Utilities Commission		
24	Enable Mid Stream	Unregulated	NA	SQ	15
25	Consumers Energy Gas	U-18127	Michigan Public Service Commission	L2	17
26	Atmos Mississippi	2017-UN-041	Mississippi Public Service Commission	L3	25
27	Atmos Kentucky	2018-00281	Kentucky Public Service Commission		
28	Atmos Tennessee	14-00146	Tennessee Regulatory Authority		
29	Atmos LGS	U-34803	Louisiana Public Service Commission		
30	Michigan Gas Utilities	U-18488	Michigan Public Service Commission		
31	Liberty Utilities Mid States Gas	GR-2018-0013	Missouri Public Service Commission	S2.5	25
32	Source Gas Arkansas	15-011-U	Arkansas Public Service Commission	S6	25
33	Northern Natural Gas	RP19-1353 & RP19-59	FERC		
34	Enable Mississippi River Transmission Co	RP18-923	FERC	L0	55
35	Kansas Gas Service	18-KGSG-560-RTS	Kansas Corporation Commission		
36	Oklahoma Natural Gas	PUD 201500213	Corporate Commission of Oklahoma		
			Promedio		27.3158
			Medio		25
			Modo		25
			Recomendacion	R2	25

ARGUELLES PIPLINE, S. DE R.L. DE C.V.
RESUMEN DE LA VIDA DE AMORTIZACIÓN DE EMISIÓN DE LAS COMPAÑÍAS DE GAS NATURAL

Numero	Compañía	Lista de Casos	Entidad Reguladora	371 Otro Equipo		Comentario
				Curva	Vida	
1	SEMCO	U-18452	Michigan Public Service Commission	R2	30	
2	Minnesota Northern States Power	17-581	Minnesota Public Utilities Commission			
3	WG GAS PLANT	05-DU-102	Wisconsin Public Service Commission			
4	Granite State Gas	10-896	FERC	R3	21	
5	SW Gas Nevada	18-05031	Public Utility Commission of Nevada	R4	15	
6	ANR Pipeline Company	RP16-877	FERC			truncamiento de 35
7	Eastern Shore Natural Gas Company	RP17-363	FERC			truncamiento de 35
8	Eastern Shore Natural Gas Company	RP17-968	FERC			truncamiento de 35
9	Texas Eastern Transmission	RP19-343-000	FERC	S2	80	truncamiento de 35
10	Panhandle Eastern Pipe Line Company	RP19-1523	FERC	S4	80	truncamiento de 35
11	Trailblazer Pipeline Company	RP18-922	FERC	R2	25	truncamiento de 35
12	WBI Energy Transmission	RP19-165	FERC			truncamiento de 35
13	National Fuel Gas Supply Corporation	RP19-1426	FERC	R1	50	
14	Atmos Pipeline Texas	GUD 10580	Texas Railroad Commission	L0	34	
15	West Texas Gas	GUD 10235	Texas Railroad Commission	R2	15	
16	KOT Transmission	RP16-097-000	FERC			truncamiento de 35
17	Florida Gas Transmission	RP15-101	FERC	R1	20	truncamiento de 35
18	Public Service of Colorado	12AL-1268G & 17AL-0363G	Colorado Public Utility Commission			
19	South Jersey Gas	GR200302	New Jersey Board of Public Utilities	S6	38	
20	New Mexico Gas	Informal	New Mexico Regulation Commission	S6	30	
21	Atlanta Gas Light	Docket 42315	Georgia Public Service Commission	R3	25	
22	Elizabethtown Gas	GR19040486	New Jersey Board of Public Utilities	R2	20	
23	Piedmont Carolinas	Docket No. G-9, Sub 743	North Carolina Utilities Commission			
24	Enable Mid Stream	Unregulated	NA	R1	40	
25	Consumers Energy Gas	U-18127	Michigan Public Service Commission	L0.5	28	
26	Atmos Mississippi	2017-UN-041	Mississippi Public Service Commission	R2	30	
27	Atmos Kentucky	2018-00281	Kentucky Public Service Commission			
28	Atmos Tennessee	14-00146	Tennessee Regulatory Authority			
29	Atmos LGS	U-34803	Louisiana Public Service Commission			
30	Michigan Gas Utilities	U-18488	Michigan Public Service Commission			
31	Liberty Utilities Mid States Gas	GR-2018-0013	Missouri Public Service Commission			
32	Source Gas Arkansas	15-011-U	Arkansas Public Service Commission	S6	25	
33	Northern Natural Gas	RP19-1353 & RP19-59	FERC	R2	25	
34	Enable Mississippi River Transmission Co	RP18-923	FERC	R4	45	truncamiento de 32
35	Kansas Gas Service	18-KGSG-560-RTS	Kansas Corporation Commission			
36	Oklahoma Natural Gas	PUD 201500213	Corporate Commission of Oklahoma			
			Promedio		33.8	
			Medio		29	
			Modo		25	
			Recomendacion	R2	35	

APÉNDICE D

Cálculo de la vida restante para la cuenta CRE 1414 – Tuberías

Computacion de Vida Restante 70 R2

Interpolación Lineal

DATA_POINT	ASL	Edad (años)	Vida Restante (años)	Punto de Da	Porcentaje de Vida Rest	Edad (años)	Año Clásico	X1	X2	Y1	Y2	Cuesta [(Y2 - Y1) / (X2 - X1)]	B (Y -Intersección) = y - mx	Vida Restante (y = mx +
1	70	0.00000	70.00	1	100.0000	0.5	2019	0.00	0.70	70.00	69.37	-0.91	70.00	69.55
2	70	0.70000	69.37	2	99.0944	1.5	2018	1.40	2.10	68.73	68.10	-0.90	69.99	68.64
3	70	1.40000	68.73	3	98.1913	2.5	2017	2.10	2.80	68.10	67.47	-0.90	69.99	67.74
4	70	2.10000	68.10	4	97.2908	3.5	2016	3.50	4.20	66.85	66.22	-0.89	69.97	66.85
5	70	2.80000	67.47	5	96.3927	4.5	2015	4.20	4.90	66.22	65.60	-0.89	69.96	65.96
6	70	3.50000	66.85	6	95.4972	5.5	2014	4.90	5.60	65.60	64.98	-0.89	69.95	65.07
7	70	4.20000	66.22	7	94.6044	6.5	2013	6.30	7.00	64.36	63.74	-0.88	69.92	64.18
8	70	4.90000	65.60	8	93.7142	7.5	2012	7.00	7.70	63.74	63.13	-0.88	69.90	63.30
9	70	5.60000	64.98	9	92.8266	8.5	2011	8.40	9.10	62.51	61.90	-0.87	69.85	62.43
10	70	6.30000	64.36	10	91.9418	9.5	2010	9.10	9.80	61.90	61.29	-0.87	69.82	61.55
11	70	7.00000	63.74	11	91.0598	10.5	2009	10.50	11.20	60.68	60.08	-0.86	69.76	60.68
12	70	7.70000	63.13	12	90.1806	11.5	2008	11.20	11.90	60.08	59.48	-0.86	69.73	59.82
13	70	8.40000	62.51	13	89.3042	12.5	2007	11.90	12.60	59.48	58.88	-0.86	69.69	58.96
14	70	9.10000	61.90	14	88.4306	13.5	2006	13.30	14.00	58.28	57.68	-0.85	69.61	58.11
15	70	9.80000	61.29	15	87.5600	14.5	2005	14.00	14.70	57.68	57.08	-0.85	69.57	57.25
16	70	10.50000	60.68	16	86.6923	15.5	2004	15.40	16.10	56.49	55.90	-0.84	69.47	56.41
17	70	11.20000	60.08	17	85.8276	16.5	2003	16.10	16.80	55.90	55.31	-0.84	69.42	55.57
18	70	11.90000	59.48	18	84.9659	17.5	2002	17.50	18.20	54.73	54.15	-0.83	69.31	54.73
19	70	12.60000	58.88	19	84.1072	18.5	2001	18.20	18.90	54.15	53.57	-0.83	69.25	53.90
20	70	13.30000	58.28	20	83.2516	19.5	2000	18.90	19.60	53.57	52.99	-0.83	69.18	53.07
21	70	14.00000	57.68	21	82.3992	20.5	1999	20.30	21.00	52.41	51.84	-0.82	69.04	52.25
22	70	14.70000	57.08	22	81.5499	21.5	1998	21.00	21.70	51.84	51.27	-0.82	68.97	51.43
23	70	15.40000	56.49	23	80.7038	22.5	1997	22.40	23.10	50.70	50.13	-0.81	68.81	50.62
24	70	16.10000	55.90	24	79.8609	23.5	1996	23.10	23.80	50.13	49.57	-0.81	68.73	49.81
25	70	16.80000	55.31	25	79.0212	24.5	1995	24.50	25.20	49.01	48.45	-0.80	68.55	49.01
26	70	17.50000	54.73	26	78.1849	25.5	1994	25.20	25.90	48.45	47.89	-0.79	68.46	48.21
27	70	18.20000	54.15	27	77.3519	26.5	1993	25.90	26.60	47.89	47.34	-0.79	68.36	47.42
28	70	18.90000	53.57	28	76.5223	27.5	1992	27.30	28.00	46.79	46.24	-0.78	68.15	46.63
29	70	19.60000	52.99	29	75.6960	28.5	1991	28.00	28.70	46.24	45.70	-0.78	68.05	45.85
30	70	20.30000	52.41	30	74.8732	29.5	1990	29.40	30.10	45.15	44.61	-0.77	67.82	45.08
31	70	21.00000	51.84	31	74.0539	30.5	1989	30.10	30.80	44.61	44.08	-0.77	67.70	44.31
32	70	21.70000	51.27	32	73.2381	31.5	1988	31.50	32.20	43.54	43.01	-0.76	67.45	43.54
33	70	22.40000	50.70	33	72.4258	32.5	1987	32.20	32.90	43.01	42.48	-0.75	67.32	42.79
34	70	23.10000	50.13	34	71.6171	33.5	1986	32.90	33.60	42.48	41.96	-0.75	67.18	42.03
35	70	23.80000	49.57	35	70.8120	34.5	1985	34.30	35.00	41.44	40.92	-0.74	66.90	41.29
36	70	24.50000	49.01	36	70.0105	35.5	1984	35.00	35.70	40.92	40.40	-0.74	66.75	40.55
37	70	25.20000	48.45	37	69.2128	36.5	1983	36.40	37.10	39.89	39.38	-0.73	66.43	39.81
38	70	25.90000	47.89	38	68.4187	37.5	1982	37.10	37.80	39.38	38.87	-0.73	66.27	39.09
39	70	26.60000	47.34	39	67.6284	38.5	1981	38.50	39.20	38.36	37.86	-0.72	65.93	38.36
40	70	27.30000	46.79	40	66.8419	39.5	1980	39.20	39.90	37.86	37.36	-0.71	65.76	37.65
41	70	28.00000	46.24	41	66.0593	40.5	1979	39.90	40.60	37.36	36.87	-0.71	65.58	36.94
42	70	28.70000	45.70	42	65.2805	41.5	1978	41.30	42.00	36.38	35.89	-0.70	65.20	36.24
43	70	29.40000	45.15	43	64.5056	42.5	1977	42.00	42.70	35.89	35.40	-0.69	65.00	35.54
44	70	30.10000	44.61	44	63.7346	43.5	1976	43.40	44.10	34.92	34.44	-0.68	64.59	34.85
45	70	30.80000	44.08	45	62.9677	44.5	1975	44.10	44.80	34.44	33.97	-0.68	64.38	34.17
46	70	31.50000	43.54	46	62.2047	45.5	1974	45.50	46.20	33.50	33.03	-0.67	63.94	33.50
47	70	32.20000	43.01	47	61.4458	46.5	1973	46.20	46.90	33.03	32.56	-0.66	63.70	32.83
48	70	32.90000	42.48	48	60.6910	47.5	1972	46.90	47.60	32.56	32.10	-0.66	63.47	32.17
49	70	33.60000	41.96	49	59.9403	48.5	1971	48.30	49.00	31.64	31.19	-0.65	62.98	31.51
50	70	34.30000	41.44	50	59.1939	49.5	1970	49.00	49.70	31.19	30.74	-0.64	62.74	30.87
51	70	35.00000	40.92	51	58.4516	50.5	1969	50.40	51.10	30.29	29.85	-0.63	62.21	30.23
52	70	35.70000	40.40	52	57.7136	51.5	1968	51.10	51.80	29.85	29.41	-0.63	61.94	29.60
53	70	36.40000	39.89	53	56.9798	52.5	1967	52.50	53.20	28.97	28.54	-0.62	61.38	28.97
54	70	37.10000	39.38	54	56.2505	53.5	1966	53.20	53.90	28.54	28.11	-0.61	61.09	28.36
55	70	37.80000	38.87	55	55.5255	54.5	1965	53.90	54.60	28.11	27.69	-0.61	60.80	27.75
56	70	38.50000	38.36	56	54.8049	55.5	1964	55.30	56.00	27.27	26.85	-0.60	60.19	27.15
57	70	39.20000	37.86	57	54.0888	56.5	1963	56.00	56.70	26.85	26.44	-0.59	59.89	26.56
58	70	39.90000	37.36	58	53.3772	57.5	1962	57.40	58.10	26.03	25.62	-0.58	59.24	25.97
59	70	40.60000	36.87	59	52.6701	58.5	1961	58.10	58.80	25.62	25.22	-0.57	58.90	25.40
60	70	41.30000	36.38	60	51.9677	59.5	1960	59.50	60.20	24.83	24.43	-0.56	58.23	24.83

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Interpolación Lineal

DATA_POINT	ASL	Edad (años)	Vida Restante (años)	Punto de Da	Porcentaje de Vida Rest	Edad (años)	Año Clásico	X1	X2	Y1	Y2	Cuesta [(Y2 - Y1) / (X2 - X1)]	B (Y -Intersección) = y - mx	Vida Restante (y = mx +
61	70	42.00000	35.89	61	51.2699	60.5	1959	60.20	60.90	24.43	24.04	-0.56	57.88	24.27
62	70	42.70000	35.40	62	50.5768	61.5	1958	60.90	61.60	24.04	23.66	-0.55	57.53	23.71
63	70	43.40000	34.92	63	49.8884	62.5	1957	62.30	63.00	23.28	22.90	-0.54	56.80	23.17
64	70	44.10000	34.44	64	49.2048	63.5	1956	63.00	63.70	22.90	22.53	-0.53	56.43	22.64
65	70	44.80000	33.97	65	48.5260	64.5	1955	64.40	65.10	22.16	21.80	-0.52	55.68	22.11
66	70	45.50000	33.50	66	47.8521	65.5	1954	65.10	65.80	21.80	21.44	-0.51	55.28	21.59
67	70	46.20000	33.03	67	47.1831	66.5	1953	66.50	67.20	21.08	20.73	-0.50	54.50	21.08
68	70	46.90000	32.56	68	46.5191	67.5	1952	67.20	67.90	20.73	20.38	-0.50	54.09	20.58
69	70	47.60000	32.10	69	45.8601	68.5	1951	67.90	68.60	20.38	20.04	-0.49	53.69	20.09
70	70	48.30000	31.64	70	45.2061	69.5	1950	69.30	70.00	19.70	19.36	-0.48	52.87	19.60
71	70	49.00000	31.19	71	44.5573	70.5	1949	70.00	70.70	19.36	19.03	-0.47	52.45	19.13
72	70	49.70000	30.74	72	43.9135	71.5	1948	71.40	72.10	18.71	18.38	-0.46	51.61	18.66
73	70	50.40000	30.29	73	43.2750	72.5	1947	72.10	72.80	18.38	18.07	-0.45	51.18	18.20
74	70	51.10000	29.85	74	42.6417	73.5	1946	73.50	74.20	17.75	17.44	-0.44	50.32	17.75
75	70	51.80000	29.41	75	42.0137	74.5	1945	74.20	74.90	17.44	17.13	-0.44	49.89	17.31
76	70	52.50000	28.97	76	41.3910	75.5	1944	74.90	75.60	17.13	16.83	-0.43	49.45	16.88
77	70	53.20000	28.54	77	40.7737	76.5	1943	76.30	77.00	16.53	16.24	-0.42	48.58	16.45
78	70	53.90000	28.11	78	40.1618	77.5	1942	77.00	77.70	16.24	15.95	-0.41	48.15	16.03
79	70	54.60000	27.69	79	39.5553	78.5	1941	78.40	79.10	15.66	15.38	-0.40	47.28	15.62
80	70	55.30000	27.27	80	38.9544	79.5	1940	79.10	79.80	15.38	15.10	-0.40	46.85	15.22
81	70	56.00000	26.85	81	38.3590	80.5	1939	80.50	81.20	14.83	14.56	-0.39	45.99	14.83
82	70	56.70000	26.44	82	37.7691	81.5	1938	81.20	81.90	14.56	14.29	-0.38	45.58	14.44
83	70	57.40000	26.03	83	37.1849	82.5	1937	81.90	82.60	14.29	14.03	-0.38	45.15	14.06
84	70	58.10000	25.62	84	36.6063	83.5	1936	83.30	84.00	13.77	13.51	-0.37	44.33	13.69
85	70	58.80000	25.22	85	36.0335	84.5	1935	84.00	84.70	13.51	13.26	-0.36	43.93	13.33
86	70	59.50000	24.83	86	35.4663	85.5	1934	85.40	86.10	13.01	12.76	-0.35	43.13	12.97
87	70	60.20000	24.43	87	34.9049	86.5	1933	86.10	86.80	12.76	12.52	-0.35	42.76	12.62
88	70	60.90000	24.04	88	34.3493	87.5	1932	87.50	88.20	12.27	12.04	-0.34	42.02	12.27
89	70	61.60000	23.66	89	33.7995	88.5	1931	88.20	88.90	12.04	11.80	-0.34	41.67	11.94
90	70	62.30000	23.28	90	33.2555	89.5	1930	88.90	89.60	11.80	11.57	-0.33	41.32	11.60
91	70	63.00000	22.90	91	32.7174	90.5	1929	90.30	91.00	11.34	11.11	-0.32	40.68	11.27
92	70	63.70000	22.53	92	32.1852	91.5	1928	91.00	91.70	11.11	10.89	-0.32	40.33	10.95
93	70	64.40000	22.16	93	31.6590	92.5	1927	92.40	93.10	10.66	10.44	-0.32	39.81	10.63
94	70	65.10000	21.80	94	31.1386	93.5	1926	93.10	93.80	10.44	10.22	-0.31	39.54	10.32
95	70	65.80000	21.44	95	30.6242	94.5	1925	94.50	95.20	10.01	9.79	-0.31	39.07	10.01
96	70	66.50000	21.08	96	30.1157	95.5	1924	95.20	95.90	9.79	9.58	-0.31	38.86	9.70
97	70	67.20000	20.73	97	29.6132	96.5	1923	95.90	96.60	9.58	9.37	-0.30	38.65	9.40
98	70	67.90000	20.38	98	29.1167	97.5	1922	97.30	98.00	9.16	8.95	-0.30	38.31	9.10
99	70	68.60000	20.04	99	28.6261	98.5	1921	98.00	98.70	8.95	8.74	-0.30	38.16	8.80
100	70	69.30000	19.70	100	28.1415	99.5	1920	99.40	100.10	8.53	8.32	-0.30	37.90	8.50
101	70	70.00000	19.36	101	27.6629	100.5	1919	100.10	100.80	8.32	8.12	-0.29	37.81	8.20
102	70	70.70000	19.03	102	27.1902	101.5	1918	101.50	102.20	7.91	7.71	-0.29	37.64	7.91
103	70	71.40000	18.71	103	26.7235	102.5	1917	102.20	102.90	7.71	7.50	-0.29	37.58	7.62
104	70	72.10000	18.38	104	26.2627	103.5	1916	102.90	103.60	7.50	7.30	-0.29	37.54	7.33
105	70	72.80000	18.07	105	25.8078	104.5	1915	104.30	105.00	7.09	6.89	-0.29	37.45	7.03
106	70	73.50000	17.75	106	25.3588	105.5	1914	105.00	105.70	6.89	6.69	-0.29	37.41	6.74
107	70	74.20000	17.44	107	24.9157	106.5	1913	106.40	107.10	6.48	6.28	-0.29	37.37	6.45
108	70	74.90000	17.13	108	24.4784	107.5	1912	107.10	107.80	6.28	6.08	-0.29	37.34	6.16
109	70	75.60000	16.83	109	24.0469	108.5	1911	108.50	109.20	5.87	5.67	-0.29	37.28	5.87
110	70	76.30000	16.53	110	23.6211	109.5	1910	109.20	109.90	5.67	5.47	-0.29	37.24	5.58
111	70	77.00000	16.24	111	23.2011	110.5	1909	109.90	110.60	5.47	5.27	-0.29	37.20	5.29
112	70	77.70000	15.95	112	22.7867	111.5	1908	111.30	112.00	5.06	4.86	-0.29	37.07	5.01
113	70	78.40000	15.66	113	22.3778	112.5	1907	112.00	112.70	4.86	4.66	-0.29	36.98	4.72
114	70	79.10000	15.38	114	21.9745	113.5	1906	113.40	114.10	4.46	4.26	-0.29	36.78	4.43
115	70	79.80000	15.10	115	21.5767	114.5	1905	114.10	114.80	4.26	4.06	-0.28	36.67	4.15
116	70	80.50000	14.83	116	21.1842	115.5	1904	115.50	116.20	3.87	3.67	-0.28	36.38	3.87
117	70	81.20000	14.56	117	20.7971	116.5	1903	116.20	116.90	3.67	3.47	-0.28	36.20	3.58
118	70	81.90000	14.29	118	20.4151	117.5	1902	116.90	117.60	3.47	3.28	-0.28	36.03	3.31
119	70	82.60000	14.03	119	20.0383	118.5	1901	118.30	119.00	3.08	2.89	-0.28	35.64	3.03
120	70	83.30000	13.77	120	19.6665	119.5	1900	119.00	119.70	2.89	2.70	-0.27	35.41	2.75

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Interpolación Lineal

DATA_POINT	ASL	Edad (años)	Vida Restante (años)	Punto de Da	Porcentaje de Vida Rest	Edad (años)	Año Clásico	X1	X2	Y1	Y2	Cuesta [(Y2 - Y1) / (X2 - X1)]	B (Y -Intersección) = y - mx	Vida Restante (y = mx +
121	70	84.00000	13.51	121	19.2996	120.5	1899	120.40	121.10	2.51	2.32	-0.27	34.96	2.48
122	70	84.70000	13.26	122	18.9375	121.5	1898	121.10	121.80	2.32	2.13	-0.27	34.70	2.21
123	70	85.40000	13.01	123	18.5801	122.5	1897	122.50	123.20	1.95	1.76	-0.26	34.18	1.95
124	70	86.10000	12.76	124	18.2274	123.5	1896	123.20	123.90	1.76	1.58	-0.26	33.91	1.69
125	70	86.80000	12.52	125	17.8790	124.5	1895	123.90	124.60	1.58	1.40	-0.26	33.61	1.43
126	70	87.50000	12.27	126	17.5349	125.5	1894	125.30	126.00	1.22	1.04	-0.25	32.90	1.17
127	70	88.20000	12.04	127	17.1950	126.5	1893	126.00	126.70	1.04	0.87	-0.25	32.39	0.92
128	70	88.90000	11.80	128	16.8590	127.5	1892	127.40	128.10	0.70	0.54	-0.23	30.50	0.68
129	70	89.60000	11.57	129	16.5270	128.5	1891	128.10	128.80	0.54	0.39	-0.21	27.57	0.45
130	70	90.30000	11.34	130	16.1986	129.5	1890	129.50	130.20	0.35	0.00	-0.50	65.10	0.35
131	70	91.00000	11.11	131	15.8737									
132	70	91.70000	10.89	132	15.5526									
133	70	92.40000	10.66	133	15.2339									
134	70	93.10000	10.44	134	14.9185									
135	70	93.80000	10.22	135	14.6060									
136	70	94.50000	10.01	136	14.2961									
137	70	95.20000	9.79	137	13.9886									
138	70	95.90000	9.58	138	13.6833									
139	70	96.60000	9.37	139	13.3802									
140	70	97.30000	9.16	140	13.0789									
141	70	98.00000	8.95	141	12.7793									
142	70	98.70000	8.74	142	12.4812									
143	70	99.40000	8.53	143	12.1844									
144	70	100.10000	8.32	144	11.8889									
145	70	100.80000	8.12	145	11.5943									
146	70	101.50000	7.91	146	11.3006									
147	70	102.20000	7.71	147	11.0077									
148	70	102.90000	7.50	148	10.7154									
149	70	103.60000	7.30	149	10.4235									
150	70	104.30000	7.09	150	10.1322									
151	70	105.00000	6.89	151	9.8411									
152	70	105.70000	6.69	152	9.5504									
153	70	106.40000	6.48	153	9.2599									
154	70	107.10000	6.28	154	8.9696									
155	70	107.80000	6.08	155	8.6796									
156	70	108.50000	5.87	156	8.3899									
157	70	109.20000	5.67	157	8.1004									
158	70	109.90000	5.47	158	7.8113									
159	70	110.60000	5.27	159	7.5226									
160	70	111.30000	5.06	160	7.2345									
161	70	112.00000	4.86	161	6.9469									
162	70	112.70000	4.66	162	6.6601									
163	70	113.40000	4.46	163	6.3740									
164	70	114.10000	4.26	164	6.0890									
165	70	114.80000	4.06	165	5.8050									
166	70	115.50000	3.87	166	5.5222									
167	70	116.20000	3.67	167	5.2407									
168	70	116.90000	3.47	168	4.9607									
169	70	117.60000	3.28	169	4.6822									
170	70	118.30000	3.08	170	4.4053									
171	70	119.00000	2.89	171	4.1301									
172	70	119.70000	2.70	172	3.8568									
173	70	120.40000	2.51	173	3.5854									
174	70	121.10000	2.32	174	3.3159									
175	70	121.80000	2.13	175	3.0485									
176	70	122.50000	1.95	176	2.7832									
177	70	123.20000	1.76	177	2.5201									
178	70	123.90000	1.58	178	2.2592									
179	70	124.60000	1.40	179	2.0007									
180	70	125.30000	1.22	180	1.7451									

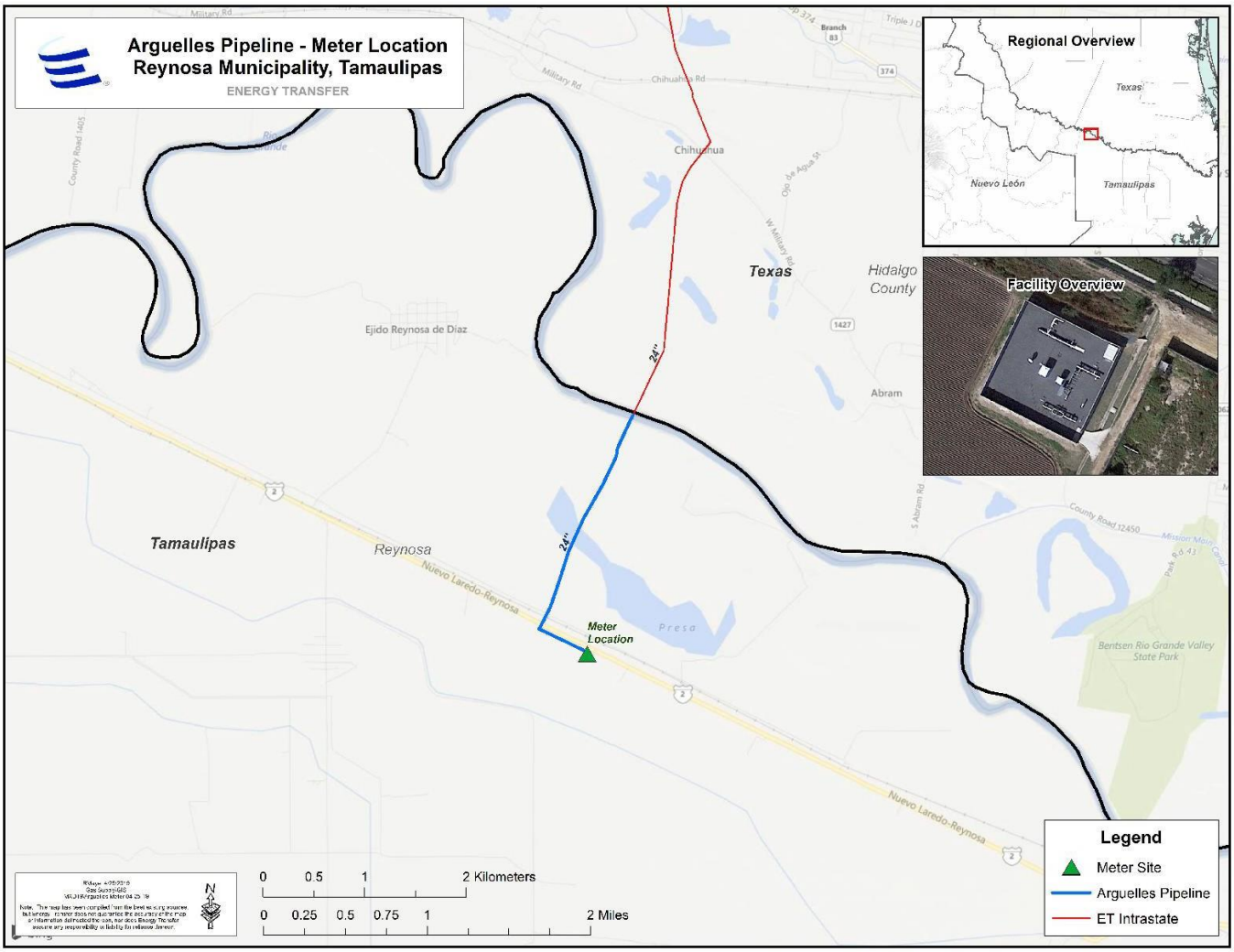
Computacion de Vida Restante 70 R2

Interpolación Lineal

DATA_POINT	ASL	Edad (años)	Vida Restante (años)	Punto de Da	Porcentaje de Vida Rest	Edad (años)	Año Clásico	X1	X2	Y1	Y2	Cuesta [(Y2 - Y1) / (X2 - X1)]	B (Y -Intersección) = y - mx	Vida Restante (y = mx +
181	70	126.00000	1.04	181	1.4923									
182	70	126.70000	0.87	182	1.2435									
183	70	127.40000	0.70	183	0.9996									
184	70	128.10000	0.54	184	0.7657									
185	70	128.80000	0.39	185	0.5547									
186	70	129.50000	0.35	186	0.5000									
187	70	130.20000	0.00	187	0.0000									

APÉNDICE E

Mapa de instalaciones


Arguelles Pipeline - Meter Location
Reynosa Municipality, Tamaulipas
ENERGY TRANSFER
Regional Overview
Texas
Nuevo León
Tamaulipas
Facility Overview
Texas
Hidalgo County
Chihuahua
Ejido Reynosa de Diaz
Abram
Tamaulipas
Reynosa
Nuevo Laredo-Reynosa
24"
Meter Location
Presa
Bentsen Rio Grande Valley State Park
0 0.5 1 2 Kilometers
0 0.25 0.5 0.75 1 2 Miles
Legend
Meter Site
Arguelles Pipeline
ET Intrastate

DOMINICA ELECTRICITY SERVICES LTD

ELECTRIC UTILITY PLANT

DEPRECIATION RATE STUDY

AT DECEMBER 31, 2021

ALLIANCE CONSULTING GROUP

http://www.utilityalliance.com

DOMINICA ELECTRICITY SERVICES LTD.
ELECTRIC UTILITY PLANT
DEPRECIATION RATE STUDY
EXECUTIVE SUMMARY

Dominica Electricity Services Ltd. ("DOMLEC", or Company) engaged Alliance Consulting Group to conduct a depreciation study of the Company's Electric utility plant depreciable assets as of December 31, 2021.

The existing depreciation rates were based on a depreciation study conducted as of December 31, 2012 and were implemented after approval was given from the Independent Regulatory Commission ("IRC") on June 1, 2014 (Decisions 2014/001/D). The existing depreciation rates were calculated using a straight line, unit/individual item, whole life methodology and this study retains that same methodology.

This study recommends an overall decrease of EC$2,482,248 in annual depreciation. The amounts shown are rounded to the nearest dollar. This change in depreciation expense consists of the following:

Asset Category	Change in Depreciation EC$
Buildings and Construction	$ 535
Plant and Machinery	(791,557)
Transmission and Distribution Network	(1,997,106)
Vehicles	(114,263)
General Register	420,143
Total Change in Annual Depreciation	$ (2,482,248)

For the generating units, the overall decrease in depreciation expense is driven primarily by the updated terminal retirement dates. For Transmission and Distribution, and General Plant, the lives of the assets generally moved longer.

Appendix A shows a comparison of the current and proposed accrual rates and amounts. Appendix B shows the computation of the depreciation rates for each Asset Category by subcategory. Appendix C shows the projected terminal retirement dates for each of the Company's hydro and diesel generation units.

Dominica Electricity Services Ltd.

Electric Utility Plant

Depreciation Rate Study

As Of December 31, 2021

Table of Contents

PURPOSE

The purpose of this study is to develop updated depreciation rates using the straight-line method, unit or individual item procedure, whole life technique for electric plant recorded on the books of DOMLEC as of December 31, 2021. The study has included a rate for its 4.5-5 MW of Solar (West Coast) facilities, which is expected to be placed in service in 2024.

This study reviews the existing useful life or average service life for each asset category and subcategory considering the physical, functional, prior practices, and future expectations. DOMLEC utilizes the unit, or individual item, procedure.

DOMLEC is currently the only electric utility in Dominica which has a population of approximately 73,000 people. DOMLEC hydroelectric generation facilities consists of five turbine generator units located at three plant locations (Laudat, New Trafalgar, and Padu). The company also operates two diesel stations (Fond Cole and Sugar Loaf). The transmission and distribution network are comprised of 403 kilometers of 11kV and 922 kilometers of 230/400kV overhead lines, serving more than 35,000 customers. All generation sources are linked via 11kV inter-connectors and 11kV distribution feeders. DOMLEC has installed Advanced Metering Infrastructure (“AMI”). Finally, the Company along with the IRC has developed a policy for connecting renewable energy systems to the Company’s grid.

STUDY RESULTS

Recommended depreciation rates for DOMLEC depreciable property are shown in Appendices A and B. These rates translate into an annual depreciation accrual for Production, Transmission, Distribution and General plant of approximately $17.4 million. These accruals are based on DOMLEC's depreciable investment at December 31, 2021. Using the existing approved depreciation rates results in approximately $19.9 million in annual depreciation expense, as shown in Appendix A. Appendix B provides the calculation of annual depreciation expense and the estimated service lives of the assets. Appendix C provides the projected terminal retirement dates for DOMLEC's generating units.

GENERAL DISCUSSION

Definition

The term "depreciation" as used in this study is considered in the accounting sense, that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. This expense is systematically allocated to accounting periods over the life of the properties. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. At retirement, the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

Basis of Depreciation Estimates

The straight-line, unit or individual item, whole-life depreciation system was employed to calculate annual and accrued depreciation in this study. In this system, the Company calculates depreciation by applying a depreciation rate individually to each asset in its fixed asset record. The depreciation rate is the inverse of the estimated useful life (average service life “ASL”), adjusted for any salvage. Depreciation is recorded until the service life is reached or an asset is retired. At retirement, gains or losses and salvage are recognized. This methodology is consistent with the prior study. The computations of the depreciation rates are shown in Appendix B.

Actuarial analysis or computerized analysis of historical data is typically utilized to help determine average service life and retirement dispersion. However, there is limited retirement experience recorded and this type of analysis was unable to be performed. We reviewed the additions and retirements that were recorded between 2013-2021 to assess the level of ongoing activity in the asset

and subcategories and determine if additional analysis was warranted. Our determination is that DOMLEC has and continues to operate its generation and network assets safely and follows good maintenance practices.

Under the unit depreciation procedure, the Company calculates depreciation by applying a depreciation rate individually to each asset in its fixed asset record. The depreciation rate is the inverse of the estimated useful life, or average service life. Depreciation is taken each period until the implied estimated service life is reached or an identifiable asset is retired. At retirement, gains or losses related to capital recovery and salvage are recognized by the Company, consistent with unit depreciation concepts. In this study, we have assumed that unit depreciation will continue to be used by DOMLEC and that salvage is not material and was assumed to be zero for each investment category in this study.

Life Span

The life span procedure relates to production facilities for which most components are expected to have a retirement date concurrent with the planned retirement date of the generating unit. The terminal retirement date refers to the year that each unit will cease operations. The estimated terminal retirement dates for the various generating units were provided by DOMLEC and based on Company management, financial, and engineering staff, as well as approval by the IRC. Those estimated terminal retirement dates are shown in Appendix C.

Actuarial Analysis

Actuarial analysis (retirement rate method) would typically be used for transmission, distribution, and general assets, to evaluate historical asset retirement experience where vintage data exists and sufficient retirement activity was present. The limited retirement experience of DOMLEC does not allow for this extensive type of life analysis and the resulting depreciation calculations typically used in a study. The analysis and depreciation calculations performed

are based on DOMLEC's present practices and operational characteristics of the various assets within each group. The process used allows the reasonable and appropriate lives to be assigned to each group.

Judgment

Any depreciation study requires informed judgment by the analyst conducting the study. A knowledge of the property being studied, company policies and procedures, general trends in technology and industry practice, and a sound understanding of depreciation theory are needed to apply this informed judgment. Judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, simulated plant record method analysis, and actuarial analysis.

Judgment is not defined as something used in cases where there are specific, significant pieces of information that influence the choice of a life or curve. Those cases would simply be a reflection of specific facts into the analysis. Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, implications of applying certain curves, property mix in accounts or a multitude of other considerations that impact the analysis (potentially in various directions), judgment is used to take all of these factors and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one factor in these cases may have a substantial impact on the analysis, but overall, the factors may shed light on the utilization and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent judgment. At the very least for example, any analysis requires choosing which bands to place more emphasis upon.

The establishment of appropriate average service lives for the Production, Transmission, Distribution, and General Plant assets requires judgment to

incorporate the understanding of the operation of the system with the available accounting information analyzed.

Current applications and trends in use of the equipment also need to be factored into life choices.

Unit/Individual Item Depreciation

At the request of DOMLEC, this study continues to use the unit/individual item depreciation procedure. Under the unit depreciation procedure, the Company calculates depreciation by applying a depreciation rate individually to each asset. The depreciation rate is the inverse of the estimated useful life, or average service life, adjusted for salvage (none is recognized in this study). Depreciation is recorded each period until the estimated service life is reached or the asset is retired. At retirement, gains or losses and salvage are recognized, consistent with unit depreciation concepts. In this study, we have assumed that salvage is not material and was assumed to be zero for each investment category in this study.

Depreciation Reserve

The book depreciation reserve was derived from Company records. Under the whole life technique, the reserve is evaluated but is not a component of the calculation of depreciation rates. In the Analysis section of the report, we will provide the reserve amount and its position expressed as a percent at the study date of December 31, 2021.

DETAILED DISCUSSION

Depreciation Study Process

This depreciation study encompassed four distinct phases. The first phase involved data collection and field interviews. The second phase was where the initial data analysis occurred. The third phase was where the information and analysis were evaluated. After the first three stages were complete, the fourth phase began which involves the calculation of depreciation rate.

During the Phase I data collection process, historical data was compiled from property records and accounting systems. Also as part of the Phase I data collection process, numerous discussions were conducted with engineers and field operations personnel to obtain information that would be helpful in formulating life and salvage recommendations in this study. One of the most important elements in performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Understanding industry and geographical norms for mortality characteristics are important factors in selecting life recommendations; however, care must be used not to apply them rigorously to any particular company since no two companies would have the same exact forces of retirement acting upon their assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is helpful when evaluating the output from the life programs in relation to the Company's actual asset utilization and environment. Information that was gleaned in these discussions is found in the Detailed Discussion of the Analysis sections and also in workpapers. In addition, Alliance personnel possess an understanding of the property and its forces of retirement due to years of day-to-day exposure to property and operations of electric utility property.

Phase 2 is typically where the computerized processing of the data to establish historical retirement experience. However, DOMLEC has limited retirement experience recorded in its fixed asset records. While DOMLEC's fixed asset records are reasonable for its purposes and size, without adequate historical

retirement activity, the traditional service life analysis using computerized processing is not possible. Due to the limited recorded retirement experience, the analysis and depreciation calculations were appropriately limited in scope, consistent with DOMLEC's present practices, operational characteristics of the individual assets within each group and reasonable depreciation practices. Based on the nature of the Company's depreciation practice and industry experience, it was concluded that salvage is not material and was assumed to be zero for each investment category in this study.

Phase 3 is the evaluation process, which synthesized analysis, interviews, and operational characteristics into a final selection of asset lives. The analysis from Phase 2 was further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in Phase 1. The preliminary results were then reviewed and discussed with accounting and operations personnel. Phases 2 and 3 validated the asset characteristics as seen in the accounting transactions with actual Company operational experience.

Finally, Phase 4 involved the calculation of accrual rates, making recommendations and documenting the conclusions in a final report. The calculation of accrual rates is found in Appendices B. Recommendations are contained within the Detailed Discussion of this report. The depreciation study flow diagram shown as Figure 1[1] documents the steps used in conducting this study. Depreciation Systems[2], a well-respected scholarly treatise on the topic of depreciation, documents the same basic processes in performing a depreciation study, including statistical analysis, evaluation of statistical analysis, discussions with management, forecast assumptions, and document recommendations.

[1] Introduction to Depreciation for Public Utilities and Other Industries, AGA EEI, 2013.

[2] Depreciation Systems, Iowa State University Press, 1994, by Drs. F.K. Wolf & WC Fitch, p. 289.

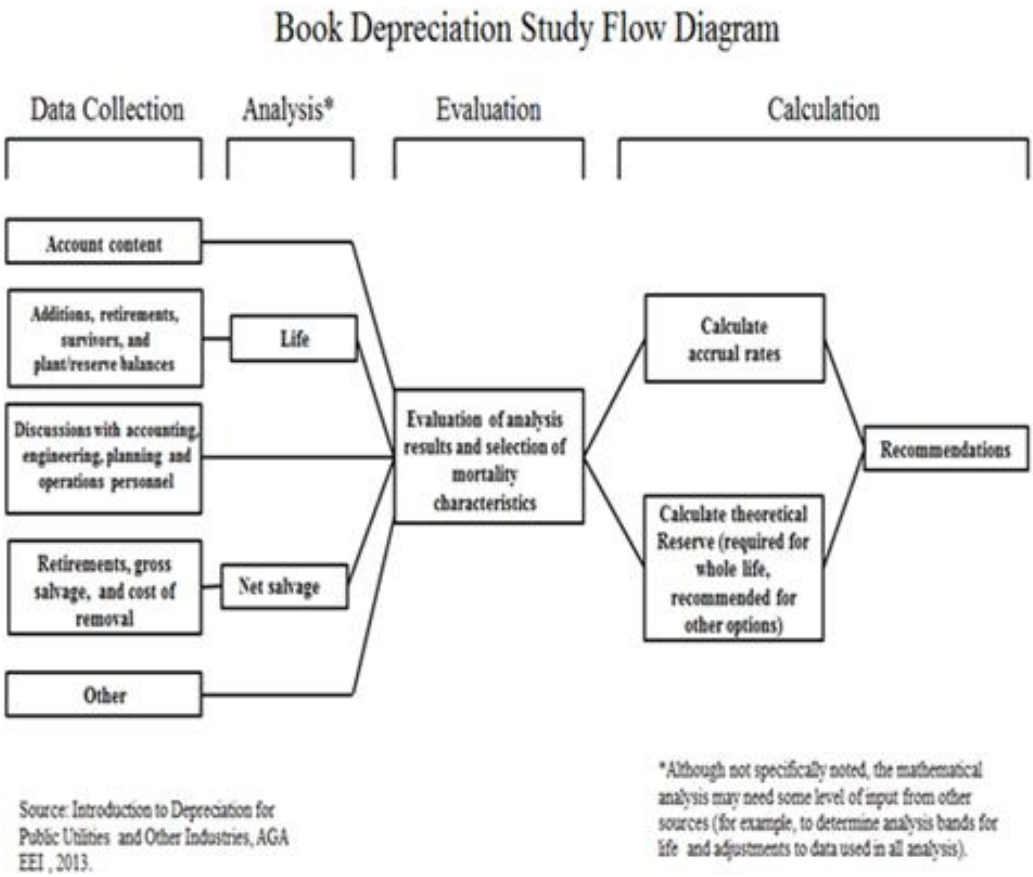


Figure 1

DOMLEC DEPRECIATION STUDY PROCESS

Depreciation Rate Calculation

Annual depreciation expense amounts for the depreciable accounts of DOMLEC were calculated by the straight-line method, Unit/individual life procedure, and whole-life technique. With this approach, lives were determined by analysis and discussions with Company operation personnel. These calculations are shown in Appendix B.

Depreciation Calculation Process

Annual depreciation expense amounts were calculated by the straight line, unit/individual, whole life technique. The whole life technique is a generally accepted straight-line method used in the utility industry for calculating depreciation rates. The whole life method recovers the original cost of the plant investment over the average service life of the asset, adjusted for salvage.

In a whole life representation, the annual accrual rate is computed by the following equation:

$$\text{Annual Accrual Rate} = \frac{(100\% - \text{Net Salvage Percent})}{\text{Average Service Life}}$$

The average service life of an asset is defined as the probable number of years from the initial date the assets are placed into service to the average date when the assets are no longer expected to contribute to the operations of the Company.

In the specific case of DOMLEC, no net salvage is reflected in the annual accrual rate calculations. These calculations are shown in Appendix B.

ANALYSIS

The following section will discuss each asset category and subcategories of Building and Construction, Plant and Machinery, Projected Renewable Generation, Transmission and Distribution Network, Vehicles, and General Register Property. All amounts for investment and accumulated depreciation (reserve) are in EC$ at December 31, 2021.

Building and Construction

The total investment is $65,080,265. The reserve is $43,341,101 or approximately 67%. The composite existing depreciation rate is 2.10% compared to the proposed depreciation rate of 2.10%, which is essentially no change based on the composite rates, but when the individual subcategory rates are applied to the individual balances, with rounding it results in an increase of $535.

The existing depreciation rates for this category consists of three rates: 2.00%, 2.90%, and 2.75%, with implied average service lives of 50, 34.5 and 36.4 years for Hydroelectric, Diesel and General Purpose, respectively. The rates and lives are also shown in Appendix A and B.

This category includes headworks and pipelines associated with the hydro plant, structures and improvements associated with generation (hydro and diesel) and general purpose functions. Approximately 70% of the investment, at the study date, is related to the New Hydro Building for Trafalgar and Padu.

Discussions with Company personnel indicated that Padu had sustained hurricane damage and all assets above ground have been replaced. Based on this, the Company believes resetting the terminal retirement date to 2060 is reasonable. Trafalgar is already 31 years old, but they are confident it will run for approximately another 20 years, so the retirement date is projected to be 2040. For the diesel plant, some units have been retired, some were expected to be retired around 2018-2022, but have not been retired at the study date. The diesel

life is partially governed by the run time and the type of units. The medium speed units will have a slightly longer life than the high speed units. More specific to the life of the diesel units is the projected implementation of solar and geothermal generation projected to come online in 2024 and 2025, respectively. As a result of DOMLEC's commitment to developing its renewable generation portfolio, the diesel units are expected to retire or run less when these two planned projects are in service. Based upon the renewable generation, the diesel units that remain will be used as peak shaving, causing the life to increase to around 35 years compared to the existing life of 25 years. Discussions with Company personnel indicated the BC4 subcategory should be split into two groups Diesel and Hydro, with a composite life of 48.40 years and BC4 Melville Hall fuel platform, with a life of 35 years. The General Purpose Buildings will last longer than the currently approved 36 years, with a general understanding that they may last as long as 50 or 60 years. Moisture would limit the life of buildings in some areas like Portsmouth. With the mix of the long-lived buildings themselves (e.g. shell, foundation) and shorter lived assets like the roof, AC. and remodeling, a movement to 45 years is reasonable.

The average service life of the investment in this category varies as it is directly related to the function of the underlying assets. Linking the life to generation units will correspond to the total life span expected for the generating facility as a whole. However, not every asset subcategory will remain in service until the terminal retirement date and there will be some interim additions and retirements that occur. The overall average age of the surviving assets in Building and Construction is 26.34 years. Considering the current age, condition, maintenance and operation practices, future use expectations, existing rates, and general industry life span ranges, we are proposing the following Building and Construction rates and service lives.

Building and Construction	Proposed Rate	ASL
Headworks & Pipeline - Trafalgar	2.04%	49.00
Headworks & Pipeline - Padu	2.00%	50.00
BC3 - General Purpose	2.22%	45.00
New Hydro Building	2.00%	50.00
Power House - Hydro NT and Padu	2.00%	50.00
Power House - Diesel	3.80%	26.31
BC4 Diesel & Hydro	2.07%	48.40
BC4 Melville Hall Fuel Platform	2.86%	35.00
Office & Stores	2.22%	45.00
Fencing - Trafalgar & Padu	2.22%	45.00
General Purpose	2.22%	45.00

Plant and Machinery

The total investment is $91,471,558. The reserve is $65,257,667 or approximately 71%. The composite existing depreciation rate is 6.88% compared to the proposed depreciation rate is 6.02%, which results in a decrease of $791,557.

The existing depreciation rates for this category consists of three primary rates: 2.25%, 4.25%, 6.67%, and 10.00%, with implied average service lives of 44, 23.5, 15, and 10 years for Hydroelectric, Diesel, and Tools and Testing Equipment, respectively. This category also contains depreciation rates for the Major Spares and Overalls based on the type of units. Those rates are 4.25%, 5.56%, 16.67%, 6.67%, 4.25%, 27.25%, 44.44%, and 40.00% and implied lives of 23.5, 18, 6, 23.5, 3.67, 2.25, and 2.50 years, respectively. The rates and lives are also shown in Appendix A and B.

This category includes plant specific assets for Hydro plants Trafalgar, Laudat, and Padu. Laudat and Trafalgar are of similar make and manufacturer (Noell-Pelton turbine and Garbe electric generators). The units have had similar

operation and maintenance, excellent reliability performance, and have had excellent availability of parts and service, as well as upgrade packages that are available. Total nameplate capacity is 6.64 megawatts ("MW"). The Diesel plants are Fond Cole ("FC") with eight operating units and Sugar Loaf ("SL) with five operating units. The FC nameplate capacity is 13.27 MW and SL is 7.02 MW. There is eight medium speed (750 rpm) units and five high speed (1,500 rpm) units between the two plants. There is associated hydro and diesel accessories, spares, and overhaul costs, along with tools and testing equipment.

The prior study average life for Hydro was 44 years but discussions with Company personnel indicated that the life has moved slightly longer to 49-50 years based on new terminal retirement dates of 2040 (Laudat and Trafalgar) and 2060 for Padu. Diesel had an average life of approximately 23.5 years in the prior study and currently the expectation is that the life will move longer, perhaps as long as 35 years, as the units are cycled or used as peak shaving once the renewable Solar and Geothermal units come online in 2024 and 2025, respectively. For the diesel plant, some units have been retired, some were expected to be retired around 2018-2022, but were not retired. The diesel life, as previously mentioned, is partially governed by the run time and the type of units. The medium speed units will have a slightly longer life than the high speed units. More specific to the life of the diesel units is the projected implementation of renewable energy units coming online. As a result of DOMLEC's commitment to developing its renewable generation portfolio, the diesel units will continue to run until these two planned projects are in service. At that time, some of the diesel units will be retired and others will continue to be used as peak shaving, potentially lengthening the life to around 35 years compared to the existing life of 25 years. However, with the concurrence of the Company, the potential increase in life that is expected is deferred until after the renewable generation comes online. Currently the total average service life for all the Diesel units is 26.1, but with dollar weighting of other components, the proposed life decreases to 23.1, which is slightly lower than what

was used in the prior study.

We obtained a list of the various diesel engines at FC and SL along with the mechanical and operational specifications. In addition, the list provides the estimated hours for major overhauls, top overhauls, routine maintenance, and the turbocharger overall. Based on the site visits, discussions with Company personnel, and plans to continue running the units for the next 3-4 years in the same manner, so we have segregated Major Spares and Overalls into medium speed and high speed engines with the respective lives and proposed rates.

The average service life of the investment in this category varies as it is directly related to the function of the underlying assets. Linking the life to generation units will correspond to the total life span expected for the generating facility as a whole. However, not every asset subcategory will remain in service until the terminal retirement date and there will be some interim additions and retirements that occur. The overall average age of the surviving assets in Plant and Machinery is 15.97 years, which is impacted by the inclusion of the lower life estimates related to Spares and Overhauls. Considering the current age, condition, operation and maintenance practices, future use expectations, existing rates, and general industry life span ranges, we are proposing the following Plant and Machinery rates and service lives.

Plant and Machinery	Proposed Rate	ASL
Hydro Plant (Laudat and Padu)	2.00%	50.00
Hydro Plant (Trafalgar)	2.04%	49.00
Hydro Accessories	2.00%	50.00
Diesel Plant - Medium Speed	3.35%	29.88
Diesel Plant - High Speed	4.85%	20.60
Diesel Accessories	4.32%	23.10
Diesel Plant - FC5 Addition (Spares)	4.32%	23.10
General Accessories	4.32%	23.10
Tool & Testing Equipment	10.00%	10.00
Major Spares - MAN (FC10-12)	3.35%	29.88
Major Spares - SWD (Watzillia,FC1 and FC4)	3.35%	29.88
Major Spares - CAT 3516 (FC7-8 and SL all but SL8)	4.85%	20.60
Major Spares - CAT 3612 (FC 5-6)	3.35%	29.88
Overhauls - CAT 3516	50.00%	2.00
Overhauls - CAT 3612	33.33%	3.00
Overhauls - All others Medium Speed	33.33%	3.00
Overhauls - All others High Speed	50.00%	2.00

Renewable – Solar

The study has included a rate for its 4.5-5 MW of Solar (West Coast) facilities, which is expected to be placed in service in 2024. The expected service life is 25 years resulting in a 4.00% annual depreciation rate to be applied when assets are placed in service. The estimated life was provided by the Company and is reasonable based on the industry.

Renewable Generation Projects	Proposed Rate	ASL
Generation - Solar (West Coast) - Projected 2024	4.00%	25.00

Transmission and Distribution - Network

The total investment is $190,822,190. The reserve is $78,253,607 or approximately 41%. The composite existing depreciation rate is 4.57% compared to the proposed depreciation rate of 3.52%, which results in a decrease of $1,997,106.

The existing depreciation rates for this category consists of two rates: 4.50% and 5.00%, with implied average service lives of 22.2 and 20 years for transmission and distribution assets except meters and all meters, respectively. The rates and lives are also shown in Appendix A and B.

This category includes transmission and distribution poles, conductor, transformers, services, streetlights, and meters. The transmission and distribution network are comprised of approximately 403 kilometers of 11kV and 922 kilometers of 230/400kV overhead lines. This serves a customer base of more than 35,000 customers, which is nearly all of the island population. All generation sources are linked via 11kV inter-connectors and, in some instances, via 11kV distribution feeders. DOMLEC is the first Caribbean utility to install and implement a full Advanced Metering Infrastructure ("AMI") which allows meters to be read from the company's office. The AMI allows customers who register to be able to monitor their consumption by means of the internet. The company also offers pre-paid metering to its customers. It is also one of the few utilities in the Caribbean which has worked with the IRC to publish an interconnection policy which details the steps to interconnect renewable energy systems to the company's grid.

Discussions with Company personnel indicated there is currently no substations on the network but there will be after the Geothermal unit goes online. The large transformers are only found in the generation accounts ("GSU"). Historically, poles have had a life of around 30 years, maybe 35 years or more for the East Coast. They moved to Class 2 poles after Hurricane Maria, so now approximately 75% or more are now Class 2. The majority of the assets are in the

"safe" part of the island. The environment has more moisture than non-island locations, which would tend to shorten the life as compared to drier climates. Appurtenances on poles (anchors, cross- arms, etc.) are capitalized. With the hardening of the system, moving out incrementally to 35 years is reasonable at this point.

For conductor, the Company expects it to last longer than the poles it is attached to. They changed to AAC (around 95% adoption) to limit the rust happening in the core of the previous ACSR conductor. The Company currently expects around a 45-year life or more, absent the need for upgrades.

The Company has both pole mount and pad mount transformers. There is 1,398 pole mount and 55 pad mount transformers on DOMLEC's system. The pole mounted transformers are expected to last around 22 years and the pad mounted transformers around 30 years. All transformers are stainless steel, which fights against rust in their environment. They have more faults than average on the island. They see capacitor banks and reclosers having around the same life as line transformers. The penetration of renewables could lower the loading of transformers, but the harmonics may increase, which would tend to shorten the life.

Altogether, moving the life longer for the transmission and distribution assets, excluding meters is reasonable based on the facts and circumstances. Based on the life weighting by investment (poles, transformers (line and pad mount), and conductor), the proposed life for these assets is 33.18 years.

The current life for meters is 20 years. Discussions with Company personnel indicated that single phase meters with disconnect switches would last 5 -6 years, ones without disconnects would last longer, around 10-15 years. They moved to AMI in 2008. Currently, failure modes are with display failures, electronics fail, communication device fails. The environment (heat, humidity, salt) would cause earlier failure than in many places. They started a program to replace non disconnect meters with disconnect meters, but supply chain issues have stalled

the project. Three phase meters might last longer, but the failure mode is in the display failure around 15 years. The Company has Honeywell metering equipment, which are expected to have a life of at least 10 years. The Company currently expects single phase, three phase, gatekeepers, etc. to have a 15 year expected service life.

The current average age of all Network assets excluding meters is 13.12 years and the average age of meters is 7.56 years. Considering the current age, condition, operations and maintenance practices, future use expectations, existing rates, and general industry life ranges, we are proposing the following Transmission and Distribution Network rates and service lives.

Transmission and Distribution Network	Proposed Rate	ASL
Network except meters	3.01%	33.18
All Meters	6.67%	15.00

Vehicles

The total investment is $7,542,762. The reserve is $5,599,493 or approximately 74%. The composite existing depreciation rate is 14.14% compared to the proposed depreciation rate of 12.63%, which results in a decrease of $114,263.

The existing depreciation rates for this category consists of two rates: 16.67% and 12.50%, with implied average service lives of 6 and 8 years for light motor vehicles and heavy (trucks), respectively. The rates and lives are also shown in Appendix A and B.

There are light duty vehicles (cars and light duty trucks) and heavy duty vehicles (which is generally bigger service trucks used in the field by operations) in this category. For light duty, the guideline is 5 years or 150k KM. They will also evaluate the condition of the vehicle in making the retirement determination (e.g.,

condition, maintenance). In a number of cases, the life has exceeded the time guideline if the reliability remains good. They would expect to retire light vehicles between 5 and 7 years. Some of the newer vehicles are not expected to achieve the same life as previous vehicles. Considering the mix for light vehicles, retention of the existing 6 years is reasonable. The heavy duty class had two flat-bed trucks that sold when they were around 9-10 years old. There are some assets that have exceeded the 8 years. There are a few previously owned assets that are purchased. They believe the life of heavy vehicles is in the 10-year range as opposed to 8 years. Based on the feedback and the current age of the assets, a 10-year life is reasonable for heavy transportation assets.

Vehicles	Proposed Rate	ASL
Vehicles Light (Motor Vehicle)	16.67%	6.00
Vehicles Heavy (Motor Vehicle)	10.00%	10.00

General Plant Register

The total investment is $16,710,061. The reserve is $12,043,043 or approximately 72%. The composite existing depreciation rate is 14.47% compared to the proposed depreciation rate of 16.89%, which is an increase of $403,592.

The existing depreciation rates for this category consists of seven rates: 25.00%, 14.00%, 14.00%, 20.00%, 14.00%, and 10.00%, with implied average service lives of 4, 7.1, 7.1, 5, 7.1, and 10 years for general office assets, respectively. The rates and lives are also shown in Appendix A and B.

This category includes computers, software, Scada software, office equipment printers and hand-held devices, office equipment shredders, copiers, etc., office furniture desks, cabinets, and chairs and building contents AC and refrigerators. The residential furniture category was retired, so no rate is provided.

Discussions with Company personnel indicated they try to have a 3-year refresh cycle for desktops but with budget considerations, they may be replaced

over a little longer period. Laptops will last longer than desktops and four years is still reasonable as an average for both types of computers. Servers and larger application software, as well as Scada software, which was upgraded in December of 2021 have an existing 7 year life. The Company has requested splitting the software into two buckets, CIS/Enterprise 5 years and Scada 10 years in this study.

The office equipment (appliances) related to printers and handheld readers are related to the Honeywell meter assets and are expected to have a five year life.

Office equipment (appliances) like copiers, switches and network equipment can last up to 7 years based on the cost and robustness of those assets, e.g., CISCO equipment which is designed fairly robustly. Currently, 7 years is reasonable based on the Company's refresh cycle.

Office furniture such as the wood desks would have a 20 year or more life; main office chairs 10-years; and card access systems will last 5-7 years. Considering the mix of assets, a 15 year average life is reasonable for this group. Based on discussions with Company personnel another group has been established for the AC units and refrigerators, which are expected to last around 10 years. The current investment has an average age of 11.49 years. Considering the current age, condition, future use expectations, existing rates, and general industry life ranges, we are proposing the following General Register rates and service lives.

General Register	Proposed Rate	ASL
Computers	25.00%	4.00
Software - Intangible Assets	20.00%	5.00
Software - SCADA	14.29%	7.00
Office Equip. (Appliances) - Printers & Handheld Devices	20.00%	5.00
Office Equipment (Appliances) – Shredders & Copiers	14.29%	7.00
Office Furniture	6.67%	15.00
Building Contents - AC & Refrigerators	10.00%	10.00
Residential Furniture	Retired	N/A

APPENDIX A - Depreciation Rate Comparison

Dominica Electricity Services Limited
Fixed Assets Schedule
Depreciation Study as of December 31, 2021
Comparison of Existing and Proposed Depreciation

Asset Category	Subcategory	Plant Cost	Depreciation Reserve	Depreciation Reserve	Existing		Proposed		Change in Depreciation Expense
					Annual Depreciation Rate	Annual Accrual Amount	Annual Depreciation Rate	Annual Accrual Amount	
		EC$	EC$	%	%	EC$	%	EC$	EC$
BUILDING AND CONSTRUCTION		**65,080,265**	**43,341,101**	**66.6%**	**2.10%**	**1,369,011**	**2.10%**	**1,369,546**	**535**
	Headworks & Pipeline - Trafalgar	1,044,214	637,832	61.1%	2.00%	20,884	2.04%	21,302	418
	Headworks & Pipeline - Padu	1,856,685	219,408	11.8%	2.00%	37,134	2.00%	37,134	-
	Other-General Purpose	7,303,670	1,601,991	21.9%	2.00%	146,073	2.22%	162,141	16,068
	New Hydro Building	45,785,447	36,759,775	80.3%	2.00%	915,709	2.00%	915,709	-
	Power House - Hydro NT and Padu	538,584	486,677	90.4%	2.00%	10,772	2.00%	10,772	-
	Power House - Diesel	2,073,955	1,217,317	58.7%	2.90%	60,145	3.80%	78,810	18,666
	BC4 Diesel & Hydro	100,862	64,397	63.8%	2.90%	2,925	2.07%	2,088	(837)
	BC4 Melville Hall Fuel Platform	3,741	3,063	81.9%	2.90%	108	2.86%	107	(1)
	Office & Stores	885,280	573,537	64.8%	2.75%	24,345	2.22%	19,653	(4,692)
	Fencing - Trafalgar & Padu	47,577	36,348	76.4%	2.75%	1,308	2.22%	1,056	(252)
	General Purpose	5,440,250	1,740,755	32.0%	2.75%	149,607	2.22%	120,774	(28,833)
PLANT AND MACHINERY		**91,471,558**	**65,257,667**	**71.3%**	**6.88%**	**6,296,216**	**6.02%**	**5,504,659**	**(791,557)**
	Hydro Plant (Laudat and Padu)	17,218,293	15,666,013.7	91.0%	2.25%	387,412	2.00%	344,366	(43,046)
	Hydro Plant (Trafalgar)	705,106	276,558	39.2%	2.25%	15,865	2.04%	14,384	(1,481)
	Hydro Accessories	3,625,874	1,694,418	46.7%	2.25%	81,582	2.00%	72,517	(9,065)
	Diesel Plant - Medium Speed	37,421,496	24,887,920	66.5%	4.25%	1,590,414	3.35%	1,253,620	(336,793)
	Diesel Plant - High Speed	6,854,247	6,786,732	99.0%	6.67%	457,178	4.85%	332,431	(124,747)
	Diesel Plant - FC5 Addition (Spares)	3,883,890	3,334,350	85.9%	4.25%	165,065	3.35%	130,110	(34,955)
	Major Spares - MAN (FC10-12)	997,072	512,439	51.4%	5.56%	55,437	3.35%	33,402	(22,035)
	Major Spares - SWD (Watzillia, FC1 & FC4)	206,162	206,161	100.0%	16.67%	34,367	3.35%	6,906	(27,461)
	Major Spares - CAT 3516 (FC7-8 and SL except SL8)	1,199,571	660,678	55.1%	6.67%	80,011	4.85%	58,179	(21,832)
	Major Spares - CAT 3612 (FC 5-6)	968,338	363,374	37.5%	4.25%	41,154	3.35%	32,439	(8,715)
	Overhauls - CAT 3516	181,189	181,188	100.0%	27.25%	49,374	50.00%	90,594	41,220
	Overhauls - CAT 3612	287,259	287,258	100.0%	44.44%	127,658	33.33%	95,743	(31,914)
	Overhauls - All others Medium Speed	4,769,000	3,386,664	71.0%	40.00%	1,907,600	33.33%	1,589,508	(318,092)
	Overhauls - All others High Speed	1,420,226	1,138,923	80.2%	40.00%	568,090	50.00%	710,113	142,023
	Diesel Accessories	7,038,769	2,453,262	34.9%	4.25%	299,148	4.32%	304,075	4,927
	General Accessories	585,150	421,218	72.0%	4.25%	24,869	4.32%	25,278	410
	Tool & Testing Equipment	4,109,915	3,000,512	73.0%	10.00%	410,992	10.00%	410,992	-
RENEWABLE GENERATION PROJECTS									
	Generation - Solar (West Coast) - 2024 projected in service						4.00%		

Dominica Electricity Services Limited
Fixed Assets Schedule
Depreciation Study as of December 31, 2021
Comparison of Existing and Proposed Depreciation

Asset Category	Subcategory		Plant Cost	Depreciation Reserve	Depreciation Reserve	Existing Annual Depreciation Rate	Existing Annual Accrual Amount	Proposed Annual Depreciation Rate	Proposed Annual Accrual Amount	Change in Depreciation Expense
			EC$	EC$	%	%	EC$	%	EC$	EC$
TRANSMISSION & DISTRIBUTION			**190,822,190**	**78,253,607**	**41.0%**	**4.57%**	**8,720,882**	**3.52%**	**6,723,777**	**(1,997,106)**
	Networks		164,045,453	72,541,528	44.2%	4.50%	7,382,045	3.01%	4,937,768	(2,444,277)
	Networks - Meters		26,776,737	5,712,079	21.3%	5.00%	1,338,837	6.67%	1,786,008	447,172
VEHICLES			**7,542,762**	**5,599,493**	**74.2%**	**14.14%**	**1,066,787**	**12.63%**	**952,524**	**(114,263)**
	Light		2,972,232	2,487,874	83.7%	16.67%	495,471	16.67%	495,471	-
	Heavy		4,570,530	3,111,619	68.1%	12.50%	571,316	10.00%	457,053	(114,263)
GENERAL PROPERTY			**16,710,061**	**12,043,042**	**72.1%**	**14.47%**	**2,418,108**	**16.89%**	**2,838,251**	**420,143**
	Computers		1,164,910	951,095	81.6%	25.00%	291,227	25.00%	291,227	-
	Software - CIS, Enterprise		7,799,290	5,791,870	74.3%	14.00%	1,091,901	20.00%	1,559,858	467,957
	Software - SCADA		41,731	41,728	100.0%	14.00%	5,842	14.29%	5,963	121
	Office Equipment (printers & hand held devices)		710,839	567,266	79.8%	20.00%	142,168	20.00%	142,168	-
	Office Equipment (shredders, copiers, etc.)		4,691,018	3,177,166	67.7%	14.00%	656,743	14.29%	670,347	13,604
	Office Furniture		1,796,477	1,380,049	76.8%	10.00%	179,648	6.67%	119,825	(59,823)
	Building Contents - AC & Refrigerators		488,631	129,780	26.6%	10.00%	48,863	10.00%	48,863	-
	Residential Furniture	*	17,166	4,089	23.8%	10.00%	1,717	N/A		(1,717)
	Total Depreciation Study		**$ 371,626,835**	**$ 204,494,910**	**55.0%**		**$ 19,871,005**		**$ 17,388,757**	**$ (2,482,248)**
	Land		4,399,680	-						
	Capital Work-In-Progress		8,262,425	-						
	Total Fixed Assets		$ 384,288,941	$ 204,494,910						
	GL		384,288,940	204,494,910						

*Note - Residential furniture was retired, so no rate is being proposed.

APPENDIX B - Depreciation Rate Calculations

Dominica Electricity Services Limited
Fixed Assets Schedule
Depreciation Study as of December 31, 2021
Calculation of Annual Depreciation Rates

Asset Category and Subcategory	Plant Balance at 12/31/2021 EC$	Reserve Balance at 12/31/2021 EC$	Depreciation Reserve %	Existing Whole Life Rate %	Implied ASL Years	Proposed Whole Life Rate %	Proposed ASL
BUILDING AND CONSTRUCTION	**65,080,265**	**43,341,100**	**66.6%**				
Headworks & Pipeline - Trafalgar	1,044,214	637,832	61.1%	2.00%	50.00	2.04%	49.00
Headworks & Pipeline - Padu	1,856,685	219,408	11.8%	2.00%	50.00	2.00%	50.00
BC3 - General Purpose	7,303,670	1,601,991	21.9%	2.75%	36.40	2.22%	45.00
New Hydro Building	45,785,447	36,759,775	80.3%	2.00%	50.00	2.00%	50.00
Power House	538,584	486,677	90.4%	2.00%	50.00	2.00%	50.00
Power House - Diesel	2,073,955	1,217,317	58.7%	2.90%	34.50	3.80%	26.31
Office & Stores	885,280	573,537	64.8%	2.75%	36.40	2.22%	45.00
BC4 Diesel and Hydro	100,862	64,397	63.8%	2.90%	34.50	2.07%	48.40
BC4 Melville Hall Fuel Platform	3,741	3,063	81.9%	2.90%	34.50	2.86%	35.00
Fencing - Trafalgar & Padu	47,577	36,348	76.4%	2.75%	36.40	2.22%	45.00
General	5,440,250	1,740,755	32.0%	2.75%	36.40	2.22%	45.00
Generation - Hydro Units							
Hydro - Laudat				2.00%	50.00	2.00%	50.00
Hydro - New Trafalgar 1 & 2				2.00%	50.00	2.04%	49.00
Hydro - Padu 1 &2				2.00%	50.00	2.00%	50.00
Generation - Diesel Units				2.90%	34.50	3.80%	26.31
Diesel FC1				2.90%	34.50	2.70%	37.00
Diesel FC4				2.90%	34.50	2.70%	37.00
Diesel FC5				2.90%	34.50	2.86%	35.00
Diesel FC6				2.90%	34.50	2.70%	37.00
Diesel FC7				2.90%	34.50	0.00%	0.00
Diesel FC8				2.90%	34.50	4.55%	22.00
Diesel FC10				2.90%	34.50	4.17%	24.00
Diesel FC11				2.90%	34.50	4.17%	24.00
Diesel FC12				2.90%	34.50	4.17%	24.00
Diesel SL4				2.90%	34.50	4.55%	22.00
Diesel SL5				2.90%	34.50	5.00%	20.00
Diesel SL6				2.90%	34.50	5.56%	18.00

Dominica Electricity Services Limited
Fixed Assets Schedule
Depreciation Study as of December 31, 2021
Calculation of Annual Depreciation Rates

Asset Category and Subcategory	Plant Balance at 12/31/2021 EC$	Reserve Balance at 12/31/2021 EC$	Depreciation Reserve %	Existing Whole Life Rate %	Implied ASL Years	Proposed Whole Life Rate %	Proposed ASL
Diesel SL7				2.90%	34.50	4.76%	21.00
Diesel SL8				2.90%	34.50	4.76%	21.00
General Purpose				2.75%	36.40	2.22%	45.00
PLANT AND MACHINERY	**91,471,558**	**65,257,667**	**71.3%**				
Hydro Plant : Laudat and Padu	17,218,293	15,666,013.7	91.0%	2.25%	44.00	2.00%	50.00
Hydro Plant : Trafalgar	705,106	276,558	39.2%	2.25%	44.00	2.04%	49.00
Hydro Plant : Hydro Accessories	3,625,874	1,694,418	46.7%	2.25%	44.00	2.00%	50.00
Diesel Diesel Plant - Medium Speed	37,421,496	24,887,920	66.5%	4.25%	23.50	3.35%	29.88
Diesel Diesel Plant - High Speed	6,854,247	6,786,732	99.0%	6.67%	15.00	4.85%	20.60
Diesel Plant : Diesel FC5 Add Spares	3,883,890	3,334,350	85.9%	4.25%	23.50	4.32%	23.15
Diesel Plant : S-MAN Major Spares	997,072	512,439	51.4%	5.56%	18.00	3.35%	29.88
Diesel Plant : S-SWD Major Spares	206,162	206,161	100.0%	16.67%	6.00	3.35%	29.88
Diesel Plant : S-CAT 3516 Major Spares	1,199,571	660,678	55.1%	6.67%	15.00	4.85%	20.60
Diesel Plant : S-CAT 3612 Major Spares	968,338	363,374	37.5%	4.25%	23.50	3.35%	29.88
Diesel Plant : Overhaul CAT 3516	181,189	181,188	100.0%	27.25%	3.67	50.00%	2.00
Diesel Plant : Overhaul CAT 3612	287,259	287,258	100.0%	44.44%	2.25	33.33%	3.00
Diesel Plant : Overhaul All Others Medium Speed	4,769,000	3,386,664	71.0%	40.00%	2.50	33.33%	3.00
Diesel Plant : Overhaul All Others High Speed	1,420,226	1,138,923	80.2%	40.00%	2.50	50.00%	2.00
Diesel Plant : Diesel Accessories	7,038,769	2,453,262	34.85%	4.25%	23.50	4.32%	23.15
Diesel Plant : General Accessories	585,150	421,218	71.98%	4.25%	23.50	4.32%	23.15
Construction : Tools & Testing	4,109,915	3,000,512	73.01%	10.00%	10.00	10.00%	10.00
Plant Diesel - FC5 Addition (SPARES)				16.67%	6.00	16.67%	6.00
Tools & Testing Equipment				10.00%	10.00	10.00%	10.00
Hydro Plant Equipment (Laudat and Padu)				2.25%	44.40	2.00%	50.00
Hydro Plant Equipment (Trafalgar)				2.25%	44.40	2.04%	49.00
Diesel Plant - Medium Speed				4.25%	23.50	3.35%	29.88
Diesel Plant - High Speed				6.67%	15.00	4.85%	20.60

Dominica Electricity Services Limited
Fixed Assets Schedule
Depreciation Study as of December 31, 2021
Calculation of Annual Depreciation Rates

Asset Category and Subcategory	Plant Balance at 12/31/2021 EC$	Reserve Balance at 12/31/2021 EC$	Depreciation Reserve %	Existing Whole Life Rate %	Implied ASL Years	Proposed Whole Life Rate %	Proposed ASL
RENEWABLE							
Generation - Solar (West Coast)						4.00%	25.00
TRANSMISSION AND DISTRIBUTION - NETWORK	**190,822,190**	**78,253,607**	**41.0%**				
HT Main and Country	4,054,856	4,040,428	99.6%	4.50%	22.20	3.01%	33.18
HT Padu	23,953	23,951	100.0%	4.50%	22.20	3.01%	33.18
Distribution System	111,443,258	33,456,414	30.0%	4.50%	22.20	3.01%	33.18
Transmission North East	147,546	147,545	100.0%	4.50%	22.20	3.01%	33.18
Street Lights	6,315,601	1,919,853	30.4%	4.50%	22.20	3.01%	33.18
Suspense Jobs	19,745,236	6,379,768	32.3%	4.50%	22.20	3.01%	33.18
Transmission - Rural Electrification	699,074	681,170	97.4%	4.50%	22.20	3.01%	33.18
Transmission - East Cost Electrification	6,556,853	6,551,637	99.9%	4.50%	22.20	3.01%	33.18
Distribution - East Coast Electrification	3,538,089	3,435,475	97.1%	4.50%	22.20	3.01%	33.18
Transmission - South Ring	998,948	998,947	100.0%	4.50%	22.20	3.01%	33.18
Transmission - Interconnector Traf - Fond Cole	1,048,916	1,048,914	100.0%	4.50%	22.20	3.01%	33.18
Transmission - Traf/Padu Double Circuit	1,493,724	1,493,722	100.0%	4.50%	22.20	3.01%	33.18
Distribution - Springfield to D'Leau Gommier	1,830,825	1,819,717	99.4%	4.50%	22.20	3.01%	33.18
Supervisory Control & Data Acquisition	476,086	475,457	99.9%	4.50%	22.20	3.01%	33.18
Rehabilitation - Transmission	1,520,908	1,520,902	100.0%	4.50%	22.20	3.01%	33.18
Rehabilitation - Distribution	2,220,389	2,220,382	100.0%	4.50%	22.20	3.01%	33.18
Rehabilitation - Street Lights	105,477	105,472	100.0%	4.50%	22.20	3.01%	33.18
Distribution - Rural Electrification	1,825,714	1,825,712	100.0%	4.50%	22.20	3.01%	33.18
Meter Replacement / New Services	26,776,737	718,706	2.7%	5.00%	20.00	6.67%	15.00
Network - except meters				4.50%	22.20	3.01%	33.18
Network - meters				5.00%	20.00	6.67%	15.00
VEHICLES	**7,542,762**	**5,599,493**	**74.2%**				
Vehicles Light (Motor Vehicle)	2,972,232	2,487,874	83.7%	16.67%	6.00	16.67%	6.00
Vehicles Heavy (Motor Vehicle)	4,570,530	3,111,619	68.1%	12.50%	8.00	10.00%	10.00

Dominica Electricity Services Limited
Fixed Assets Schedule
Depreciation Study as of December 31, 2021
Calculation of Annual Depreciation Rates

Asset Category and Subcategory	Plant Balance at 12/31/2021 EC$	Reserve Balance at 12/31/2021 EC$	Depreciation Reserve %	Existing Whole Life Rate %	Implied ASL Years	Proposed Whole Life Rate %	Proposed ASL
GENERAL PROPERTY	**16,710,061**	**12,043,042**	**72.1%**				
Computers	1,164,910	951,095	81.6%	25.00%	4.00	25.00%	4.00
Software - Intangible Assets	7,799,290	5,791,870	74.3%	14.00%	7.10	20.00%	5.00
Software - SCADA	41,731	41,728	100.0%	14.00%	7.10	14.29%	7.00
Office Furn (Appliances) - Printers & Handhelds	710,839	567,266	79.8%	20.00%	5.00	20.00%	5.00
Office Furn (Appliances) - Shredders & Copiers	4,691,018	3,177,166	67.7%	14.00%	7.10	14.29%	7.00
Office Furniture - Desks, Cabinets, Chairs)	1,796,477	1,380,049	76.8%	10.00%	10.00	6.67%	15.00
Building Contents - AC & Refrigerators	488,631	129,780	26.6%	10.00%	10.00	10.00%	10.00
Residential Furniture (Retired)	17,166	4,089	23.8%	10.00%	10.00	0.00%	NA

Total Depreciable Investment	$ 371,626,836	$ 204,494,909
Land	4,399,680	
CWIP	8,262,425	
	384,288,941	204,494,909
GL	384,288,940	204,494,910

APPENDIX C - Generation Retirement Dates

DOMINICA ELECTRICITY SERVICES LIMITED
GENERATING UNIT RETIREMENT SCHEDULE

PLANT TYPE	PLANT NAME AND UNIT	TYPE OF UNIT	NAMEPLATE CAPACITY (kW)	IN SERVICE YEAR	RETIREMENT DATE PRIOR STUDY	IRC RECOMMENDED RETIREMENT DATE	2022 STUDY PROPOSED RETIREMENT DATE	USEFUL LIFE
Diesel	Fond Cole 1	Medium Speed	750	1986	2018	2023	2023	37
Diesel	Fond Cole 4	Medium Speed	750	1986	2018	2023	2023	37
Diesel	Fond Cole 5	Medium Speed	2,840	1996	2029	N/A	2031	35
Diesel	Fond Cole 6	Medium Speed	1,750	1989	2021	2026	2026	37
Diesel	Fond Cole 7	High Speed	1,400	2003	2018	N/A	Decommissioned	N/A
Diesel	Fond Cole 8	High Speed	1,400	2003	2018	2025	2025	22
Diesel	Fond Cole 10	Medium Speed	1,460	2009	2033	N/A	2033	24
Diesel	Fond Cole 11	Medium Speed	1,460	2009	2033	N/A	2033	24
Diesel	Fond Cole 12	Medium Speed	1,460	2009	2033	N/A	2033	24
Diesel	Sugar Loaf 4	High Speed	1,400	2003	2018	2025	2025	22
Diesel	Sugar Loaf 5	High Speed	1,400	2005	2020	2025	2025	20
Diesel	Sugar Loaf 6	High Speed	1,280	2007	2022	2025	2025	18
Diesel	Sugar Loaf 7	High Speed	1,400	2005	2020	2026	2026	21
Diesel	Sugar Loaf 8	Medium Speed	1,540	2019	2040	N/A	2040	21
Hydro	Laudat 1	Noell-Pelton & Garbe	1,240	1990	2035	N/A	2040	50
Hydro	New Trafalgar 1	Noell-Pelton & Garbe	1,760	1991	2036	N/A	2040	49
Hydro	New Trafalgar 2	Noell-Pelton & Garbe	1,760	1991	2040	N/A	2040	49
Hydro	Padu 1		*940	1967*	2032	N/A	2060	50
Hydro	Padu 2		*940	1967*	2032	N/A	2060	50

*Note: This is the original in service year and nameplate capacity. Padu was damaged by hurricanes and has been completely restored. A new in service year of 2010 is being used.

HYDRO ONE NETWORKS INC.

ELECTRIC UTILITY PLANT

DEPRECIATION RATE STUDY

BU 210, 220, AND 300

TRANSMISSION, DISTRIBUTION,

AND COMMON BUSINESS UNITS

AT DECEMBER 31, 2019

April 2021

http://www.utilityalliance.com

HYDRO ONE NETWORKS INC.
ELECTRIC UTILITY PLANT
DEPRECIATION RATE STUDY
EXECUTIVE SUMMARY
BU 210, 220, AND 300

TRANSMISSION, DISTRIBUTION,
AND COMMON BUSINESS UNITS
AT DECEMBER 31, 2019

Torys LLP, as legal counsel on behalf of Hydro One Networks Inc. ("Hydro One" or the "Company"), engaged Alliance Consulting Group ("Alliance") to conduct a depreciation study of the Company's electric utility plant depreciable assets as of December 31, 2019.

This study proposes depreciation accrual rates based on year end 2019 data that will be applied to plant balances developed in connection with a joint transmission and distribution Custom Incentive Rate ("CIR") application that will be filed with the Ontario Energy Board ("OEB") for purposes of establishing Hydro One's transmission revenue requirement and distribution rates for the 2023-2027 period (the "Joint Application"). For illustrative purposes, the tables below show the impact of the proposed depreciation accrual rates when applied to Hydro One's 2019 fixed asset values but do not reflect the changes that will occur for periods 2023 forward, which will be calculated once the rate application is prepared. Based on 2019 year-end values, which will differ from depreciation expense amounts in the filed application, this study would result in an overall decrease of $35 million in annual depreciation expenses for all accounts when using the proposed depreciation rates. This is in comparison to the existing annual depreciation accrual without including the existing true-up. A summary comparison of annual accrual by utility function is shown below. These amounts will differ from those computed in the CIR application when applied to 2023-2027 plant balances.

BU 210 Transmission Operations

Function	Plant at 12/31/2019	Existing Accrual	Proposed Accrual	Difference
Intangible	25,081,347	2,508,135	2,508,135	0
Transmission	16,766,760,553	306,201,391	284,873,007	(21,328,383)
General Depreciated	1,118,401,387	56,310,011	58,886,734	2,576,722
General Amortized	8,931,156	0	0	0
Total	17,919,174,444	365,019,537	346,267,876	(18,751,661)

BU 220 Distribution Operations

Function	Plant at 12/31/2019	Existing Accrual	Proposed Accrual	Difference
Intangible	304,187,590	30,418,759	30,418,759	0
Distribution	10,642,740,258	239,775,039	218,028,793	(21,746,245)
General Depreciated	338,255,204	20,445,568	18,703,368	(1,742,200)
General Amortized	41,261,340	1,880,251	1,880,251	0
Total	11,326,444,391	292,519,617	268,031,171	(23,488,445)

BU 300 Common Operations

Function	Plant at 12/31/2019	Existing Accrual	Proposed Accrual	Difference
Intangible	636,292,886	63,629,289	53,024,407	(10,604,882)
General Depreciated	234,456,029	(10,850,224)	6,984,546	17,834,770
General Amortized	241,134,350	42,682,280	42,692,682	10,402
Total	1,111,883,265	95,461,345	102,701,635	7,240,291

Total Hydro One	30,357,502,101	753,000,499	718,000,682	(34,999,815)

Appendix A shows the computation of depreciation rates based on 2019 year-end investment, and Appendix B shows a detailed comparison of the approved versus proposed depreciation rates and annual accruals by account for each utility function.

HYDRO ONE NETWORKS INC.
ELECTRIC UTILITY PLANT
DEPRECIATION RATE STUDY
BU 210, 220, AND 300
TRANSMISSION, DISTRIBUTION,
AND COMMON BUSINESS UNITS
AT DECEMBER 31, 2019

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PURPOSE

This review provides the foundation and documentation for recommended changes in the depreciation accrual rates used by Hydro One Networks for its Transmission and Distribution Operations. The recommended rates are subject to acceptance by the Ontario Energy Board. Hydro One plant data through December 31, 2019 was used to compute the proposed depreciation rates. These proposed rates are being used to establish proposed transmission and distribution revenue requirements in the Joint Application for 2023-2027. In the Joint Application, these rates which are based on 2019, will be applied to the 2023-2027 investment balances. The account-based depreciation rates were designed to recover the total remaining undepreciated investment over the remaining life of Hydro One's property on a straight-line basis. Land and other non-depreciable property were excluded from this study.

Hydro One is Ontario's largest electricity transmission and distribution service provider. Hydro One distributes electricity across Ontario to nearly 1.4 million customers, or approximately 26 percent of the total numbers of customers in Ontario. Hydro One's transmission system accounts for approximately 98 percent of Ontario's electricity transmission capacity.

Hydro One Inc. ("HOI") has been in existence since 1999 and is the successor company to Ontario Hydro's electricity transmission and distribution businesses. Hydro One Limited ("HOL") was incorporated on August 31, 2015 under the Business Corporations Act (Ontario). On October 31, 2015, HOL acquired HOI, a company previously wholly owned by the Province of Ontario (the "Province"). At December 31, 2019, the Province held approximately 47.3 percent of the common shares of HOL. The principal businesses of HOL, which it carries out primarily through Hydro One Networks Inc., are the transmission and distribution of electricity to customers within Ontario.

STUDY RESULTS

Overall depreciation rates for all Hydro One depreciable property are shown in Appendix A. The amount of the change in depreciation expense in the application will depend on application of the depreciation rates established in this report to Hydro One's total forecast depreciable investment levels for that year. For illustrative purposes, a comparison is given based on data at year end 2019. These rates translate into an annual depreciation accrual of $718 million based on Hydro One's depreciable investment at December 31, 2019. The annual equivalent depreciation expense calculated by the same method using the approved rates was $753 million, resulting in a $35 million decrease in annual depreciation expense. Appendix A presents the calculation of the annual depreciation rates and resulting accrual. Appendix B presents a comparison of approved versus proposed rates and annual accruals by account. Appendix C presents a summary of life and mortality curve parameters by account. Appendix D presents a summary of book depreciation reserve as compared to the reallocated depreciation reserve for each business unit. Appendix E presents a summary of estimated component life for each plant account within Hydro One. Finally, Appendix F provides information on the background and qualifications of Alliance Consulting Group.

GENERAL DISCUSSION

Definition

The term "depreciation" as used in this study is considered in the accounting sense; that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. This expense is systematically allocated to accounting periods over the life of the properties. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. On retirement, the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

Basis of Depreciation Estimates

For all depreciable accounts, the straight-line, broad (average) life group, remaining-life depreciation system was employed to calculate annual and accrued depreciation in this study. In this system, the annual depreciation expense for each group is computed by dividing the original cost of the asset less allocated depreciation reserve less estimated net salvage by its respective average life group remaining life. The resulting annual accrual amounts of all depreciable property within a function were accumulated, and the total was divided by the original cost of all functional depreciable property to determine the depreciation rate. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group.

The advantage of the broad group system is that all assets within an account are considered to be one group. Broad group depreciation is widely used and produces stable depreciation rates from year to year because of its averaging effects. The broad group procedure “requires the least accounting records of annual

additions and balances."[1] There are other depreciation systems that could be considered, such as vintage group depreciation or equal life group. The Company's prior depreciation studies used straight line, vintage group, remaining life as the depreciation system. Vintage group depreciation assumes that each vintage is a separate group, requiring that each vintage be analyzed separately to determine its average life. Then all vintages are composited to develop the average service life of the account. Given the stable results produced by broad group and its wider use across the utility industry, Alliance recommends changing the procedure to be more consistent with other utilities across North America. The computations of the annual functional depreciation rates are shown in Appendix A.

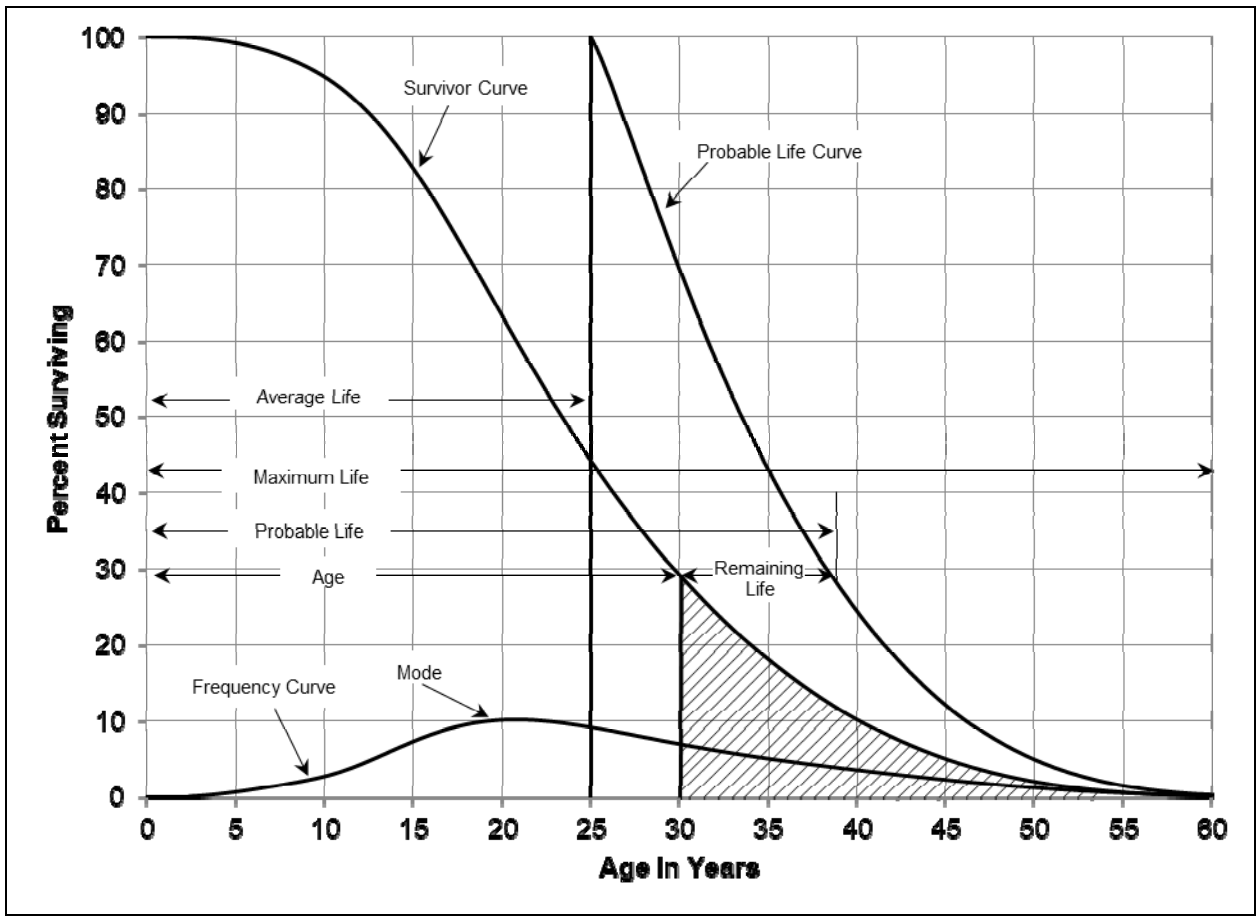
Actuarial analysis was used with each account within a function where sufficient data was available, and professional judgment was used to some degree on all accounts.

[1] Public Utility Depreciation Practices, National Association of Regulatory Utility Commissioners, 1996, p. 62.

Survivor Curves

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of survivor curves. Individual property units within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by first constructing a survivor curve which is plotted as a percentage of the units surviving at each age. A survivor curve represents the percentage of property remaining in service at various age intervals. The chart below shows a typical generalized survivor curve as well as some of the life characteristics that can be derived from the survivor curve.

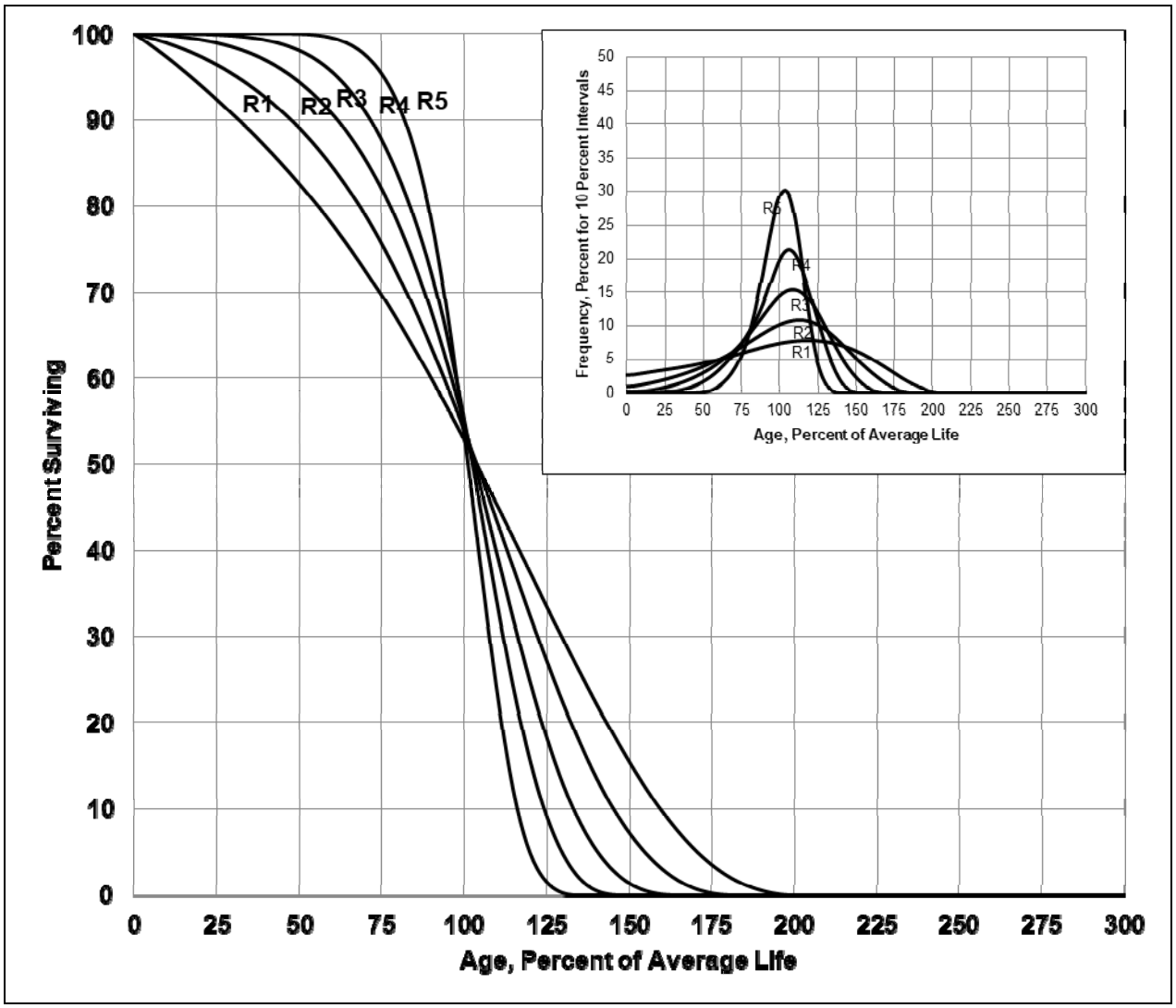
GENERALIZED SURVIVOR CURVE



The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at Iowa State College Engineering Experiment Station in the first half of the prior century. Through common usage, revalidation and regulatory acceptance, these curves have become a descriptive standard for the life characteristics of industrial property.

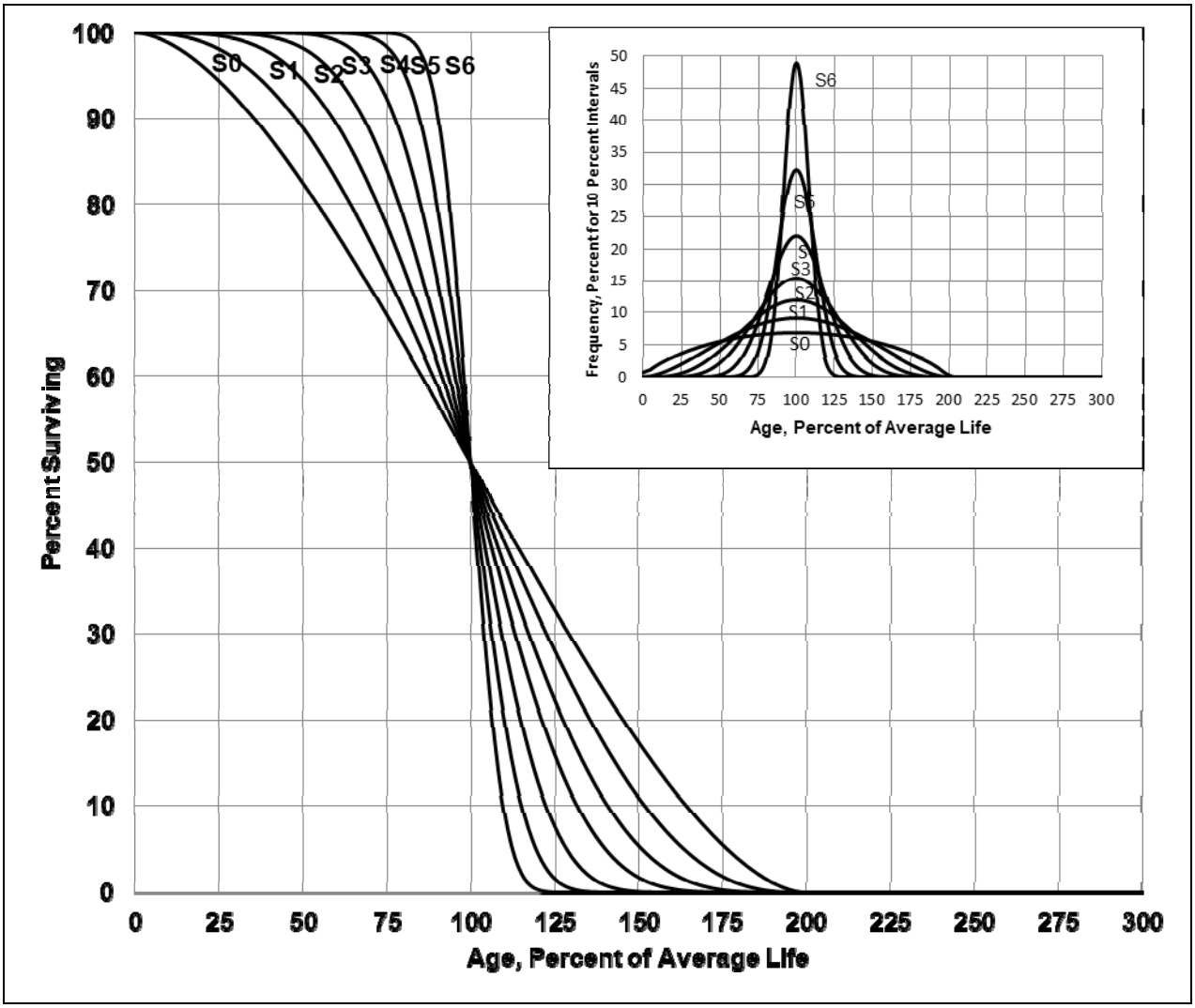
There are four families in the Iowa Curves that are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. For distributions with the mode age greater than the average life, an "R" designation (i.e., Right modal) is used. The family of “R” moded curves is shown below.

R-TYPE IOWA SURVIVOR CURVES



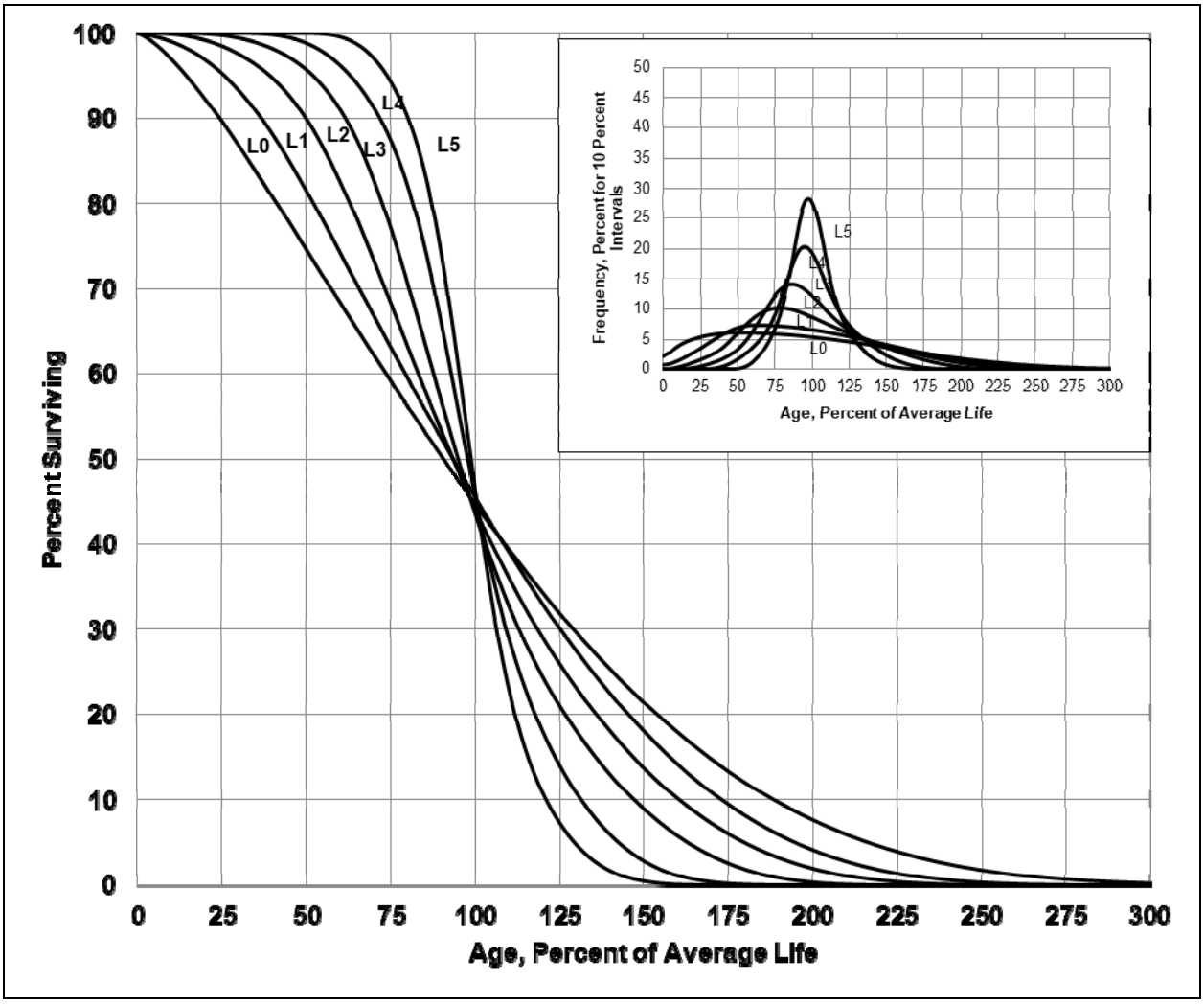
Similarly, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. The higher the number of the curve, the greater the peak. A graph showing the S curves is shown below.

S-TYPE IOWA SURVIVOR CURVES



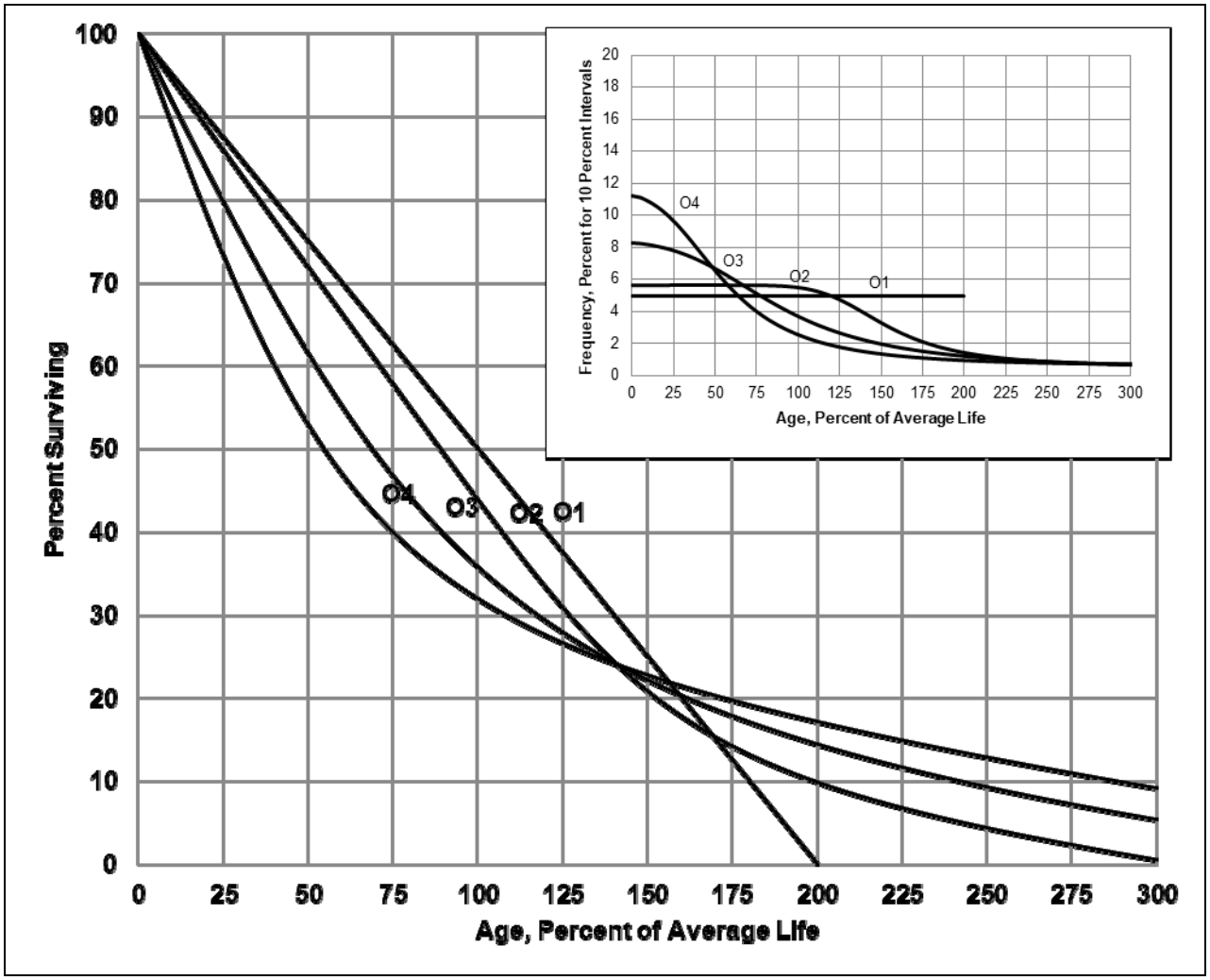
For distributions with the mode age less than the average life, a "L" designation (i.e., Left modal) is used. The family of “L” moded curves is shown below.

L-TYPE IOWA SURVIVOR CURVES



A special case of left modal dispersion is the "O" or origin modal curve family which was developed in the 1950s.

O-TYPE IOWA SURVIVOR CURVES



Given how long the O curves live, the O curves are seldom used in analyzing utility property in Alliance Consulting Group's experience. The O curves have been used for intellectual property.

Within each curve family, numerical designations are used to describe the relative magnitude of the retirement frequencies at the mode. A "6" indicates that the retirements are not greatly dispersed from the mode (i.e., high mode frequency), while a "1" indicates a large dispersion about the mode (i.e., low mode frequency). For example, a curve with an average life of 30 years and an "L3" dispersion is a moderately dispersed, left modal curve that can be designated as a 30 L3 Curve. An SQ, or square, survivor curve occurs where no dispersion is present (i.e., units of common age retire simultaneously).

Most property groups can be closely fitted to one Iowa Curve with a unique average service life. The blending of judgment concerning current conditions and future trends along with the matching of historical data permits the depreciation analyst to make an informed selection of an account's average life and retirement dispersion pattern.

Actuarial Analysis

Actuarial analysis (retirement rate method) was used in evaluating historical asset retirement experience where vintage data was available and sufficient retirement activity was present. In actuarial analysis, interval exposures (total property subject to retirement at the beginning of the age interval, regardless of vintage) and age interval retirements are calculated. The complement of the ratio of interval retirements to interval exposures establishes a survivor ratio. The survivor ratio is the fraction of property surviving to the end of the selected age interval, given that it has survived to the beginning of that age interval. Survivor ratios for all the available age intervals were chained by successive multiplications to establish a series of survivor factors, collectively known as an observed life table. The observed life table shows the experienced mortality characteristic of the account and may be compared to standard mortality curves such as the Iowa Curves. Where data was available, accounts were analyzed using this method. Placement bands were used to illustrate the composite history over a specific era, and experience

bands were used to focus on retirement history for all vintages during a set period. The results from these analyses for those accounts which had data sufficient to be analyzed using this method are shown in the Life Analysis section of this report.

Judgment

Alliance Consulting Group is an international consulting firm formed in 2004 by Dane Watson. In addition to the partner, Alliance also has three full-time Senior Consultants, Dr. Karen Ponder, Ms. Rhonda Watts and Ms. Rebecca Richards as well as other support staff. Alliance is dedicated to providing quality consulting and expert services to the utility industry. Our professionals have more than 120 years of combined experience around the utility industry, and we have been employed in the industry as utility employees and consultants. The Alliance Consulting Group has performed over 275 depreciation studies for electric, gas, steam, water, wastewater, cable and communications utilities across North America since its founding by Mr. Watson in 2004. These utilities encompass regulated, non-regulated, municipal and federal agencies. The resumes of our personnel and a listing of our many engagements is provided in Appendix F. Given Alliance personnel's experience in accounting, fixed assets, engineering, and depreciation theory, we have an unparalleled expertise to incorporate in analyzing the Company's assets and recommending depreciation accrual rates.

Any depreciation study requires informed judgment by the analyst conducting the study. A knowledge of the property being studied, company policies and procedures, general trends in technology and industry practice, and a sound basis of understanding depreciation theory are needed to apply this informed judgment. Judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, and actuarial analysis.

Judgment is not defined as being used in cases where there are specific, significant pieces of information that influence the choice of a life or curve. Those cases would simply be a reflection of specific facts into the analysis. Where there

are multiple factors, activities, actions, property characteristics, statistical inconsistencies, implications of applying certain curves, property mix in accounts or a multitude of other considerations that impact the analysis (potentially in various directions), judgment is used to take all of these factors and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one factor in these cases may have a substantial impact on the analysis, but overall, may shed light on the utilization and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent judgment. At the very least, for example, any analysis requires choosing which bands to place more emphasis.

The establishment of appropriate average service lives and retirement dispersions for Hydro One's plant accounts requires judgment to incorporate the understanding of the operation of the system with the available accounting information analyzed using the Retirement Rate actuarial methods. The appropriateness of lives and curves depends not only on statistical analyses, but also on how well future retirement patterns will match past retirements.

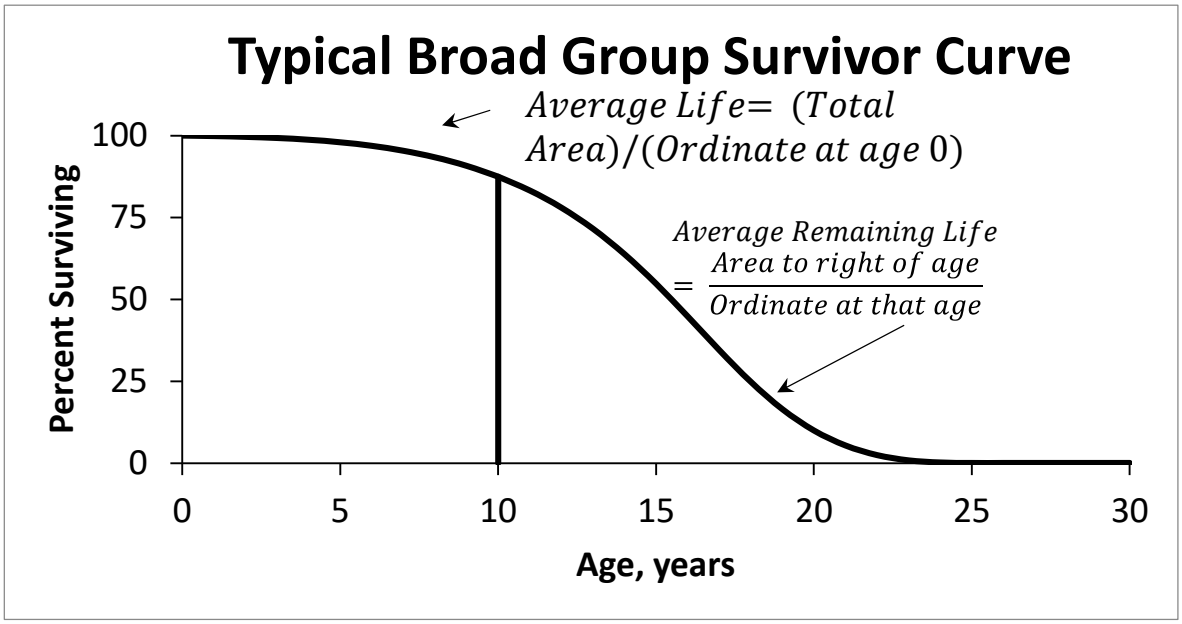
Current applications and trends in use of the equipment also need to be factored into life and survivor curve choices in order for appropriate mortality characteristics to be chosen.

Average Life Group Depreciation

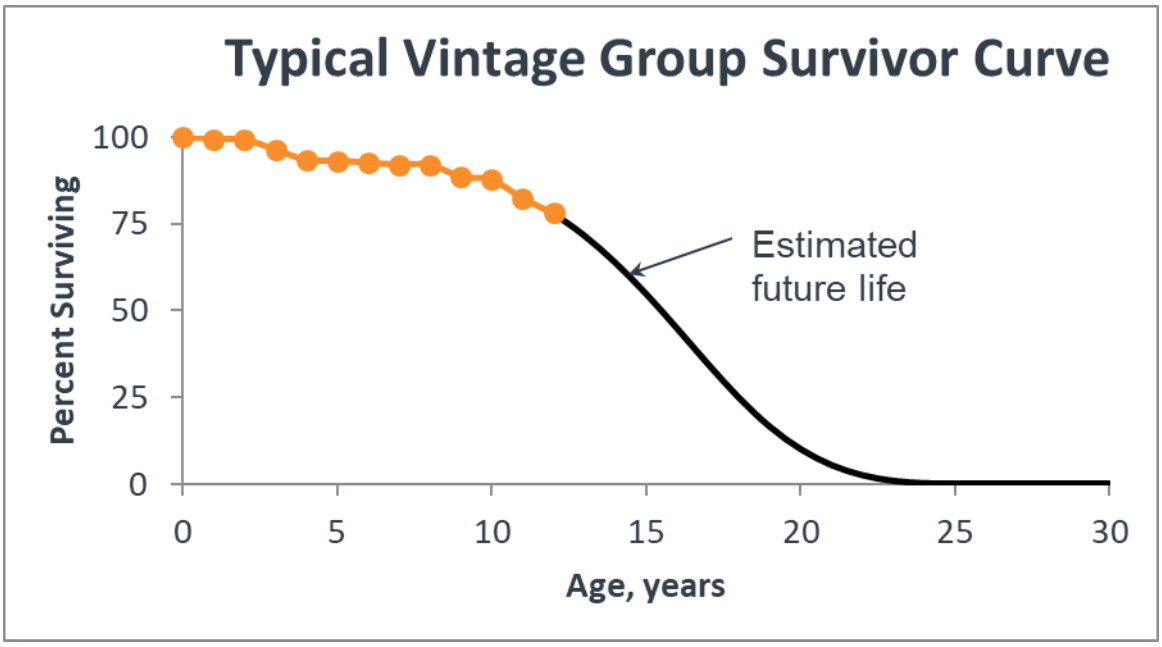
There are two depreciation "groupings" most commonly used in average life group depreciation: broad group and vintage group. Broad group ("BG") assumes that all units of plant in a plant account are considered to be one group. The BG produces stable results over many periods and, in Alliance Consulting Group's experience, is the most common depreciation system used across the industry. The vintage group ("VG") application assumes that each vintage within a plant account is a separate group. VG requires that each vintage group be analyzed separately to

determine its average life, and then average lives of all vintages are composited to produce an average life for the group.

A typical broad group survivor curve is shown below.



VG uses the stub survivor curve of each vintage and determines remaining life from the proposed survivor curve. A typical vintage group curve model is shown below.



This study proposes to convert to the average life group, broad group depreciation system to group the assets within each account. In its last depreciation study, Hydro One was authorized to use the straight line, vintage group, remaining life ("SL-VG-RL") depreciation system. In Alliance's experience, the broad group procedure is much more commonly used across North America. Since Hydro One has limited transactional data from 2000-2019, the results from the VG procedure are more subject to fluctuations in computing individual vintage average service life if there are any anomalies in the data. Those changes in individual vintages could produce unstable results if there is incomplete data for an individual vintage. BG was selected as the depreciation system to use for Hydro One in this study given that it is more stable in the accrual rate computations and used by the majority of North American utilities.

Theoretical Depreciation Reserve and Reserve Rebalancing

The book depreciation reserve was derived from Company records at the individual account level. This study used a reserve model that relied on a prospective concept relating to future retirement and accrual patterns for property, given current life and salvage estimates. This study recommends and uses reserve reallocation to rebalance reserves within each business unit and function. Reserve reallocation is when the book reserve is re-spread within a functional group based on the theoretical reserve within each function. In the process of analyzing the Company's depreciation reserve, Alliance Consulting Group observed that the depreciation reserve positions of the accounts were generally not in line with the life characteristics found in the analysis of the Company's assets. To allow the relative reserve positions of each account within a function to mirror the life characteristics of the underlying assets, we reallocated the depreciation reserves for all accounts within each function. The depreciation reserve represents the amounts that have been collected as a systemic allocation of the cost of an asset over its useful life, including any net salvage that may be required to remove that asset from service upon retirement. The reallocation process does not change the total reserve for each function; it simply reallocates the reserve between accounts in the function. Depreciation reserve allocation is a sound depreciation practice. The National Association of Regulatory Utility Commissioners endorsed the practice in its 1968 publication of *Public Utility Depreciation Practices*, explaining that reallocation of the depreciation reserve is appropriate "…where the change in the view concerning the life of property is so drastic as to indicate a serious difference between the theoretical and the book reserve."[2] Additionally, the 1996 edition of *Public Utility Depreciation Practices* states that "theoretical reserve studies also have been conducted for the purpose of allocating an existing reserve among operating units or accounts."[3]

2 *Public Utility Depreciation Practices*, Published by the National Association of Regulatory Utility Commissioners, 1968, page 48.
3 *Public Utility Depreciation Practices*, Published by the National Association of Regulatory Utility

The theoretical reserve of a group is developed from the estimated remaining life, total life of the property group, and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current forecasts were used throughout the life of the group for future depreciation accruals. The computation involves multiplying the vintage balances within the group by the theoretical reserve ratio for each vintage. The average life group method requires an estimate of dispersion and service life to establish how much of each vintage is expected to be retired in each year until all property within the group is retired. Estimated average service lives and dispersion determine the amount within each average life group. The straight-line remaining-life theoretical reserve ratio at any given age (RR) is calculated as:

$$RR = 1 - \frac{(Average\ Remaining\ Life)}{(Average\ Service\ Life)} * (1 - Net\ Salvage\ Ratio)$$

In the case of Hydro One, no net salvage is incorporated in depreciation accrual rates, consistent with other Canadian utilities. Reserve reallocation has been used in the Company's previous transmission and distribution depreciation studies.

Commissioners, 1996, page 188.

DETAILED DISCUSSION

Depreciation Study Process

This depreciation study encompassed four distinct phases. The first phase involved data collection and field interviews. The second phase was where the initial data analysis occurred. The third phase was where the information and analysis were evaluated. Once the first three stages were complete, the fourth phase began. This phase involved the calculation of deprecation rates and documentation of the corresponding recommendations.

During the Phase 1 data collection process, historical data was compiled from continuing property records and general ledger systems. Data was validated for accuracy by extracting and comparing to multiple financial system sources. Audit of this data was validated against historical data from prior periods, historical general ledger sources, and field personnel discussions. This data was reviewed extensively to put in the proper format for a depreciation study. Also, as part of the Phase 1 data collection process, numerous discussions were conducted with engineers and field operations personnel to obtain information that would assist in formulating life and salvage recommendations in this study. One of the most important elements of performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is beneficial when evaluating the output from the life and net salvage programs in relation to the company's actual asset utilization and environment. Information that was gleaned in these discussions is found in the Detailed Discussion of this study in the life analysis sections.

Phase 2 is where the actuarial analysis is performed. Phases 2 and 3 overlap to a significant degree. The detailed property records information is used in Phase 2 to develop observed life tables for life analysis. These tables are visually compared to industry standard tables to determine historical life characteristics. It is possible that the analyst would cycle back to this phase based on the evaluation

process performed in Phase 3. Net salvage analysis consists of compiling historical salvage and removal data by functional group to determine values and trends in gross salvage and removal cost. No net salvage is incorporated in Hydro One's depreciation accrual rates, consistent with its accounting practices, with other Canadian utilities, and with its previous studies. Net salvage was not included in the Company's prior Transmission, Distribution and Common depreciation studies. This information was then carried forward into phase 3 for the evaluation process.

Phase 3 is the evaluation process which synthesizes analysis, interviews, and operational characteristics into a final selection of asset lives and mortality curve parameters. The historical analysis from Phase 2 is further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in Phase 1. Phases 2 and 3 allow the depreciation analyst to validate the asset characteristics as seen in the accounting transactions with actual Company operational experience.

Finally, Phase 4 involved the calculation of accrual rates, making recommendations and documenting the conclusions in a final report. The calculation of accrual rates is found in Appendix A. Recommendations for the various accounts are contained within the Detailed Discussion of this report. The depreciation study flow diagram shown as Figure 1[4] documents the steps used in conducting this study. Depreciation Systems[5], page 289, documents the same basic processes in performing a depreciation study which are: statistical analysis, evaluation of statistical analysis, discussions with management and operational personnel, forecast assumptions, and documented recommendations.

[4] Public Utility Finance & Accounting, A Reader.
[5] Depreciation Systems, by Drs. W. C. Fitch and F.K. Wolf, Iowa State University Press, 1994, page 289.

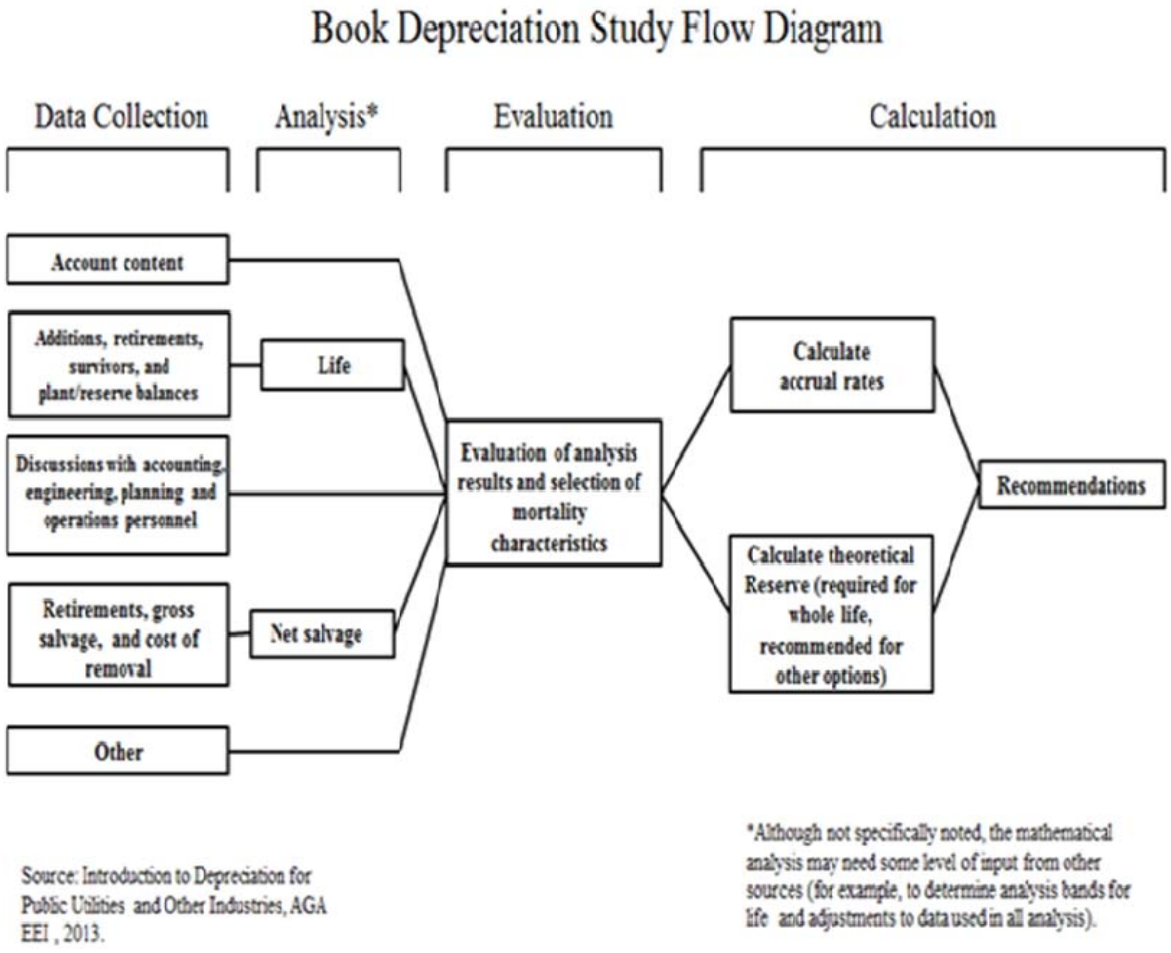


Figure 1

HYDRO ONE DEPRECIATION STUDY PROCESS

Depreciation Rate Calculation Process

The proposed rates are based on plant and accumulated depreciation reserve balances at December 31, 2019 and will be applied to test year data developed in the Joint Application. Annual depreciation expense amounts for all accounts were calculated by the straight-line method, broad (average) life group procedure, remaining-life technique. These calculations are shown in Appendix A. The results of calculations of the theoretical depreciation reserve values and the corresponding remaining life calculations are shown in Appendix D. Book depreciation reserves were based on Company individual accounts and the theoretical reserve computation was used to rebalance depreciation reserves and compute a composite remaining life for each account.

LIFE ANALYSIS

The retirement rate actuarial analysis method was applied to all accounts for Hydro One. For each account, an actuarial retirement rate analysis was made with placement and experience bands of varying widths. The historical observed life table was plotted and compared with various Iowa Curves to obtain the most appropriate match. A representative curve for each account is shown in the Life Analysis Section of this report.

Company history is compiled to develop observed survivor curves which are matched against the Iowa Curve families discussed earlier. An observed survivor curve that does not reach 0% surviving is a stub curve. Because the average life associated with a survivor curve is represented by the area under the complete survivor curve, the observed survivor curve must be smoothed and extended to 0% surviving. If more historical data is available to analyze, the observed survivor curve (stub curve) will be longer (i.e., getting closer to 0 percent surviving). Hence the more history available in the data, the more predictable and reliable the resulting Company observed survivor curve will be for selecting a complete survivor curve. It is desirable to have the stub curve drop below 50% surviving. The earliest

experience year available where retirement history for each account was available was 2000, due to the 1999 demerger from Ontario Hydro and various system conversions that occurred over time. Many of the Company's assets have existing lives longer than 50 years, and the observed life tables may not reach the desired 50% surviving.

For each account on the overall band (i.e. placement from earliest vintage year which varied for each account through 2019), approved survivor curves from the prior study, if applicable, modified by subsequent orders, were used as a starting point. Then, using the same average life, various dispersion curves were plotted. Frequently, visual matching would confirm one specific dispersion pattern (e.g., L, S. or R) as an obviously better match than others. The matching process relies on expert judgment to determine which portion of the curve to match. The next step would be to determine the most appropriate life using that dispersion pattern. Then, after looking at the overall experience band, different experience bands were plotted and analyzed. Next placement bands of varying width were plotted with each experience band discussed above. Repeated matching usually pointed to a focus on one dispersion family and small range of service lives. The goal of visual matching was to minimize the differential between the observed life table and Iowa Curve in the top and mid-range of the plots. These results are used in conjunction with all other factors that may influence asset lives.

Since Hydro One had aged data only going back to 1999, the short experience available for these long-lived accounts does not allow the observed life table to extend to a level that would allow the analyst to fully see the historical life-cycles for the assets being studied. To help better understand the historical characteristic of the assets being studied, interviews with Company subject matter experts (SMEs) provided valuable information to estimate life characteristics. Company SMEs also provided estimated component lives for various assets in each plant account. The component life analysis for each business unit is found in Appendix E. The data in this study includes all retirement activity that Hydro One has experienced between

2000-2019. By including all past events, this study expressly contemplates the range of natural disasters that Hydro One has experienced in the past, along with the associated impact on early retirement of damaged or destroyed assets. Over time, natural events such as storms, flooding, or wildfires can occur which may cause the early retirement of assets. Such events have occurred during the period from 2000-2019 in Company history and will recur in the future given climate change and unknown future events.

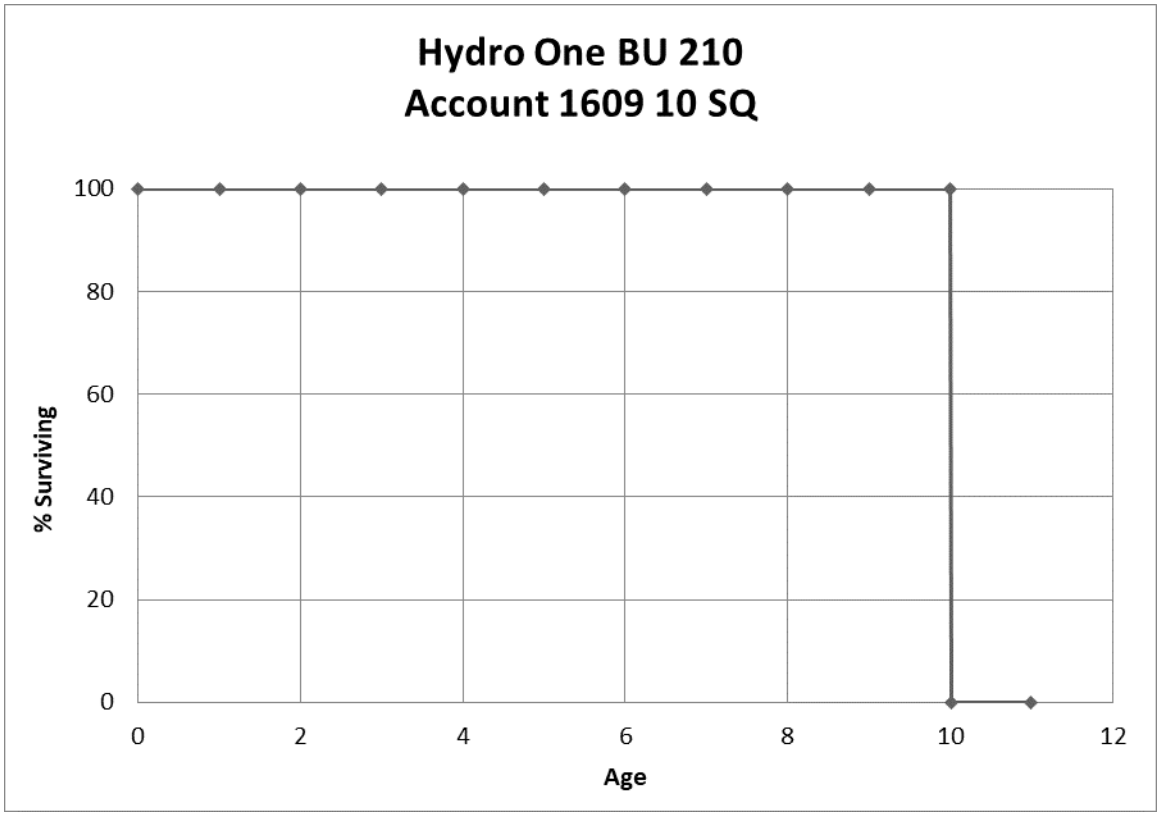
Alliance Consulting Group has developed the proposed life parameters given Hydro One's unique characteristics. At times, comparisons are made with other utilities. In 2010, Kinectrics presented Report No: K-418033-RA-001-R00 to the Ontario Energy Board, entitled Asset Depreciation Study. The Kinectrics report did not study Transmission function property. Kinectrics provided a range of lives for assets in the Distribution function for various components in each plant account. Since the components did not correlate on a one to one basis for every asset group it was not possible to examine every asset grouping listed in the 2010 report. After reviewing asset groupings, almost all distribution plant account components were in the range of lives provided by Kinectrics. One account differed between Kinectrics and Hydro One, where Hydro One has shorter lives for one property group, SCADA equipment. As used by Hydro One, SCADA equipment has been impacted by technology change. Since the Kinectrics report was published more than 10 years ago, the pace of technology continues to change and the Kinectrics range of lives may not be accurate in 2021.

BU 210 TRANSMISSION OPERATIONS
INTANGIBLE FUNCTIONAL GROUP

Accounts in the intangible function are amortized. When those assets are fully accrued, amortization ceases. Any new assets added to an account are amortized using the life assigned to the account.

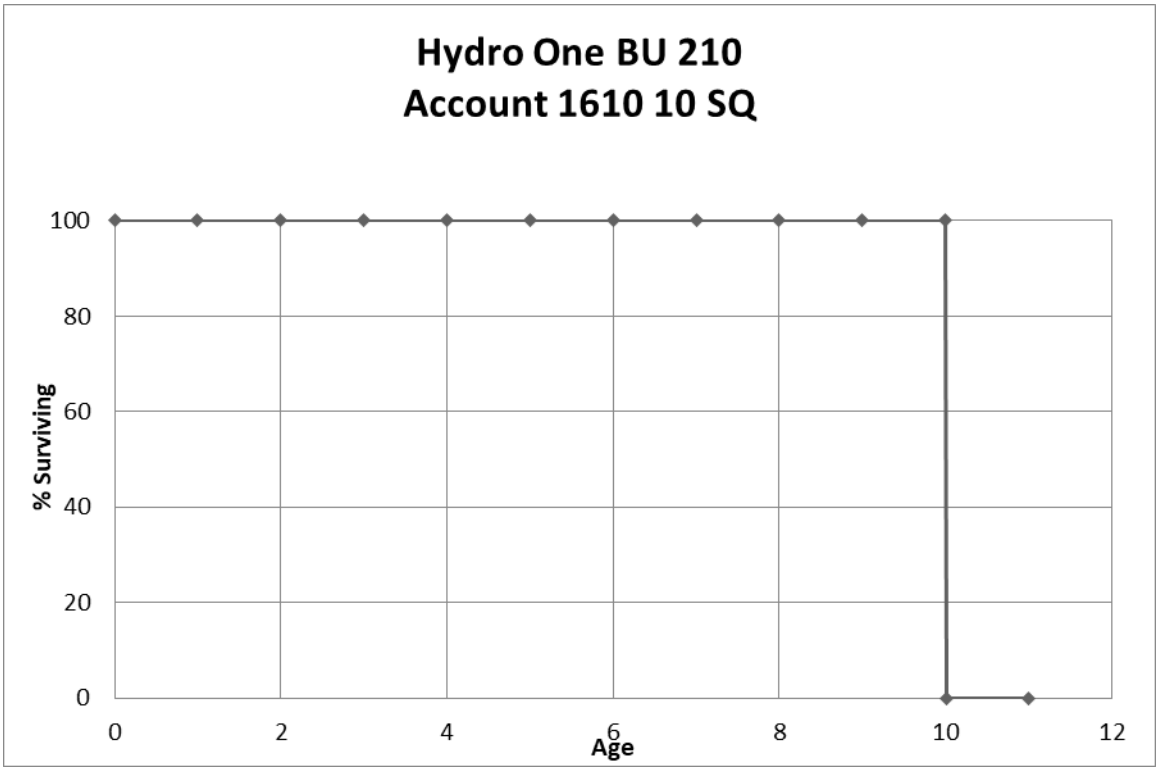
Account 1609 Capital Contributions (10 SQ)

This account consists of capital contributions for the Transmission Operations group. The plant balance in this account at December 31, 2019 is $8.7 million. Currently the amortization life of this account is 10 years. After reviewing plant lives with Company personnel, the determination was that the existing 10-year life is still appropriate for this account. A representative graph of the life of the account is shown in the curve below, a 10-year life with a SQ dispersion.



Account 1610 Computer Software (10 SQ)

This account consists of computer software for the Transmission Operations group. Such assets include general system software and various fiber optic equipment. The plant balance in this account at December 31, 2019 is $16.3 million. Currently the amortization life of this account is 10 years. After reviewing plant lives with Company personnel, the determination was that the existing 10-year life is still appropriate for this account. A representative graph of the life of the account is shown in the curve below, a 10-year life with a SQ dispersion.

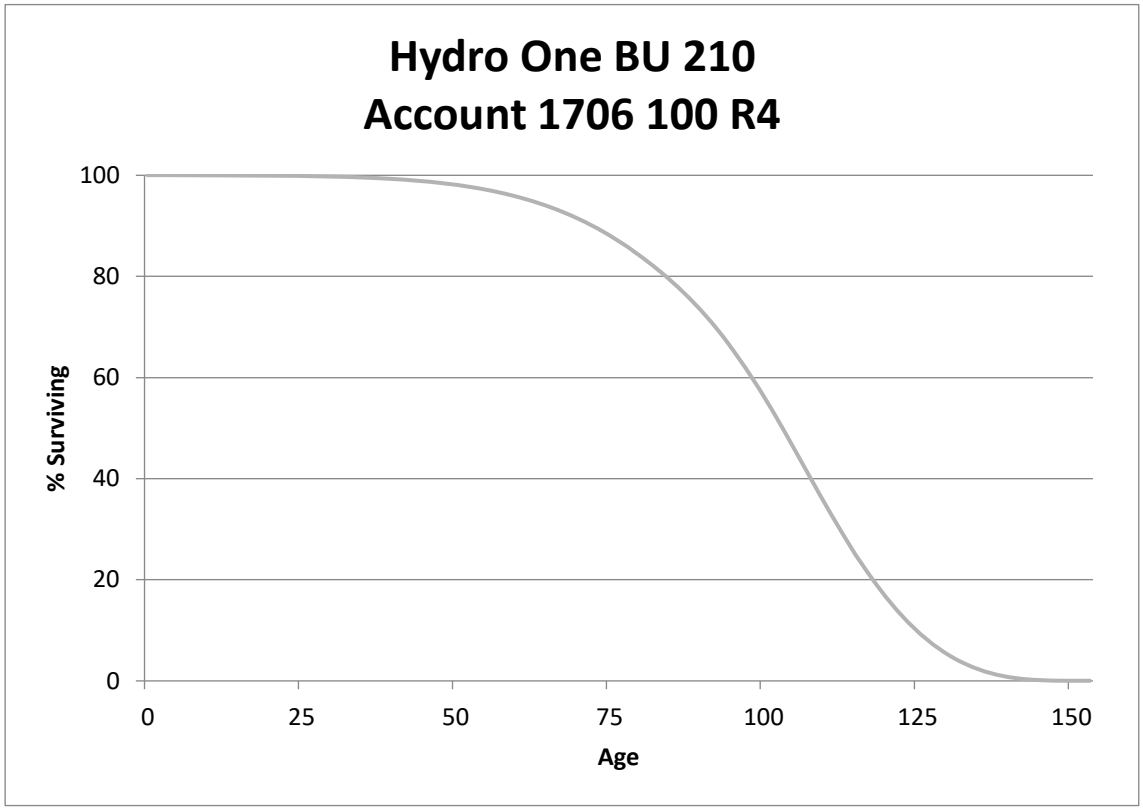


TRANSMISSION FUNCTIONAL GROUP

Assets in the depreciated groups accrue depreciation until the asset is retired or transferred. When an asset is fully accrued, the asset and its accumulated depreciation are transferred to a non-depreciable account, so no further accrual occurs.

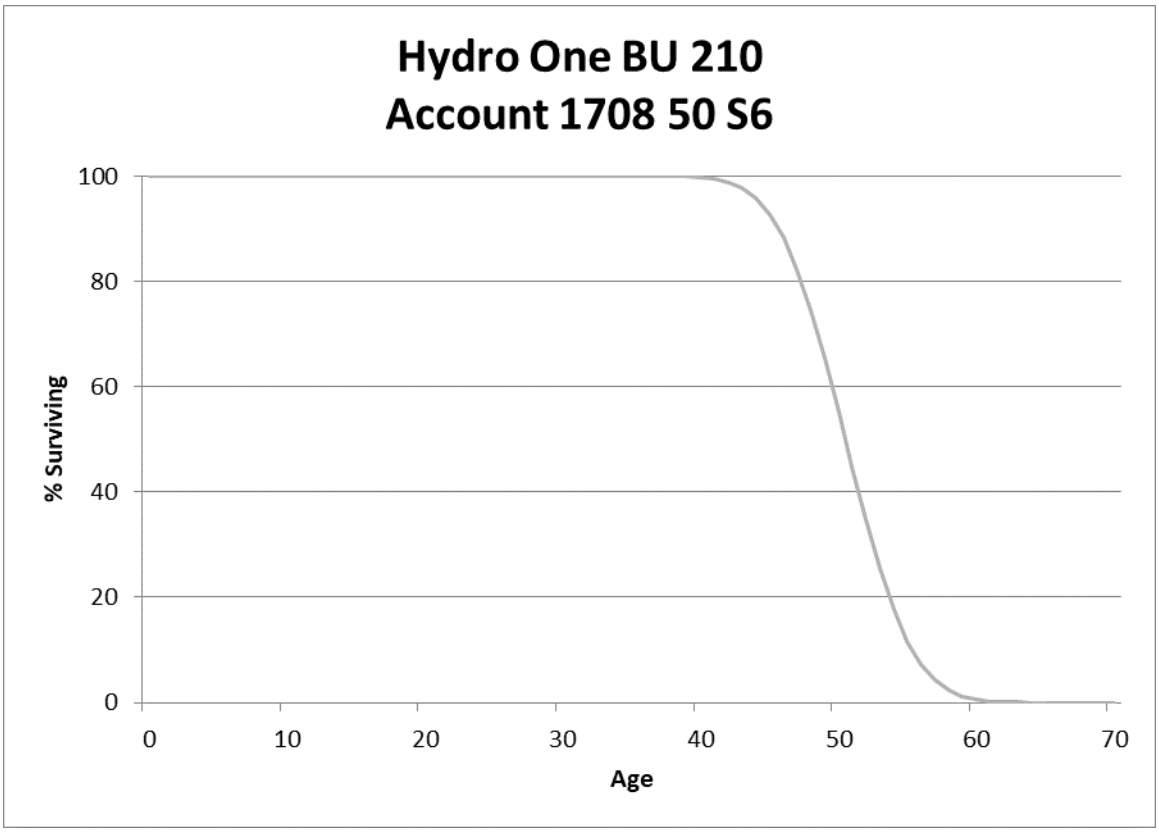
Account 1706 Land Rights (100 R4)

This account consists of land rights associated with Transmission Operations. Such assets include easements and site improvements. The plant balance in this account at December 31, 2019 is $257.3 million. Currently, the life of this account is 100 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the conclusion was that the existing 100-year life is still appropriate for this account. A change in dispersion is recommended to the R family, which is more predominant for transmission property in Alliance's experience. A representative graph for the life of the account is shown in the curve below, a 100-year life with an R4 dispersion.


Hydro One BU 210
Account 1706 100 R4
100
80
60
40
20
0
% Surviving
0
25
50
75
100
125
150
Age

Account 1708 Buildings and Fixtures (50 S6)

This account consists of various buildings and fixtures associated with Transmission Operations. Such assets include transmission station buildings, building components, cranes and hoists in buildings, underground cable in buildings, and other station structures. The plant balance in this account at December 31, 2019 is $603.0 million. Currently, the life of this account is 50 years with an S6 dispersion. Discussions with Company SMEs reveal that buildings in this account are a mixture of two different types: prefabricated and brick and mortar. Prefabricated structures are estimated to have a 40-year life from an operational perspective. Brick and mortar buildings will have a longer life. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 50-year life is still appropriate for this account. A representative graph for the life of the account is shown in the curve below, a 50-year life with an S6 dispersion.

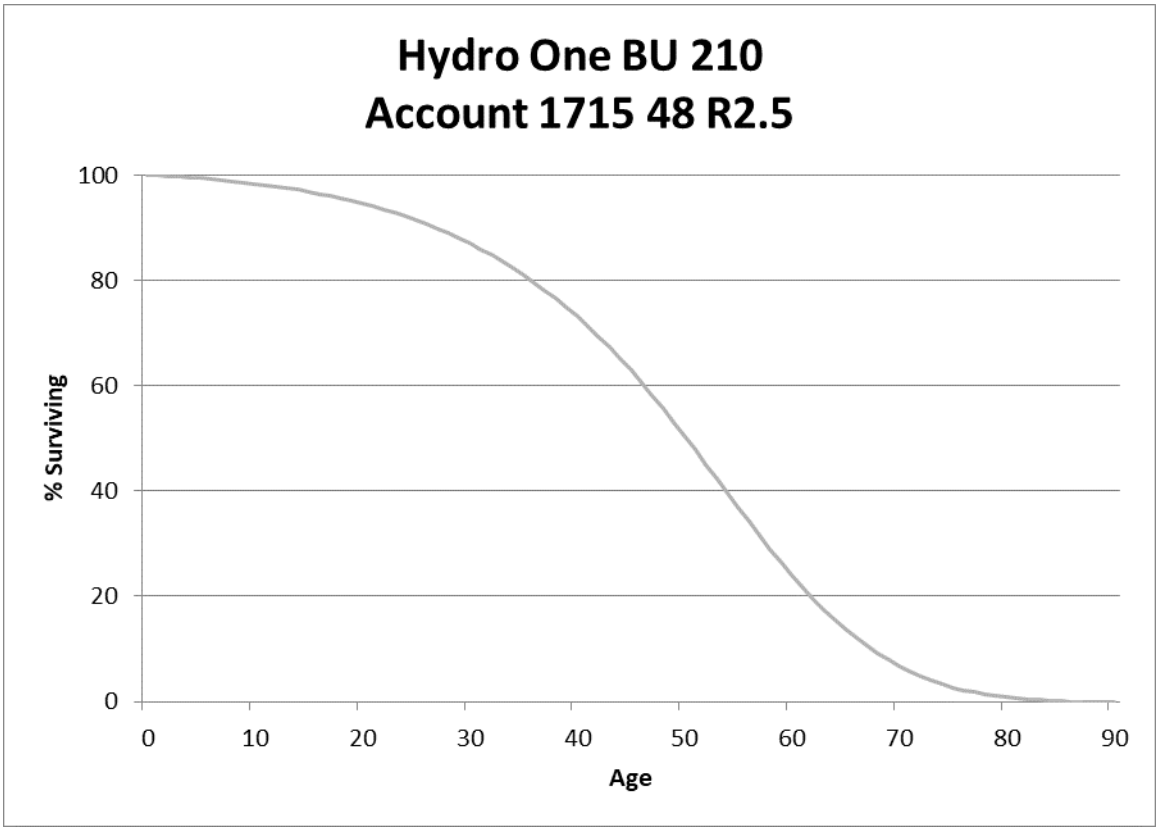


Account 1715 Station Equipment (48 R2.5)

This account consists of a variety of station equipment within Transmission Operations. Such assets include landscaping, fencing, foundations, capacitors, switch boards, control equipment, switching equipment, transformers, and regulators. The plant balance in this account at December 31, 2019 is $10.3 billion. Currently the life of this account is 45 years with an S2 dispersion. Company SMEs note that there are a wide variety of assets in this account that are impacted by differing forces and timing of retirement. Significant components are experiencing changes: breakers are changing to SF6, relays are moving analog to digital, and newer (second generation) IEDS have a longer life span. Newer equipment allows more ability to monitor load and aids in compliance and testing. Increasing levels of automation are being used on systems. Hydro One has standardized design and materials for transformers, and power transformers are now exhibiting a 45 to 55-

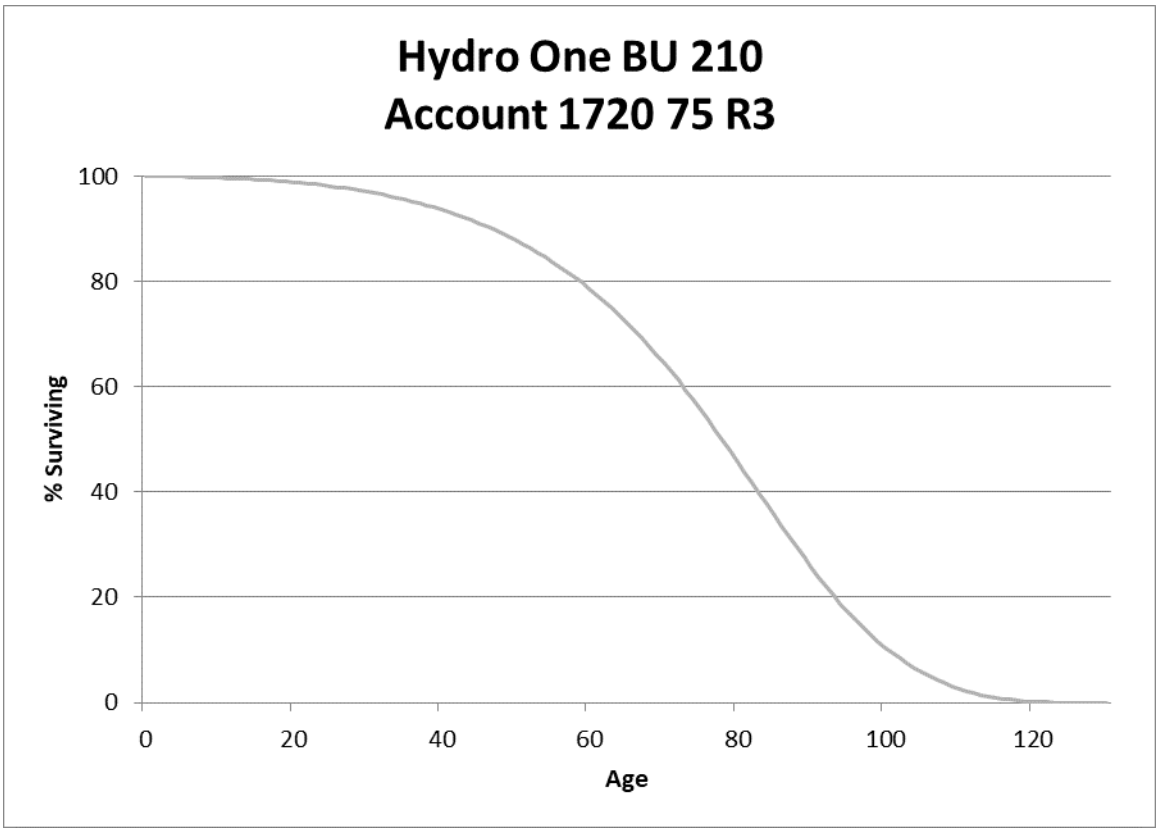
year life. SMEs report that the Company does not run assets to failure, and that the Company uses program maintenance, defect reports, and condition assessment to prevent failures. Various component life projections are shown in Appendix E-1.

Limited retirement activity exists to analyze the life of the account. Although there are forces decreasing the life of some assets, forces are also tending to extend the life of other assets. After seeking input from Company personnel and incorporating professional judgment, the determination was that a small extension of the life for this account is appropriate. In Alliance's experience, many transmission assets have an R dispersion life characteristic more frequently than the S family currently used. For these reasons, a 48-year life with an R2.5 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.



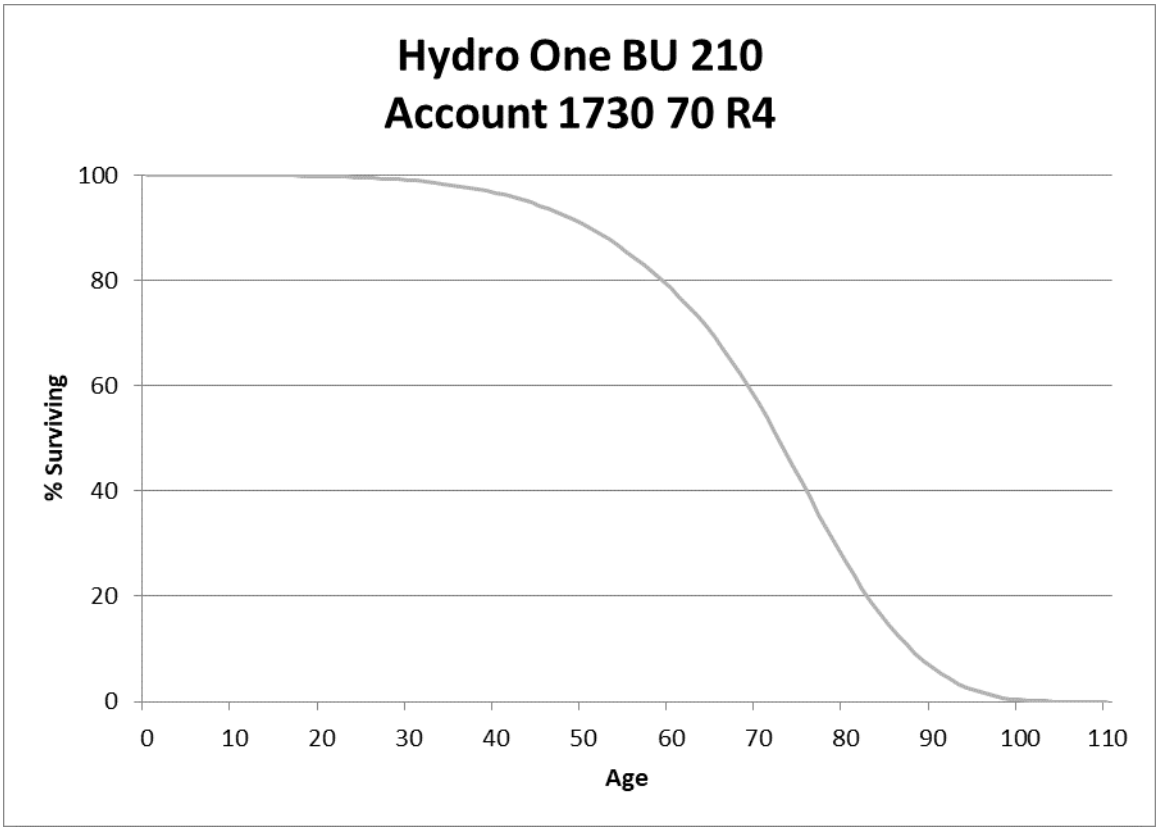
Account 1720 Towers and Fixtures (75 R3)

This account consists of towers and fixtures associated with Transmission Operations. Such assets include towers, steel poles, composite poles, crossarms, and anchors. The plant balance in this account at December 31, 2019 is $2.8 billion. Currently the life of this account is 75 years with an S2 dispersion. Limited retirement activity exists to analyze the life of the account. Company SMEs provided operational life expectations for major components within this account in Appendix E-1. Steel towers are estimated to have an operational life of 90 years, wood poles are estimated to have a 50-year life, steel poles are estimated to have a 90-year life, and composite poles are estimated to have an 80-year life. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing year life is still appropriate for this account. In Alliance's experience, many transmission assets have an R dispersion life characteristic more frequently than the S family currently used. For the reasons listed above, a 75-year life with an R3 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.


Hydro One BU 210
Account 1720 75 R3
% Surviving
100
80
60
40
20
0
0
20
40
60
80
100
120
Age

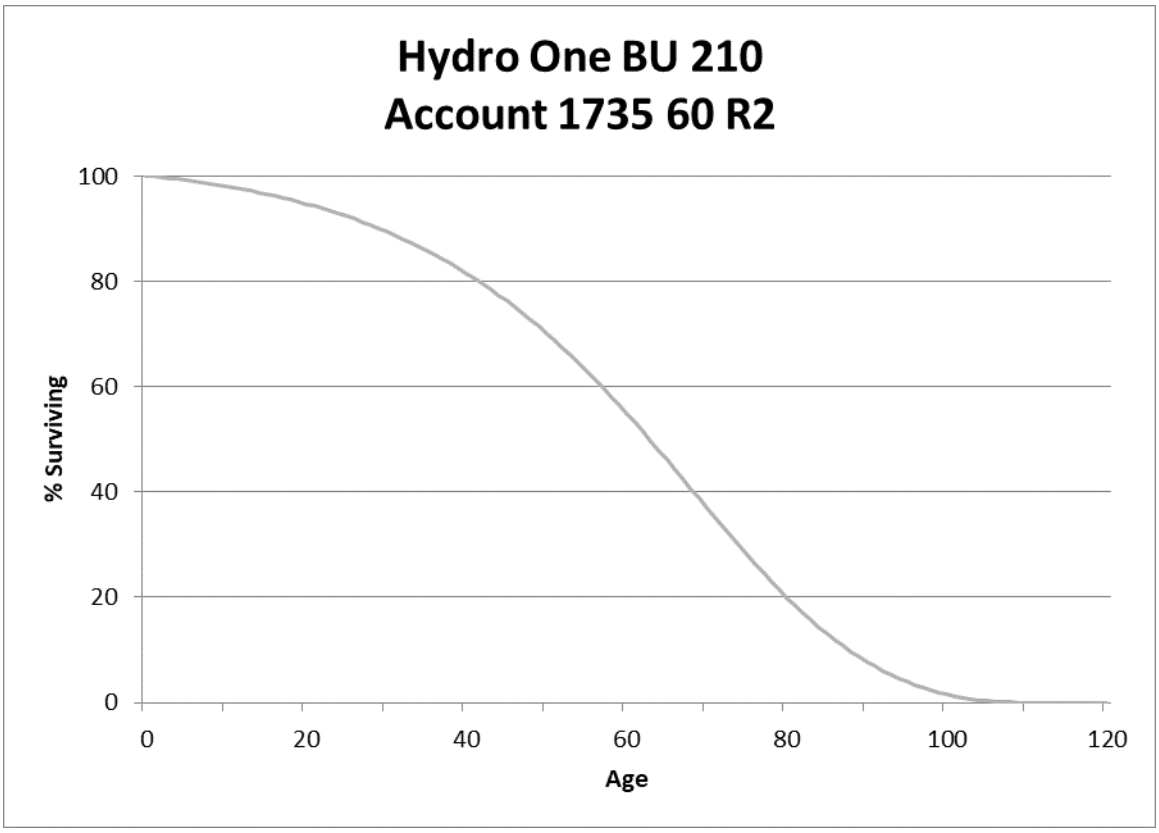
Account 1730 Overhead Conductors and Devices (70 R4)

This account consists of various overhead and conductors associated with Transmission Operations. Such assets include insulators, ground wire, switches and devices, and overhead conductor and devices. The plant balance in this account at December 31, 2019 is $2.0 billion. Currently the life of this account is 65 years with an S3 dispersion. Limited retirement activity exists to analyze the life of the account. Operationally, the life of the conductor in this account could move a little closer to the expected life of the towers and poles. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing life should be extended for this account. In Alliance's experience, transmission assets have an R dispersion life characteristic more frequently than the S family currently used. For the reasons listed above, a 70-year life with an R4 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.



Account 1735 Underground Conduit (60 R2)

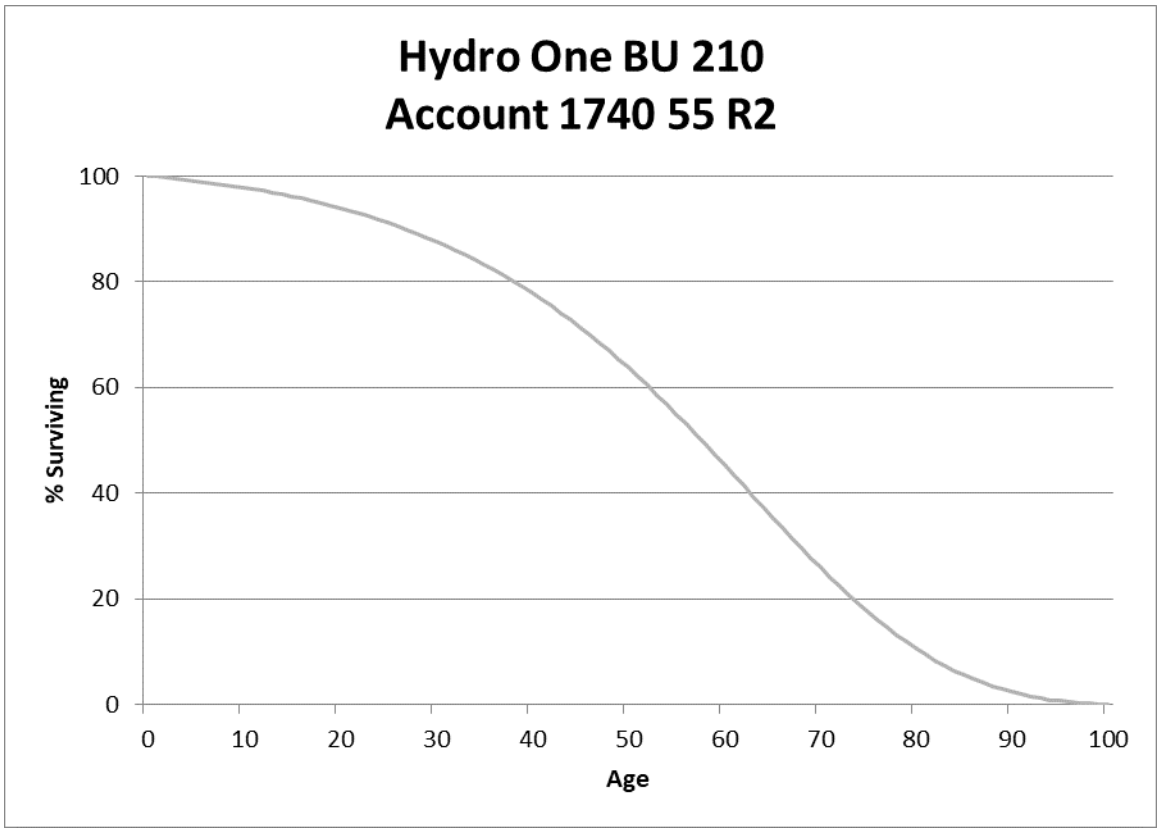
This account consists of various underground conduit used to deliver electric service for Transmission Operations. Such assets include transmission station buildings, cranes and hoists in buildings, underground cable in buildings, and other station structures. The plant balance in this account at December 31, 2019 is $310.3 million. Currently the life of this account is 55 years with an S2 dispersion. Limited retirement activity exists to analyze the life of the account. Company personnel believe there are some operational reasons that the conduit should have a slightly longer life in some cases than the cable within the conductor. After seeking input from Company personnel and incorporating professional judgment, the determination was that the life should be extended for this account. In Alliance's experience, transmission assets have an R dispersion life characteristic more frequently than the S family currently used. For the reasons listed above, a 60-year life with an R2 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.



Account 1740 Underground Conductors and Devices (55 R2)

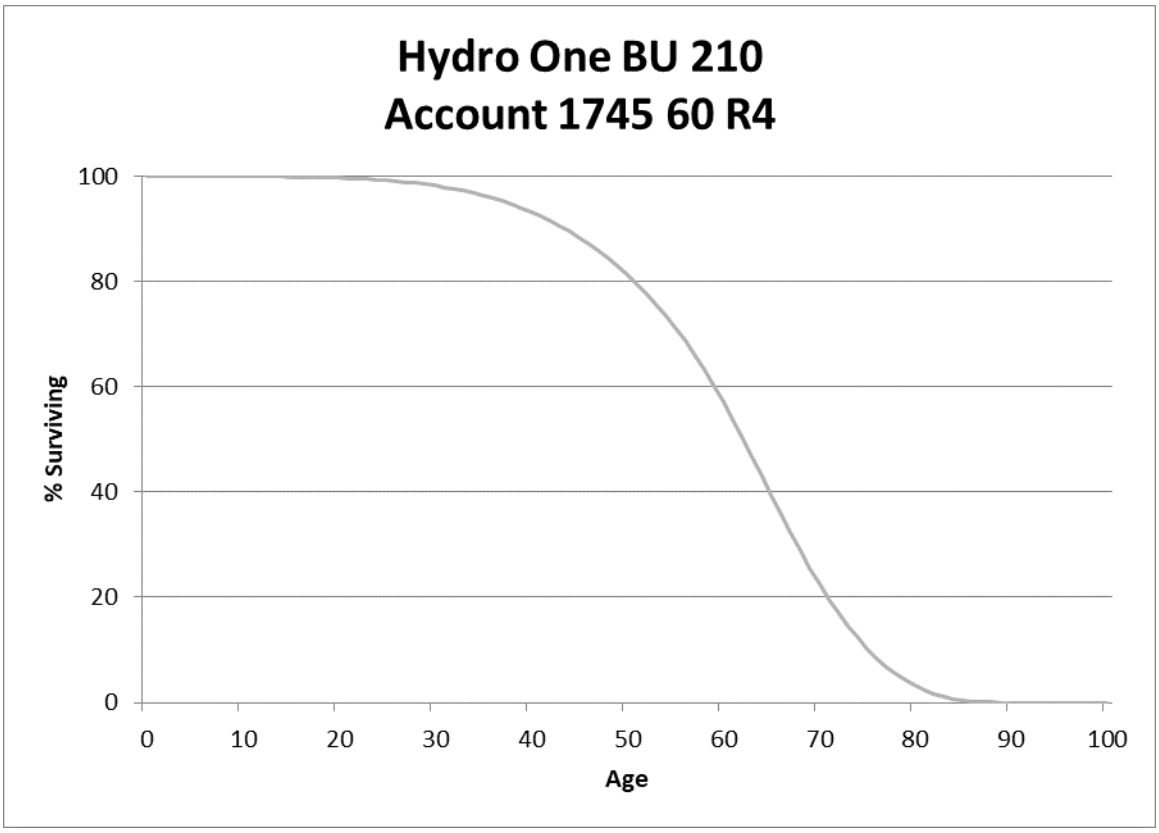
This account consists of various underground conductors and devices used to deliver electric service associated with Transmission Operations. The plant balance in this account at December 31, 2019 is $153.7 million. Currently the life of this account is 55 years with an S2 dispersion. The oldest assets in this account were installed from years 2000-2019, and limited retirement activity exists to analyze the life of the account. Since the observed life table only goes to 99 percent surviving, there is insufficient data to perform visual matching. Although there is some indication that the life being exhibited could be shorter than the existing 55 years, there is not enough retirement experience to move the life at this point. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 55-year life is still appropriate for this account. In Alliance's experience, transmission assets have an R dispersion life

characteristic more frequently than the S family currently used. For the reasons listed above, a 55-year life with an R2 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.



Account 1745 Road and Trails (60 R4)

This account consists of various roads and trails associated with Transmission Operations. Such assets include roads, clearing and surfaces areas used for transmission facilities. The plant balance in this account at December 31, 2019 is $308.5 million. Currently the life of this account is 50 years with an S2 dispersion. Compared to similar assets of other utilities, the existing 50-year life for this account is at the low end of the range. Limited retirement activity exists to analyze the life of the account. The component lives in Appendix E-1 show a longer life than is currently in place. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing life should be extended for this account. The currently used S curve assumes that items retire symmetrically around the average life of the group. In Alliance Consulting Group's experience, retirement characteristics of property in this account model the R family where more assets live longer than the average service life of the group. Based on professional experience we recommend shifting the life from the S family to the R family. For the reasons listed above, a 60-year life with an R4 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.

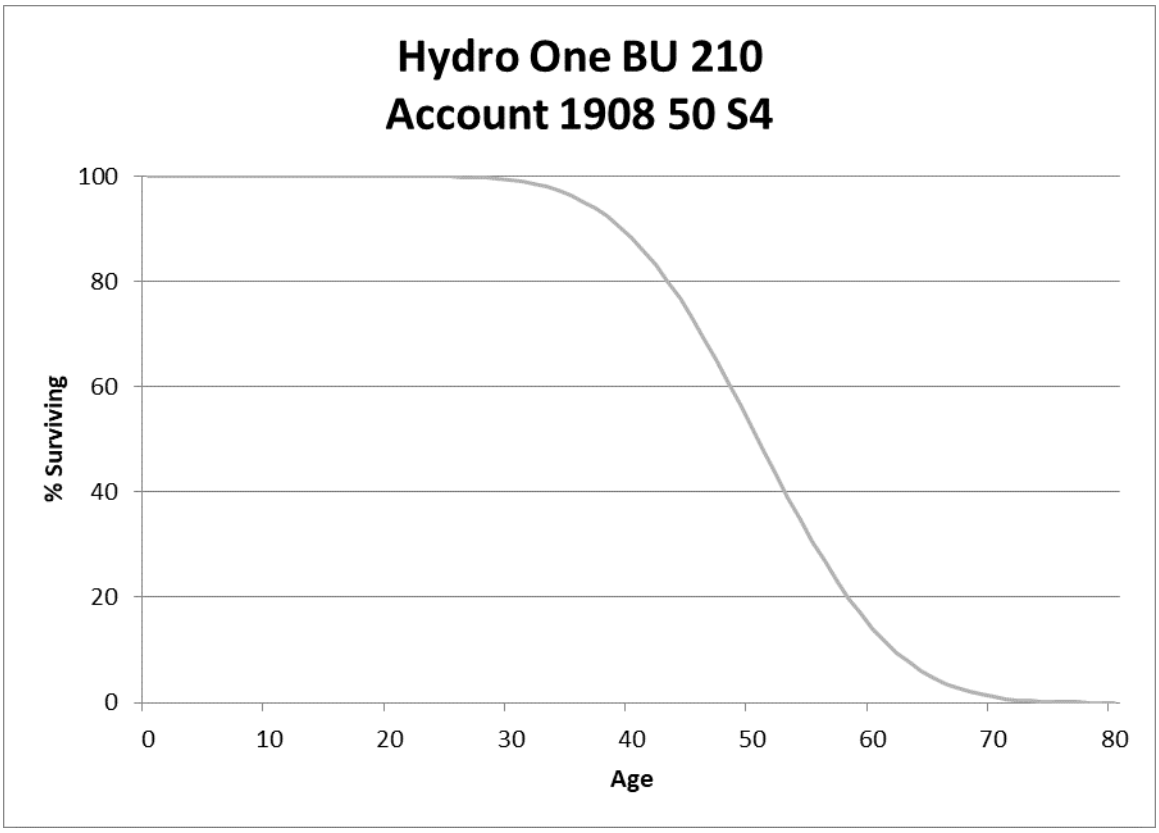

Hydro One BU 210
Account 1745 60 R4
% Surviving
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
100
Age

GENERAL DEPRECIATED FUNCTIONAL GROUP

Assets in the depreciated groups accrue depreciation until the asset is retired or transferred. When an asset is fully accrued, the asset and its accumulated depreciation are transferred to a non-depreciable account, so no further accrual occurs.

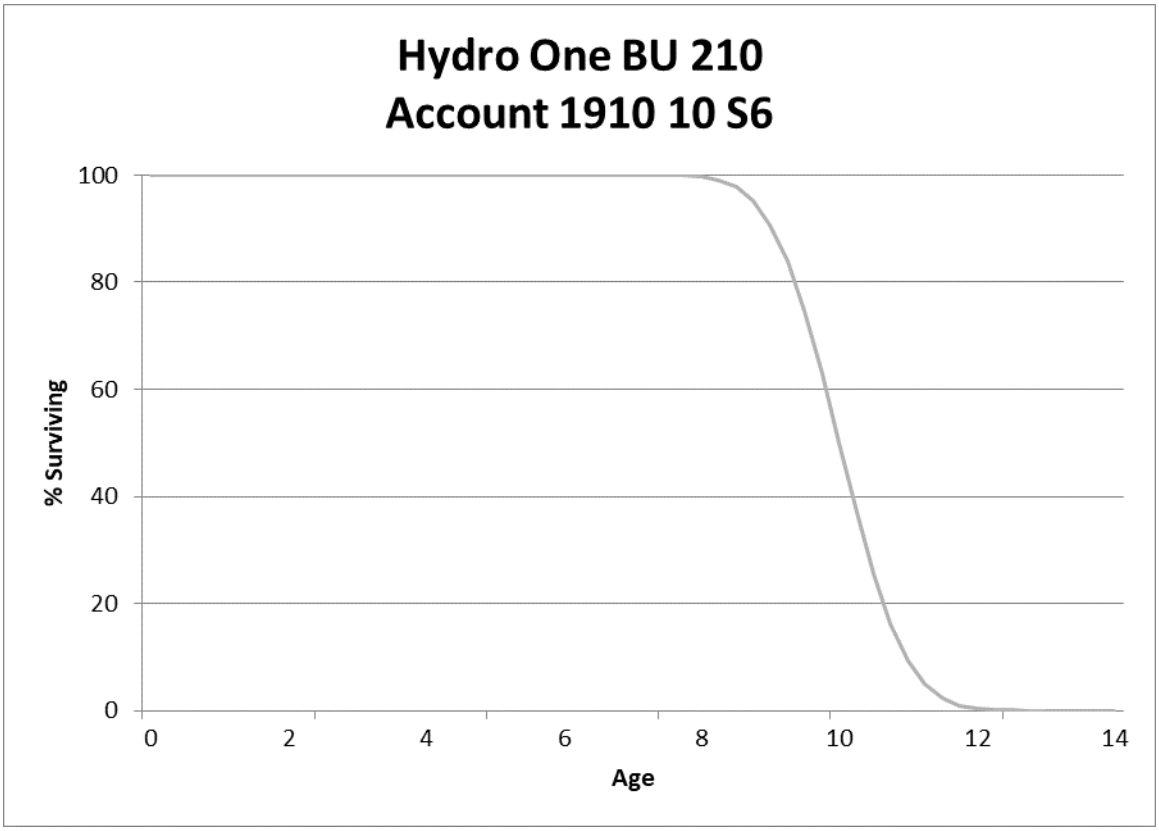
Account 1908 Buildings and Fixtures (50 S4)

This account consists of various buildings and fixtures associated with Transmission Operations. Such assets include buildings, landscaping, fencing, roads and surfaces, and other structures. The plant balance in this account at December 31, 2019 is $151.6 million. Currently the life of this account is 45 years with an S4 dispersion. Limited retirement activity exists to analyze the life of the account. Based upon the component lives in Appendix E-1, the overall composite for this account is 48 years. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 45 year should be extended. A 50-year life with an S4 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.


Hydro One BU 210
Account 1908 50 S4
% Surviving
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
Age

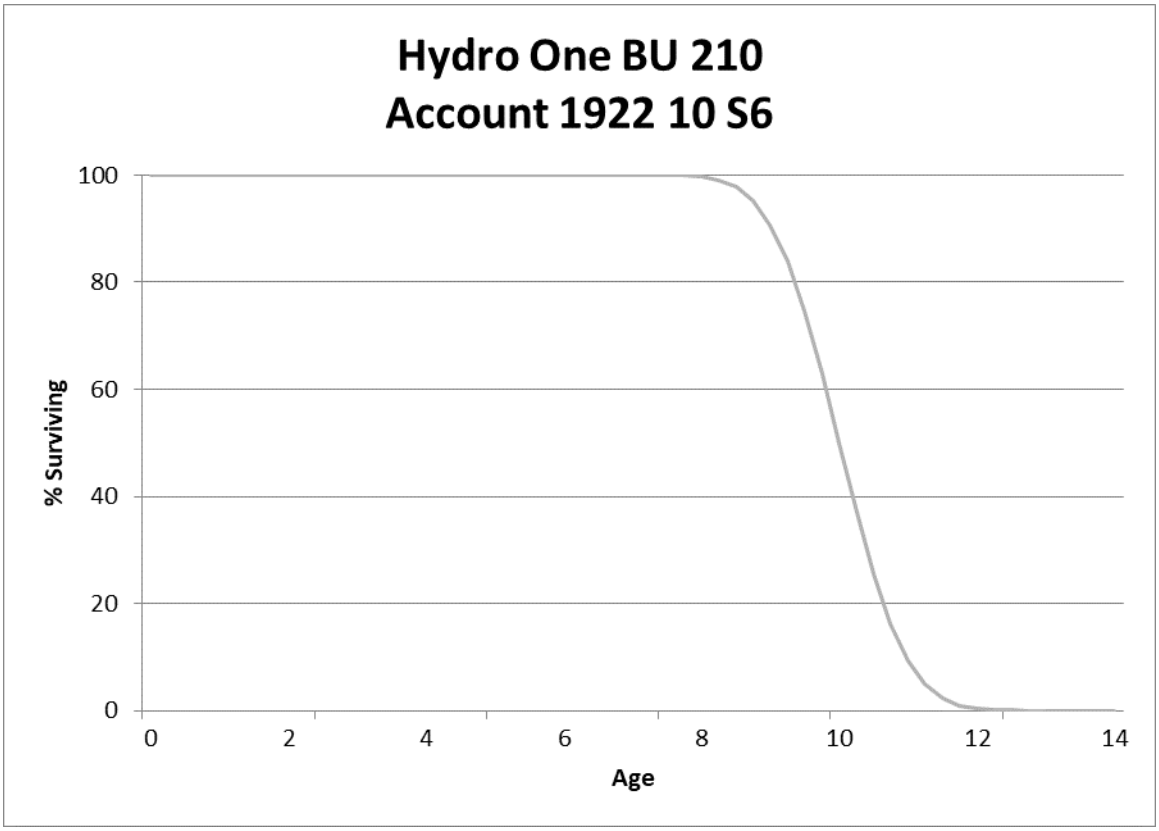
Account 1910 Leasehold Improvements (10 S6)

This account consists of various leasehold improvements made to leased buildings associated with Transmission Operations. The plant balance in this account at December 31, 2019 is $0.1 million. Currently the life of this account is 10 years with an S6 dispersion. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 10-year life is still appropriate for this account. A representative graph for the life of the account is shown in the curve below, a 10-year life with an S6 dispersion.



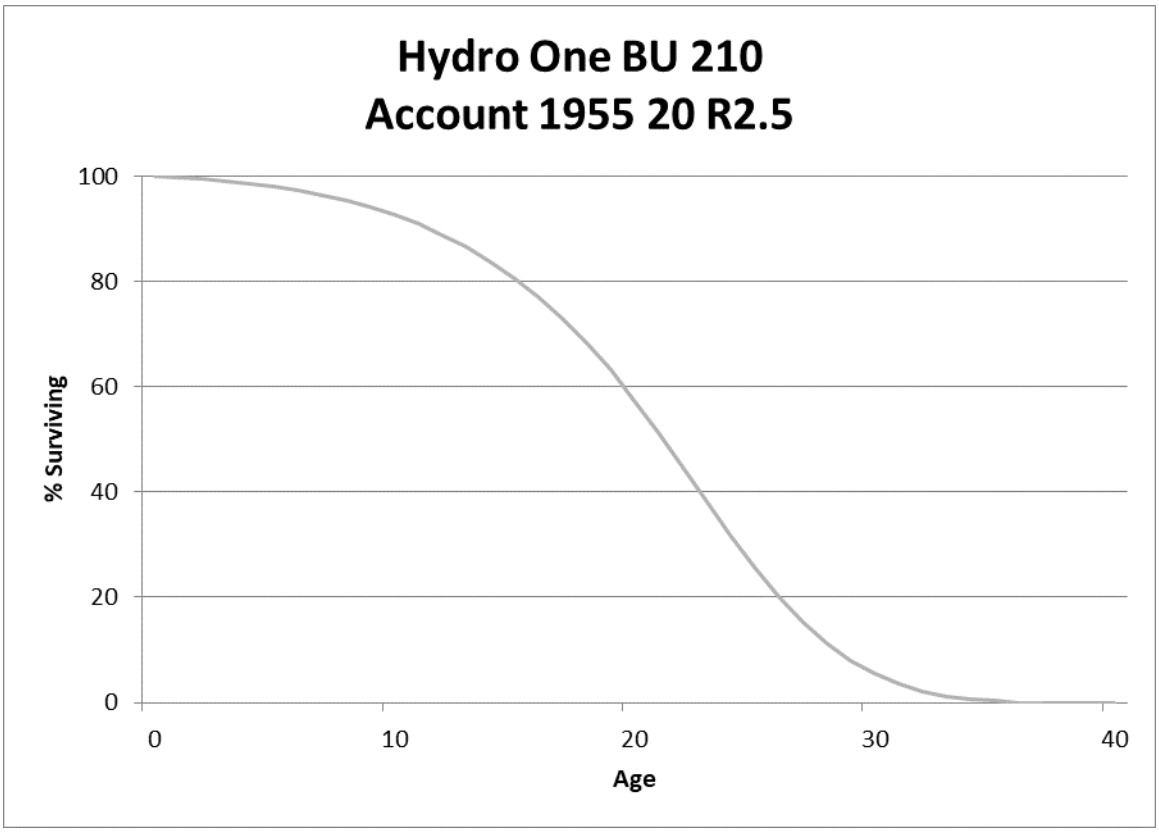
Account 1922 Computer Equipment - Hardware (10 S6)

This account consists of various major computer hardware equipment associated with Transmission Operations. Such assets include local area network cable, fiber optic equipment, and electrical devices. The plant balance in this account at December 31, 2019 is $15.2 million. Currently the life of this account is 10 years with an S6 dispersion. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 10-year life is still appropriate for this account. A representative graph for the life of the account is shown in the curve below, a 10-year life with an S6 dispersion.



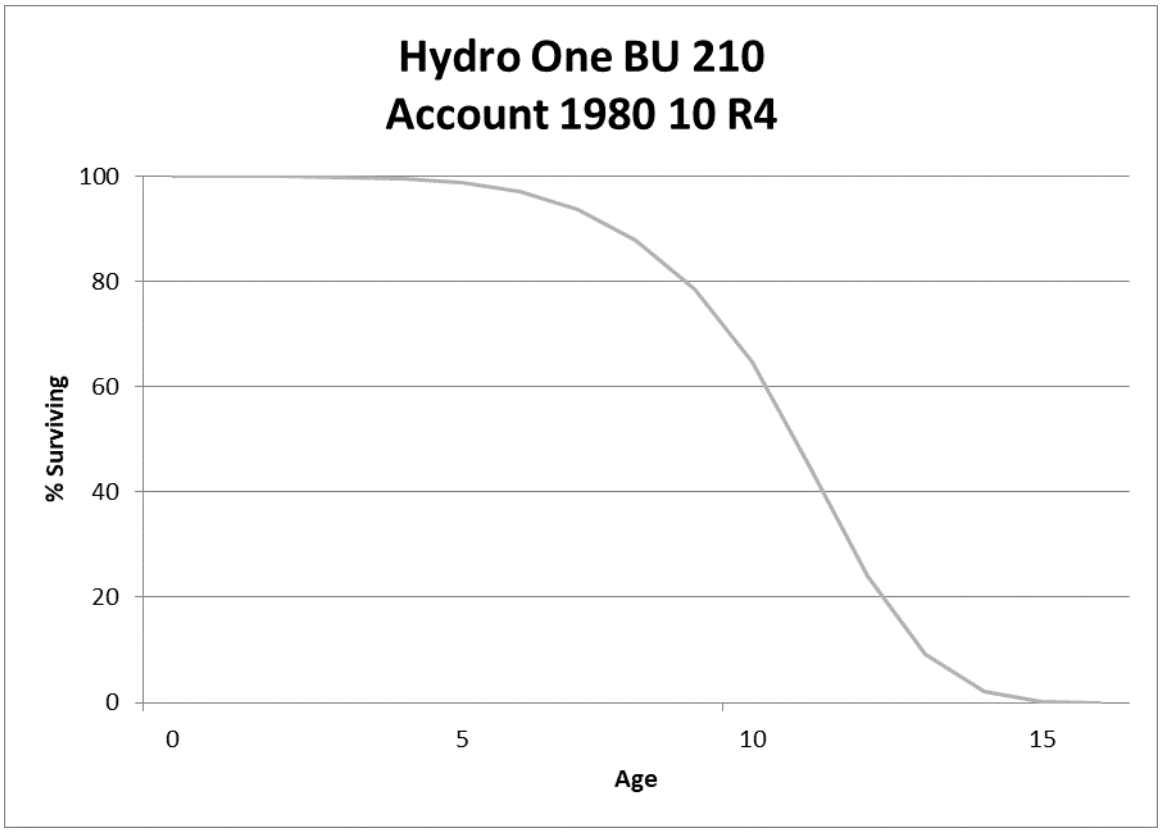
Account 1955 Communication Equipment (20 R2.5)

This account consists of various communication equipment associated with Transmission Operations. Such assets include telecom equipment, switching equipment, radios, optical wire, fiber optic cable, and power supply equipment. The plant balance in this account at December 31, 2019 is $499.4 million. Currently, the life of this account is 20 years with an L2 dispersion. Limited retirement activity exists to analyze the life of the account. Component lives in Appendix E-1 show a 20-year composite life. The currently used L curve assumes that items retire earlier than the average life of the group. In Alliance Consulting Group's experience, retirement characteristics of property in this account model the R family where more assets live longer than the average service life of the group. Based on professional experience we recommend shifting the life from the L family to the R family. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 20-year life is still appropriate for this account. For the reasons listed above, a 20-year life with an R2.5 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.


Hydro One BU 210
Account 1955 20 R2.5
100
80
60
40
20
0
% Surviving
0
10
20
30
40
Age

Account 1980 System Supervisory Equipment (10 R4)

This account consists of system supervisory equipment associated with Transmission Operations. Such assets include power line equipment, software and hardware, and terminals. The plant balance in this account at December 31, 2019 is $452.2 million. Currently, the life of this account is 10 years with an L2 dispersion. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 10-year life is still appropriate for this account. The currently used L curve assumes that items retire earlier than the average life of the group. In Alliance Consulting Group's experience, retirement characteristics of property in this account model the R family where more assets live longer than the average service life of the group. Based on professional experience we recommend shifting the life from the L family to the R family. For the reasons listed above, a 10-year life with an R4 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.

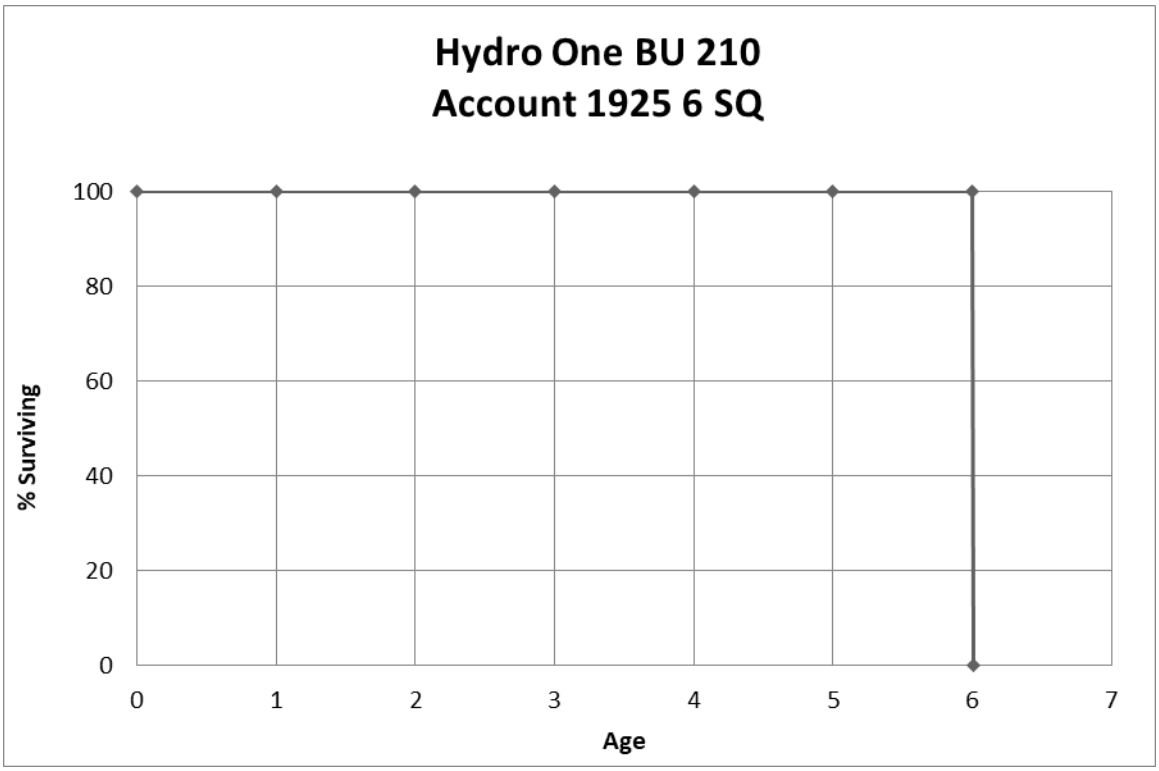

Hydro One BU 210
Account 1980 10 R4
100
80
60
40
20
0
% Surviving
0
5
10
15
Age

GENERAL AMORTIZED FUNCTIONAL GROUP

Accounts in the general amortized function are amortized. When those assets are fully accrued amortization ceases. Any new assets added are amortized using the life assigned to the account.

Account 1925 Computer Software (6 SQ)

This account consists of computer software for the Transmission Operations group. Such assets include general system software and various fiber optic equipment. The plant balance in this account at December 31, 2019 is $8.9 million. Currently the amortization life of this account is 6 years. After reviewing plant lives with Company personnel, the determination was that the existing 6-year life is still appropriate for this account. A representative of the life of the account is shown in the curve below, a 6-year life with an SQ dispersion.



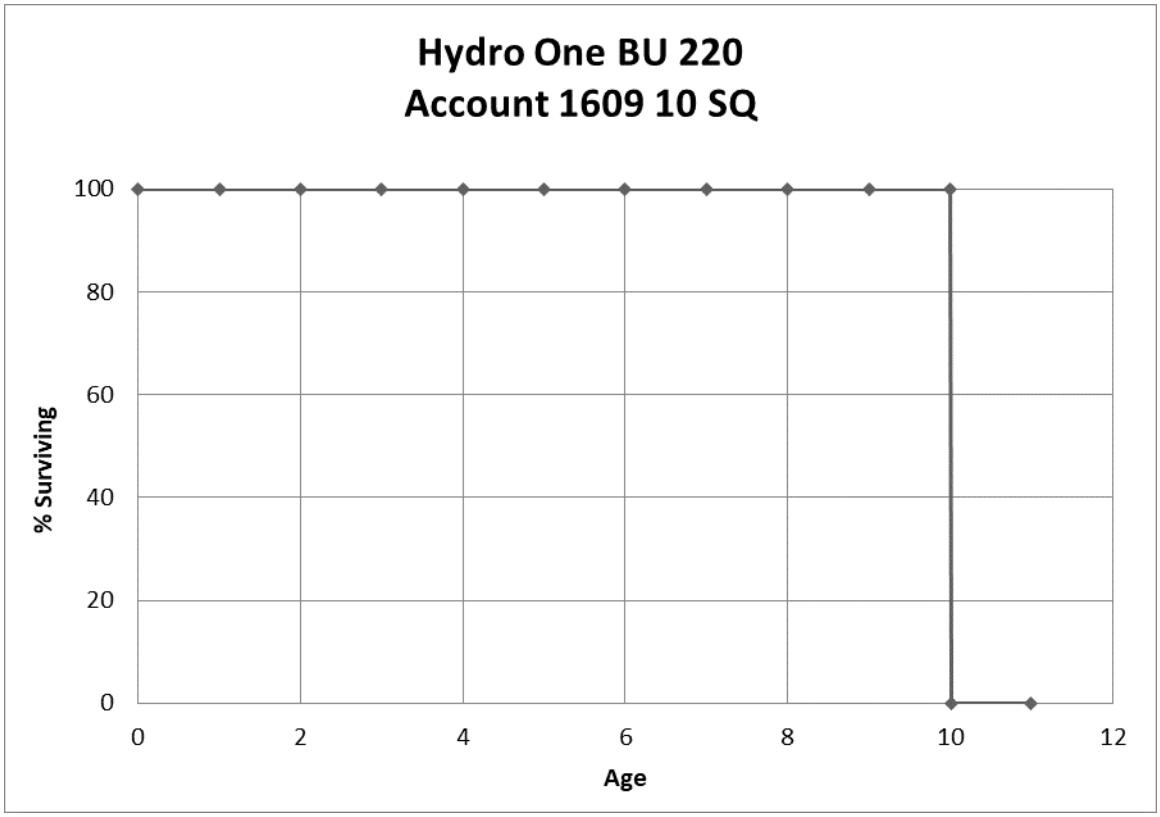
BU 220 DISTRIBUTION OPERATIONS

INTANGIBLE FUNCTIONAL GROUP

Accounts in the intangible function are amortized. When those assets are fully accrued amortization ceases. Any new assets added are amortized using the life assigned to the account.

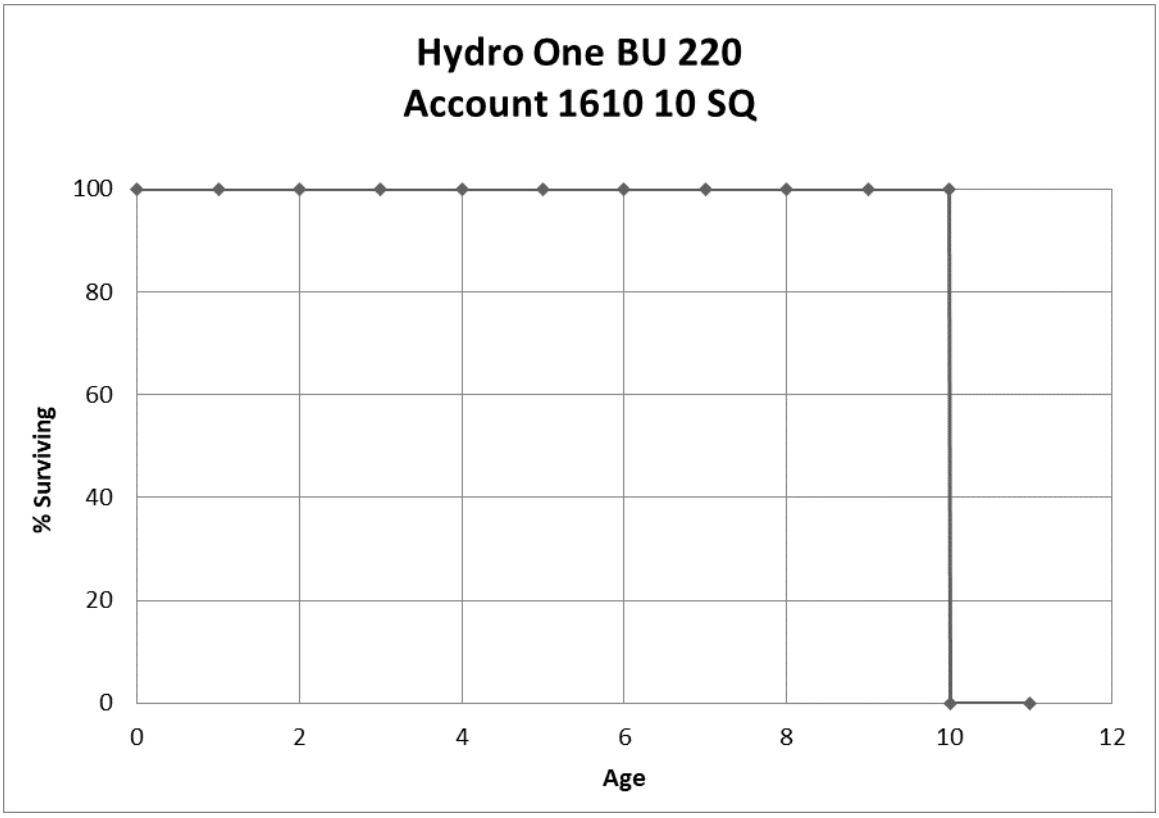
Account 1609 Capital Contributions (10 SQ)

This account consists of capital contributions for the Distribution Operations group. The plant balance in this account at December 31, 2019 is $48.6 million. Currently the amortization life of this account is 10 years. After reviewing the life with Company personnel, the determination was that the existing 10-year life is still appropriate for this account. A representative of the life of the account is shown in the curve below, a 10-year life with an SQ dispersion.



Account 1610 Computer Software (10 SQ)

This account consists of computer software for the Distribution Operations group. Such assets include general system software. The plant balance in this account at December 31, 2019 is $255.5 million. Currently the amortization life of this account is 10 years. After reviewing plant lives with Company personnel, the determination was that the existing 10-year life is still appropriate for this account. A representative of the life of the account is shown in the curve below, a 10-year life with an SQ dispersion.

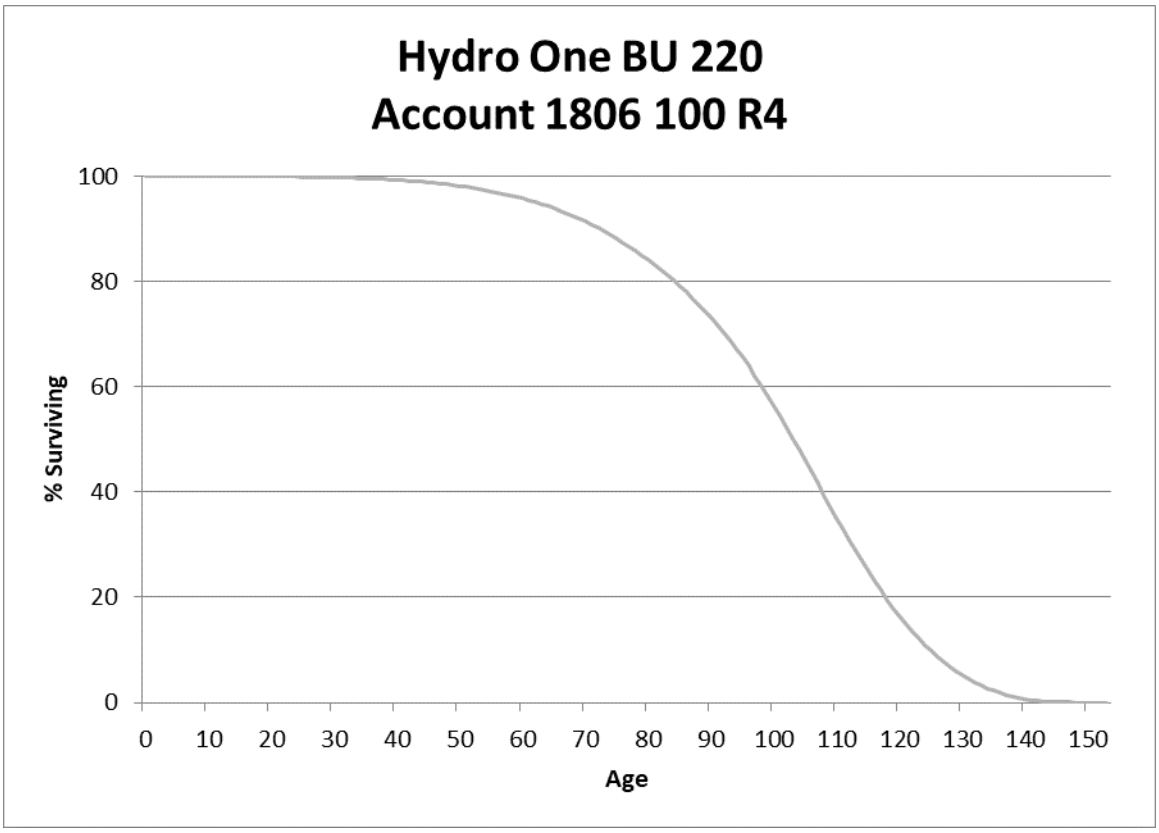


DISTRIBUTION FUNCTIONAL GROUP

Assets in the depreciated groups accrue depreciation until the asset is retired or transferred. When an asset is fully accrued, the asset and its accumulated depreciation are transferred to a non-depreciable account, so no further accrual occurs.

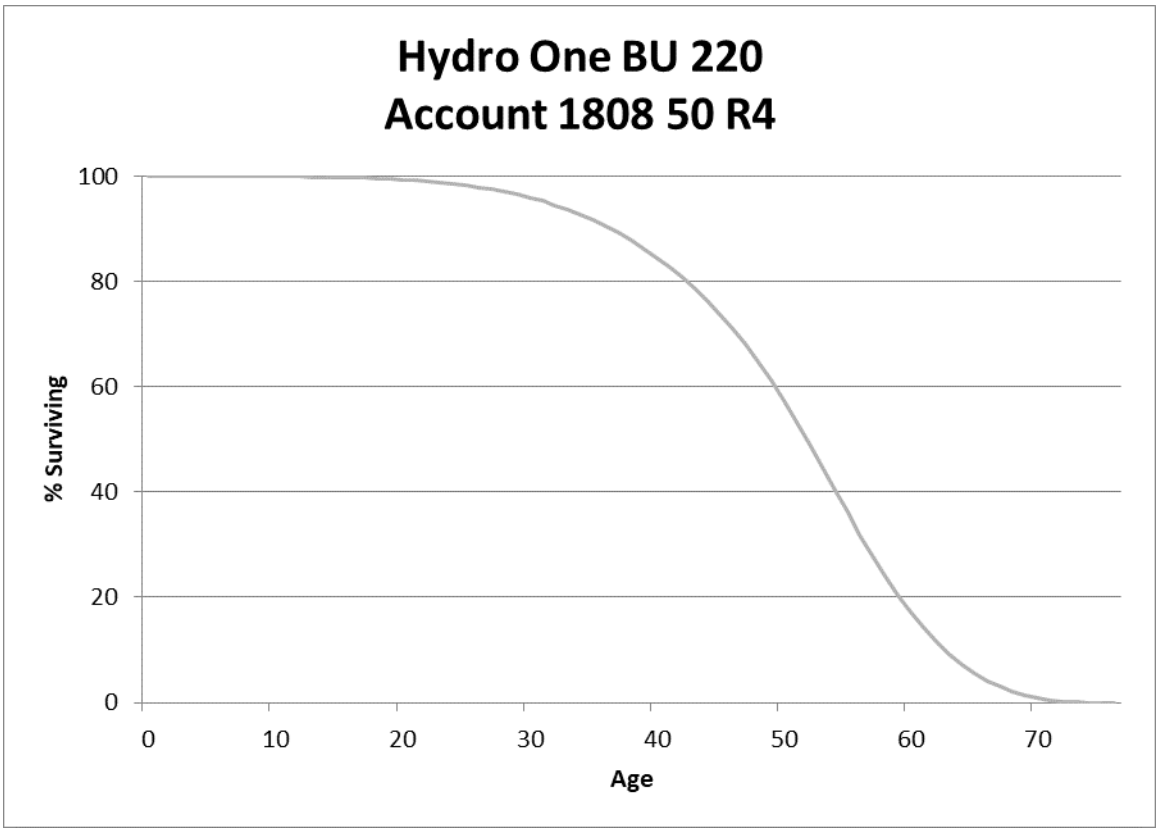
Account 1806 Land Rights (100 R4)

This account consists of land rights associated with Distribution Operations. Such assets include easements and site improvements. The plant balance in this account at December 31, 2019 is $240.4 million. Currently the life of this account is 100 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 100-year life is still appropriate for this account. The currently used S curve assumes that items retire symmetrically around the average life of the group. In Alliance Consulting Group's experience, retirement characteristics of property in this account model the R family where more assets live longer than the average service life of the group. Based on professional experience we recommend shifting the life from the S family to the R family. For the reasons listed above, a 100-year life with an R4 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.


Hydro One BU 220
Account 1806 100 R4
% Surviving
100
80
60
40
20
0
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
Age

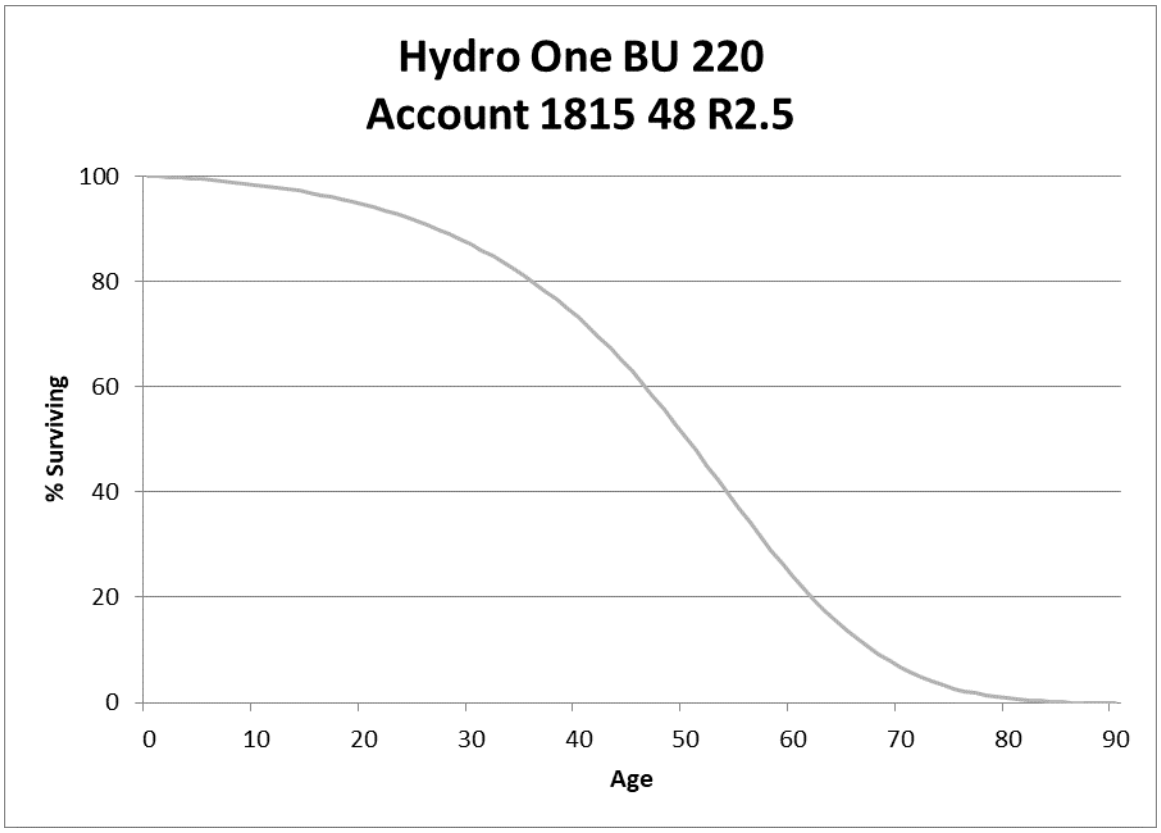
Account 1808 Buildings and Fixtures (50 R4)

This account consists of various buildings and fixtures associated with Distribution Operations. Such assets include distribution station buildings, landscaping, and other station structures. The plant balance in this account at December 31, 2019 is $27.0 million. Currently the life of this account is 50 years with an S4 dispersion. Limited retirement activity exists to analyze the life of the account. A summary of component lives for such account is shown in Appendix E. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 50-year life is still appropriate for this account. The currently used S curve assumes that retirements in the account are symmetric about the average life. In Alliance Consulting Group's experience, retirement characteristics of property in this account model the R family where more assets live longer than the average service life of the group. Based on professional experience we recommend shifting the life from the S family to the R family. For the reasons listed above, a 50-year life with an R4 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.


Hydro One BU 220
Account 1808 50 R4
% Surviving
100
80
60
40
20
0
0
10
20
30
40
50
60
70
Age

Account 1815 Transformer Station Equipment > 50 kV (48 R2.5)

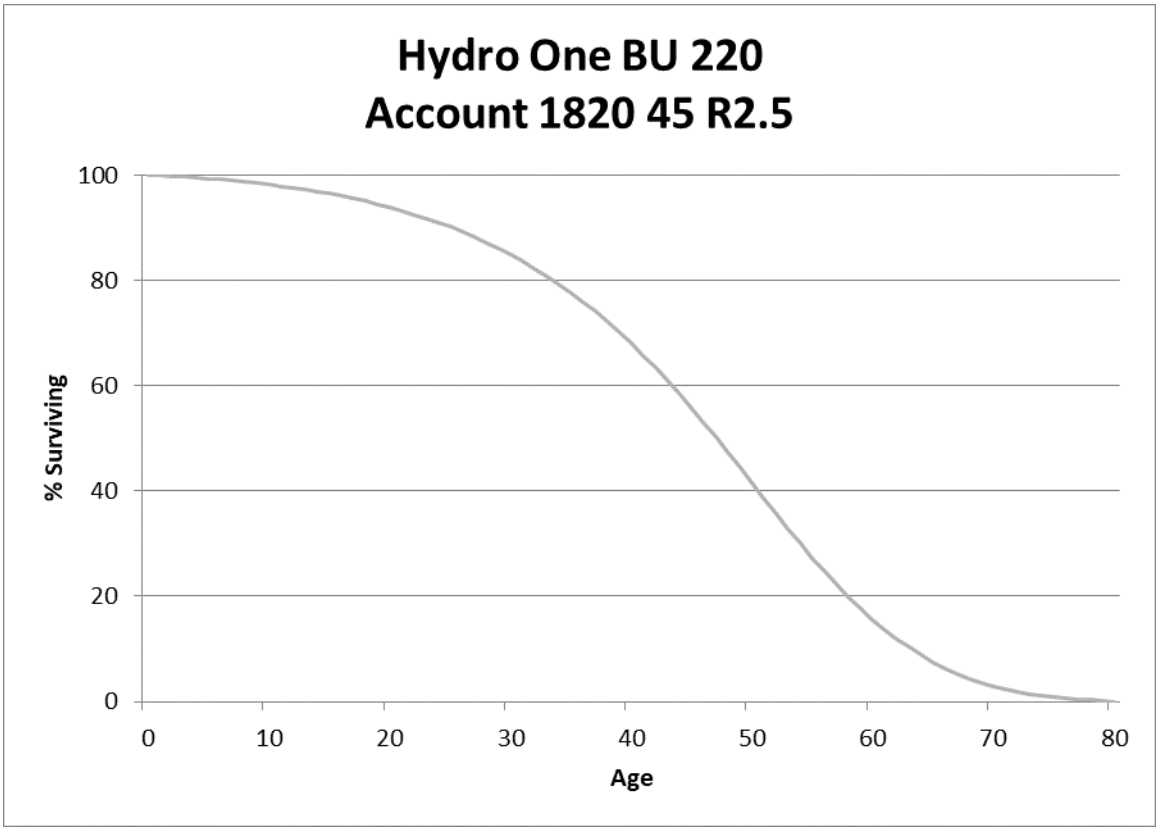
This account consists of high side substation equipment associated with Distribution Operations. Such assets include site improvements, switchgear, foundations, fences gates, grounding systems, capacitors, and transformers. The plant balance in this account at December 31, 2019 is $231.5 million. Currently the life of this account is 40 years with an R2.5 dispersion. Limited retirement activity exists to analyze the life of the account. Currently, Transmission substations in BU 210 have a 45-year life that is being extended to 48 years. Company SMEs do not see any operational differential in life between the two business units for higher voltage level assets. Company subject matter experts recommend that assets in this account will have a similar life to Account 1715 in the Transmission Division, BU 210. After incorporating these recommendations, this study recommends increasing the life for this account to 48 years with an R2.5 dispersion. A representative graph for the life of the account is shown in the curve below.



Account 1820 Distribution Station Equipment < 50 kV (45 R2.5)

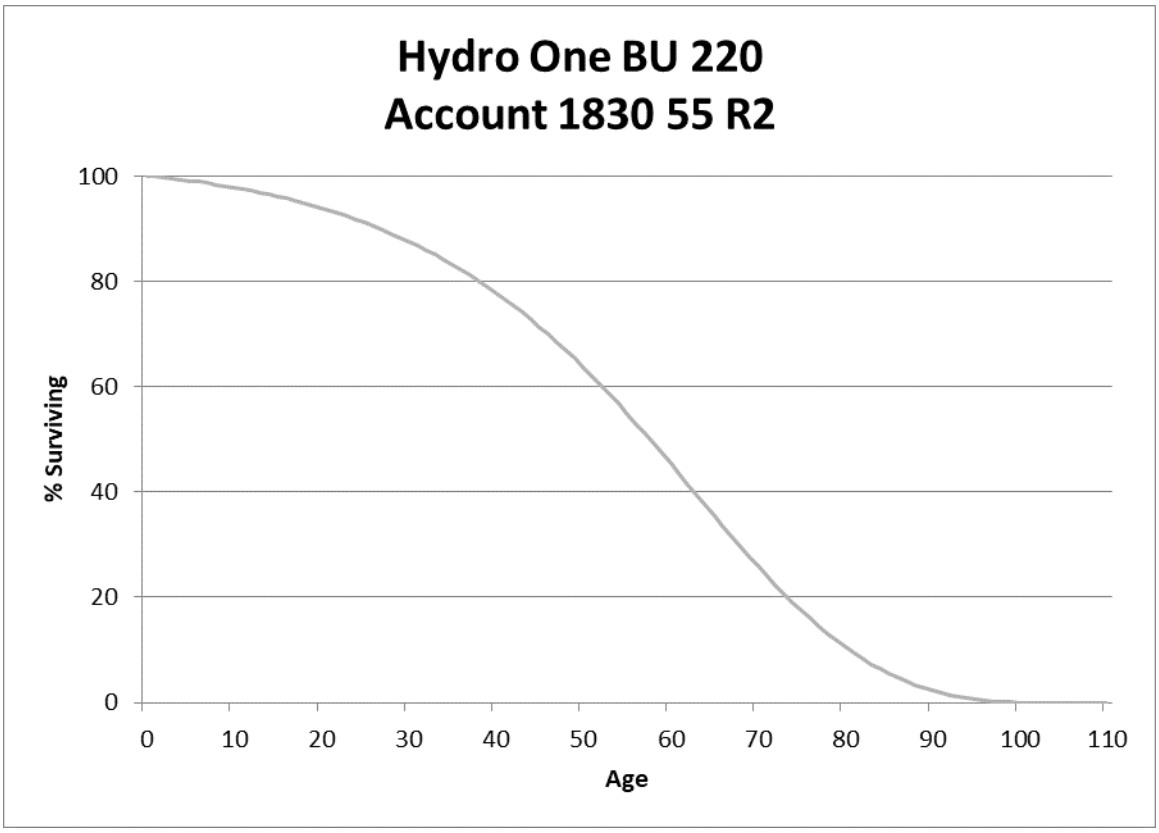
This account consists of low side distribution substation equipment associated with Distribution Operations. Such assets include site improvements, foundations, fences, gates, regulators capacitors, switching, meters units, transformers, circuit breakers, and other switchgear. The plant balance in this account at December 31, 2019 is $799.8 million. Currently, the life of this account is 30 years with an R2.5 dispersion. Limited retirement activity exists to analyze the life of the account. Company experts do not believe that a differential of 10 years or more between this account and Account 1815 is operationally supportable. Company personnel state that meters are the largest component in these accounts other than transformers. They recommend changes in component lives to parallel with those in BU 210 Account 1715. In Distribution operations, Company personnel

state that distribution assets are more condition-based than transmission assets, meaning that they are run to failure whereas the transmission assets receive time-based maintenance. Condition based assets will have a lower life in their operational experience. Some examples of run to fail assets in this account are: cables, service systems, switchboards, control cable, conduit, grounding systems, misc. regulators, and capacitors. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing life should be extended. For the reasons listed above, a 45-year life with an R2.5 dispersion is recommended for this account. A representative curve shape is shown below.



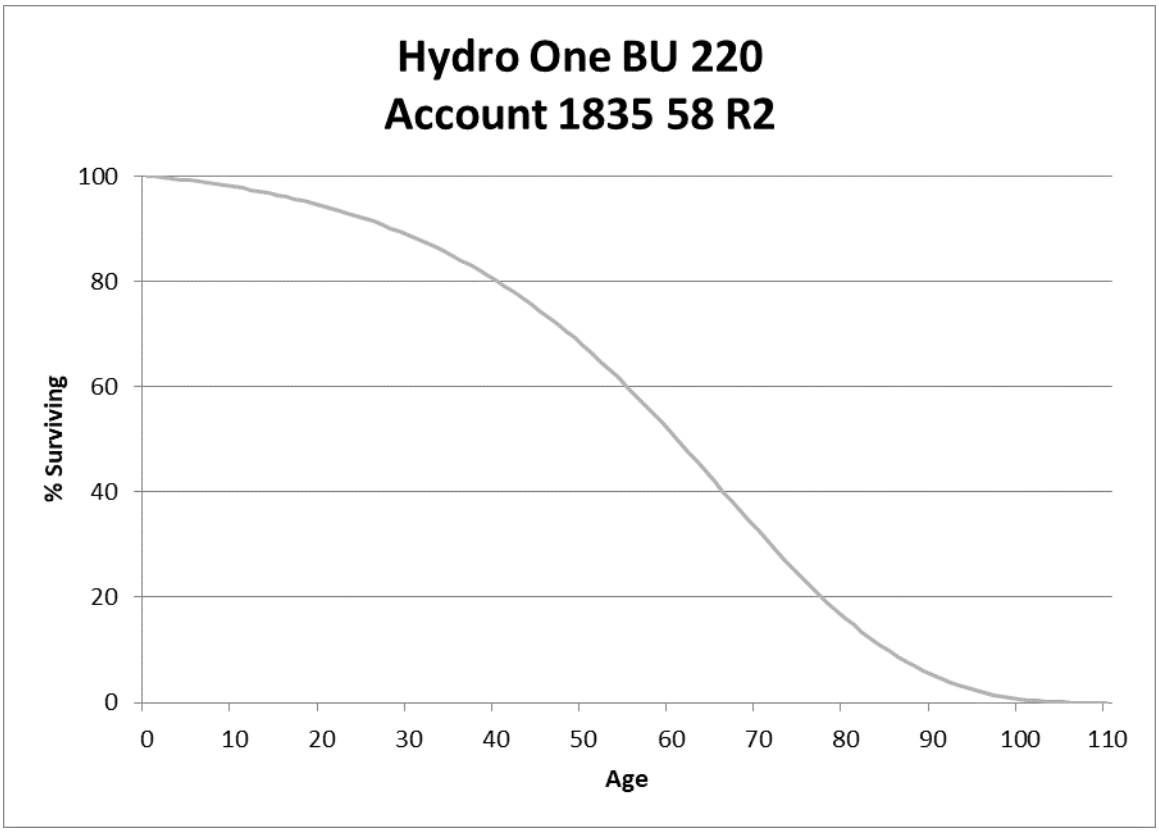
Account 1830 Poles Towers and Fixtures (55 R2)

This account consists of various poles, towers and fixtures associated with Distribution Operations. Such assets include steel towers, steel poles, supports, composite poles, and other support devices. The plant balance in this account at December 31, 2019 is $3.6 billion. Currently the life of this account is 55 years with an S2 dispersion. Limited retirement activity exists to analyze the life of the account. Pole refurbishment was noted to begin in September 2020. The Company will test and treat about 100,000 poles in 2020 out of the more than 1.6 million poles across the system. The program will involve testing and ground line treatments. It is estimated it will take about 15 years to complete the process. Previous programs focused more on visual inspection, and test and treat programs were not done from 2009 to 2020. Approximately 90% of Hydro One's poles are wood. Operations is hopeful that the pole refurbishment program will extend the life of poles. Since this is a new initiative, Company experts do not recommend moving the life of this account out at this time. As discussed with other operational accounts, the retirement characteristics of these assets are more in line with an R curve. Based on input from Company experts, this study recommends retention of the existing 55-year life, but with a change to an R2 dispersion. A representative curve shape is shown below.


Hydro One BU 220
Account 1830 55 R2
% Surviving
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
100
110
Age

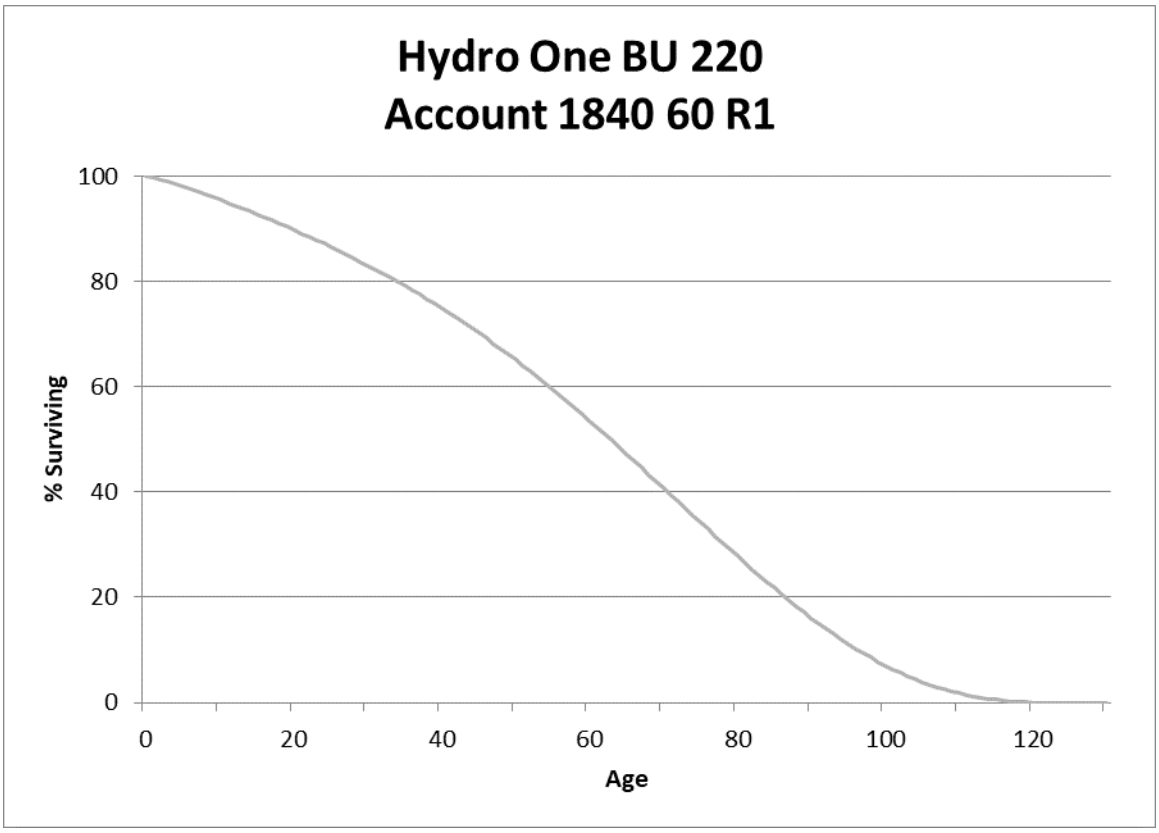
Account 1835 Overhead Conductor and Devices (58 R2)

This account consists of overhead conductor and devices associated with Distribution Operations. Such assets include grounding system, ground wires, insulators, conductor, switches, voltage regulators, and capacitors. The plant balance in this account at December 31, 2019 is $2.1 billion. Currently, the life of this account is 55 years with an S2 dispersion. Limited retirement activity exists to analyze the life of the account. Company SMEs believe that conductor will have a slightly life longer than that of poles (which is 55 years). Company experts state that there are many reasons to replace conductor, including replacement due to sags or capacity. The Company is using more electronic devices that experts believe will have a shorter life than the mechanical switches used in the past. Electronic devices are approximately 5 percent of the total in Hydro One. Company experts do not see a reason to reduce the life of this account at this point based on the small dollar investment in electronics as compared to the cost of the conductor. Considering the recommendation for the life of conductor compared to poles, this study recommends a 58-year life with an R2 dispersion for this account. A representative graph for the life of the account is shown in the curve below.


Hydro One BU 220
Account 1835 58 R2
% Surviving
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
90
100
110
Age

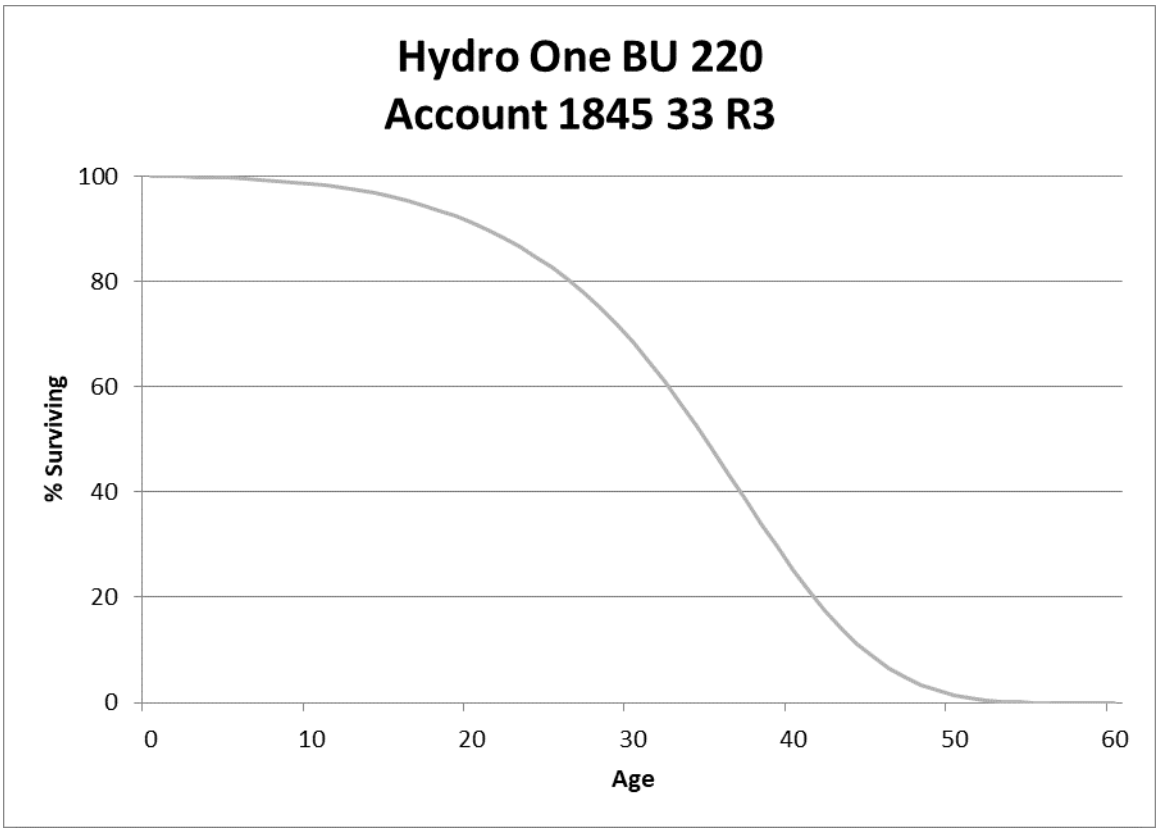
Account 1840 Underground Conduit (60 R1)

This account consists of underground conduit associated with Distribution Operations. The plant balance in this account at December 31, 2019 is $24.3 million. Currently, the life of this account is 50 years with an S2 dispersion. Limited retirement activity exists to analyze the life of the account. Company personnel report that conduit is found primarily in substation entries and in urban areas. Company experts believe higher levels of conduit will be installed in the future. Operations reports that material quality has improved in recent years with changes in specifications. Company personnel report that they generally run a spare conduit with installations, so that it is possible to pull and replace in same duct. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing year life should be extended for this account. As discussed with other operational accounts, the retirement characteristics of these assets are more in line with an R curve. For the reasons listed above, a 60-year life with an R1 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.


Hydro One BU 220
Account 1840 60 R1
% Surviving
100
80
60
40
20
0
0
20
40
60
80
100
120
Age

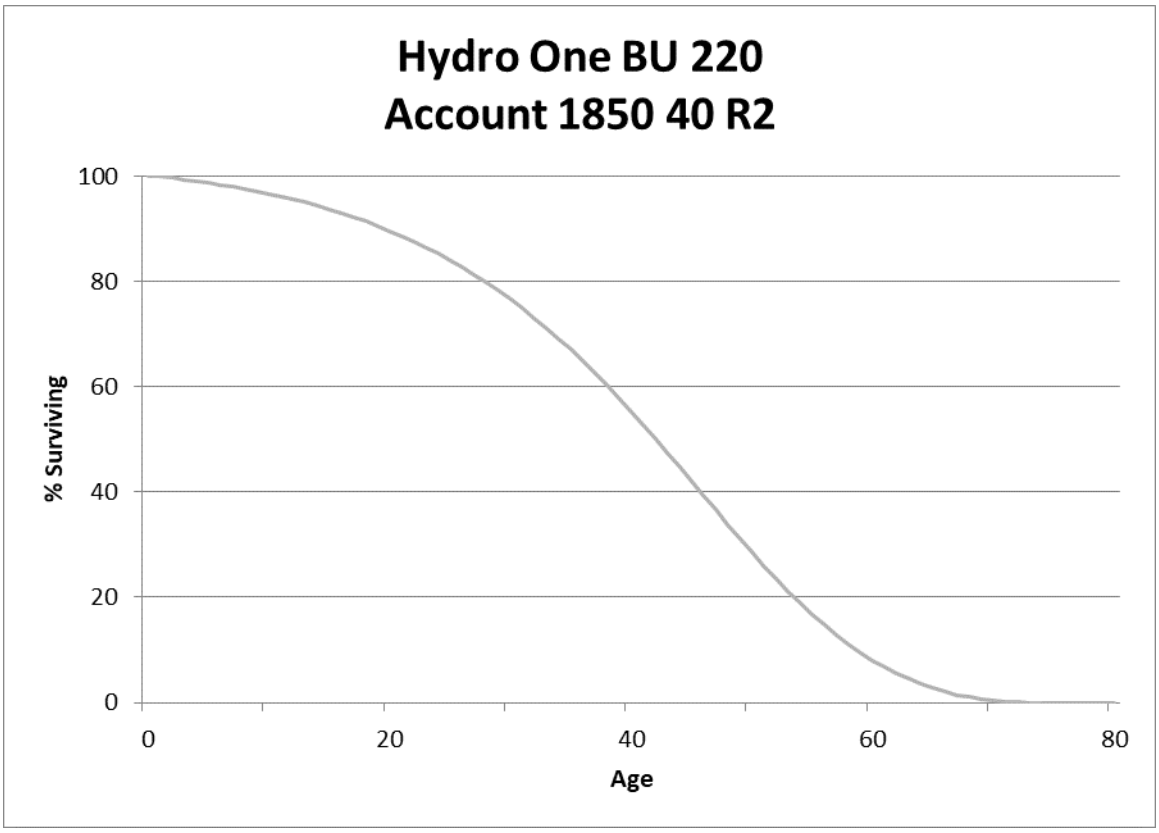
Account 1845 Underground Conductors and Devices (33 R3)

This account consists of various underground conductor and devices associated with Distribution Operations. Such assets include underground conductor, submarine cable, and fuse housing. The plant balance in this account at December 31, 2019 is $926.2 million. Currently, the life of this account is 30 years with an S3 dispersion. Limited retirement activity exists to analyze the life of the account. Company SMEs report that most conductor is direct buried. The reasons that conductor fails include insulation breaking down and dig-ins. In the Ontario environment, conductor has a much shorter life than conduit. The Company is piloting a cable cure program, which have not been installed in the past. Company personnel believe that new conductor will last slightly longer than older assets. After seeking input from Company personnel and incorporating professional judgment, the determination was that the life should be extended slightly for this account. For the reasons listed above, a 33-year life with an R3 dispersion is recommended for this account. A representative graph for the life of the account is shown in the curve below.


Hydro One BU 220
Account 1845 33 R3
% Surviving
100
80
60
40
20
0
0
10
20
30
40
50
60
Age

Account 1850 Line Transformers (40 R2)

This account consists of various types of line transformers associated with Distribution Operations. Such assets include overhead transformers, underground transformers, capacitors, and other similar equipment. The plant balance in this account at December 31, 2019 is $2.1 billion. Currently, the life of this account is 40 years with an R2 dispersion. Limited retirement activity exists to analyze the life of the account. Company SMEs report that they are replacing all PCB transformers. They estimate that about 1-4% of the transformers will be impacted by the change out. Company personnel report that most replacements are approximately 40 years old. The Company runs a transformer until it fails, and no repair program is currently in place. Operations personnel report that the life of the transformer depends on its loading. Hydro One is loading transformers at around the same level as in the past. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 40-year life is still appropriate for this account. For the reasons listed above, retaining a 40-year life with an R2 dispersion is recommended for this account. A representative graph for this account is shown below.

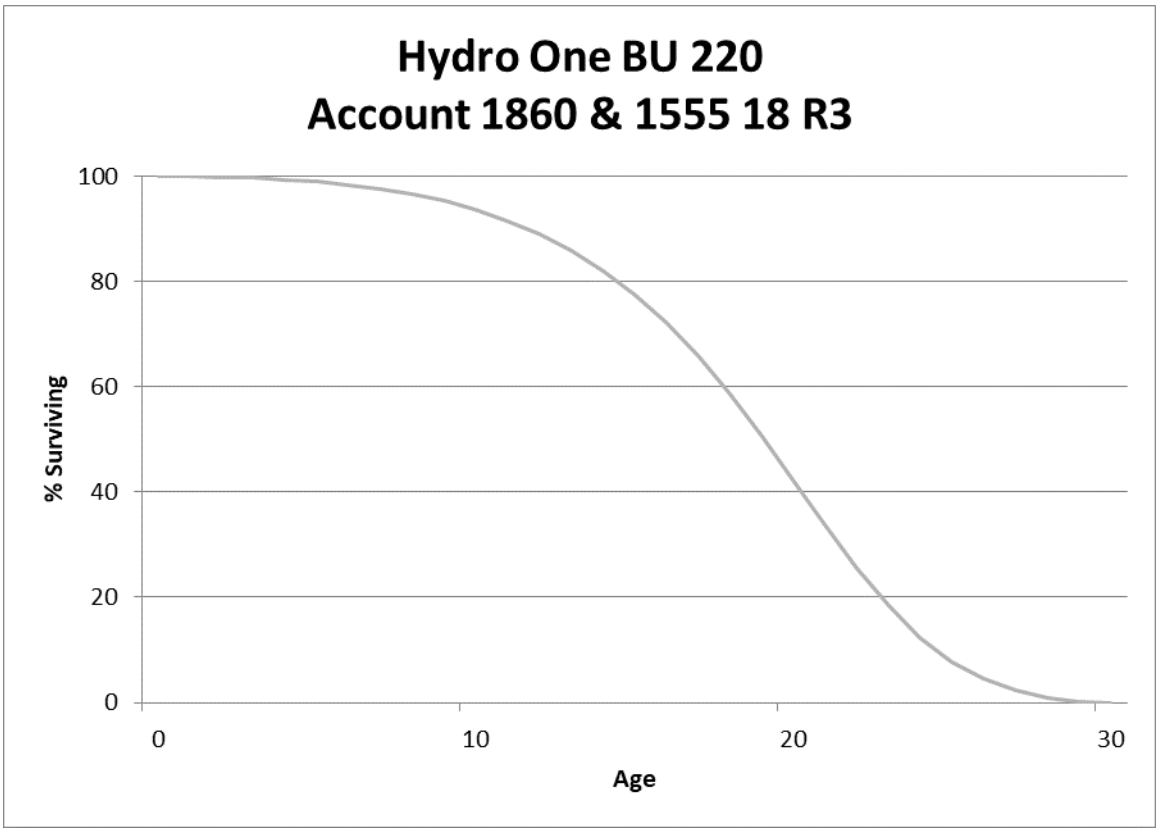

Hydro One BU 220
Account 1850 40 R2
100
80
60
40
20
0
% Surviving
0
20
40
60
80
Age

Account 1860, 1860S, and 1555 Smart Meters (18 R3)

Account 1860 consists of various meters associated with Distribution Operations. Such assets include watt meters, demand meters, and all other meter equipment. The plant balance in this account at December 31, 2019 is $265.0 million. Currently, the life of this account is 20 years with an R5 dispersion. Account 1860S and Account 1555 assets were modeled together. The total balance for all accounts was $330.3 million. Currently, the lives of these accounts are 15 years and 20 years with an R5 dispersion for 1555 and 1860, respectively. All old meters have been retired and accounts 1860, 1860S, and 1555 are combined. Hydro One began the move to smart meters in 2007. The meter fleet changed between 2007 and 2014, and the 15-year life used was from vendor information. Ontario was one of the first jurisdictions to completely switch to smart meters. Even in the short period, Hydro One's use of smart meters technology for this account changes and improves as product reliability improve. In 2020, the oldest meter is 13 years old. Company experts report that the quantity of failures is increasing, particularly among the oldest meters, which are failing at the highest rates. By 2022, the oldest meters will be retired. Capacitors and screen failures are the primary causes of retirement.

Hydro One will be deploying new meters to replace the oldest assets installed between 2007 and 2014. After replacement of the oldest assets, Company personnel believe that failure rates will decline, and that the life might begin to extend. Asset replacements have been budgeted in coming capital spending cycles. Accelerated replacement will be occurring. Company personnel believe the new meters will produce a slightly longer life than the previous vendor estimate of 15 years. New meters have a recommended life of 20 years. To incorporate the mixture of assets in this account, a life of 18 years is estimated on a combined basis. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 15-year life for smart meters should be extended. For the reasons listed above, an 18-year life with an R3 dispersion is recommended for this account. A representative graph for the life of

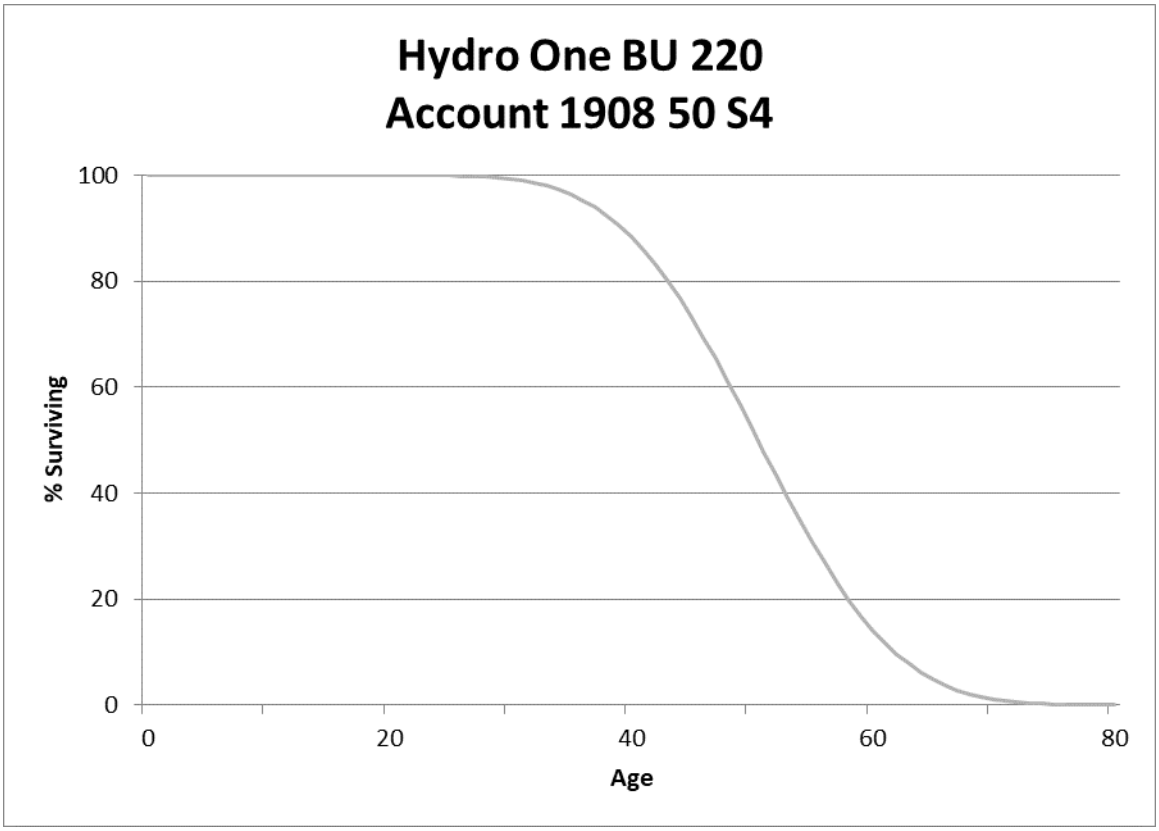
the account is shown in the curve below.



GENERAL DEPRECIATED FUNCTIONAL GROUP

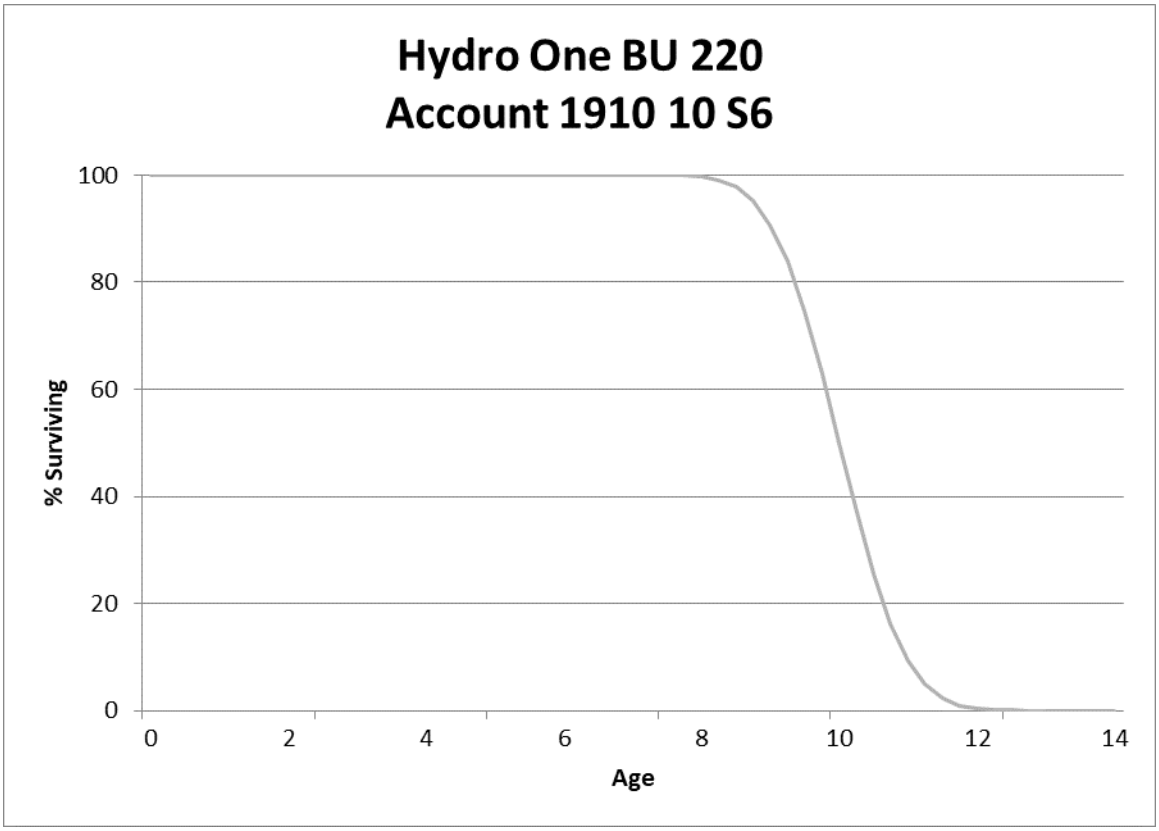
Account 1908 Buildings and Fixtures (50 S4)

This account consists of various buildings and fixtures associated with Distribution Operations. Such assets include distribution station buildings, landscaping, and other station structures. The plant balance in this account at December 31, 2019 is $147.7 million. Currently the life of this account is 50 years with an S4 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing year life is still appropriate for this account. This study recommends retention of a 50-year life with an S4 dispersion for this account. A representative graph for the life of the account is shown in the curve below.



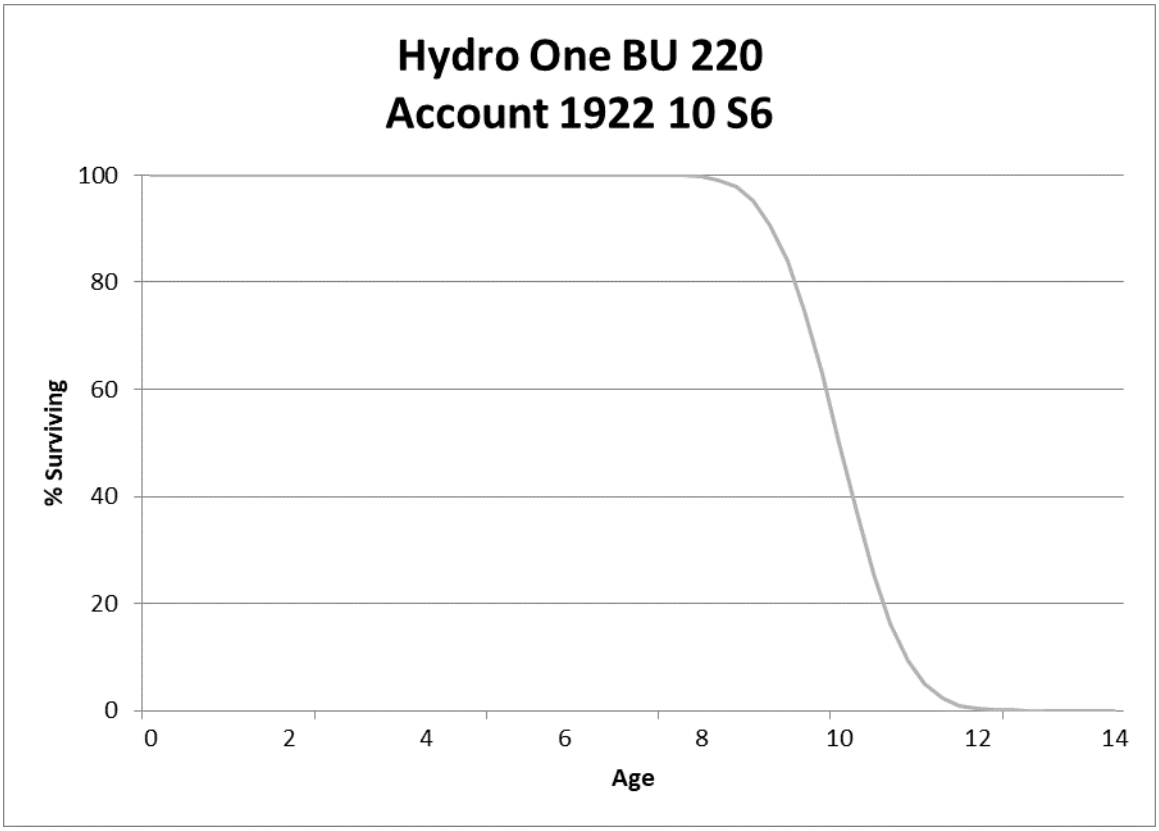
Account 1910 Leasehold Improvements (10 S6)

This account consists of various leasehold improvements made to leased buildings associated with Distribution Operations. The plant balance in this account at December 31, 2019 is $8.1 million. Currently, the life of this account is 10 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 10-year life is still appropriate for this account. This study recommends retention of a 10-year life with an S6 dispersion for this account. A representative graph for the life of the account is shown in the curve below.



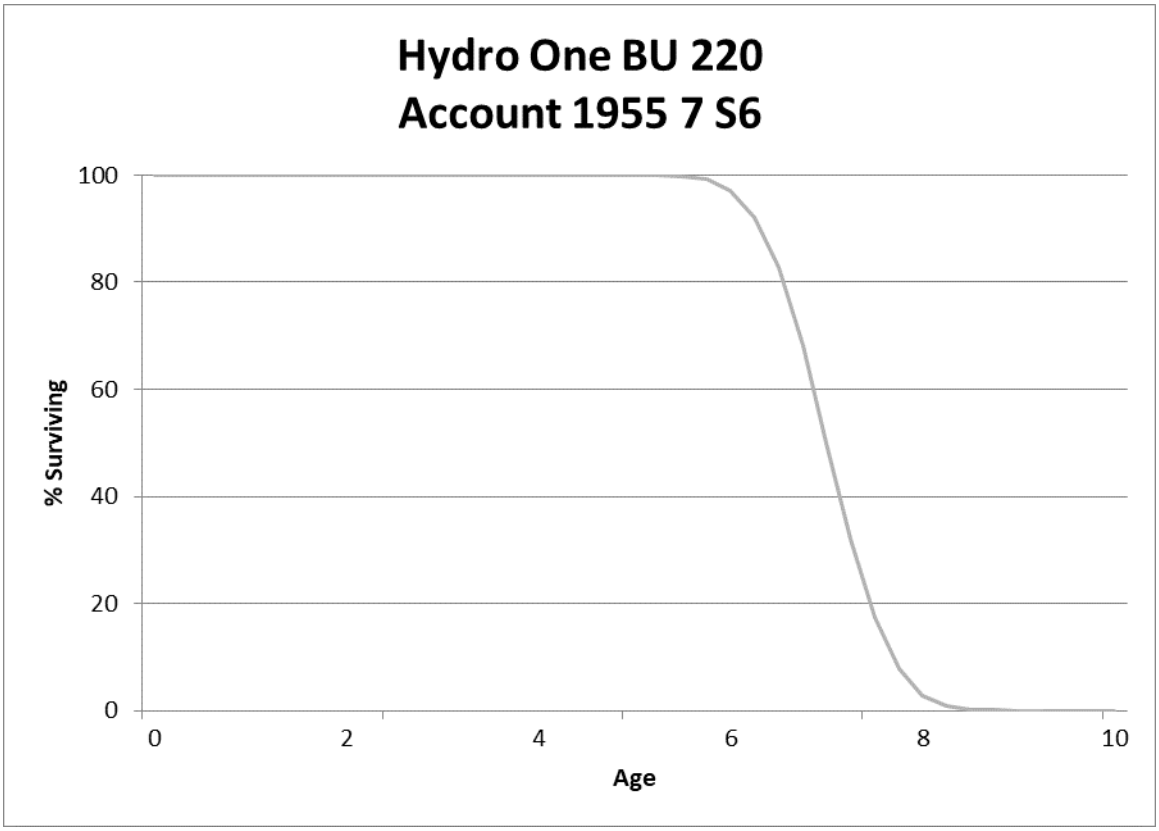
Account 1922 Computer Equipment - Hardware (10 S6)

This account consists of various computer hardware equipment associated with Distribution Operations. Such assets include local area network wire and devices and fiber optic cable. The plant balance in this account at December 31, 2019 is $4.7 million. Currently, the life of this account is 10 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 10-year life is still appropriate for this account. This study recommends retention of a 10-year life with an S6 dispersion for this account. A representative graph for the life of the account is shown in the curve below.



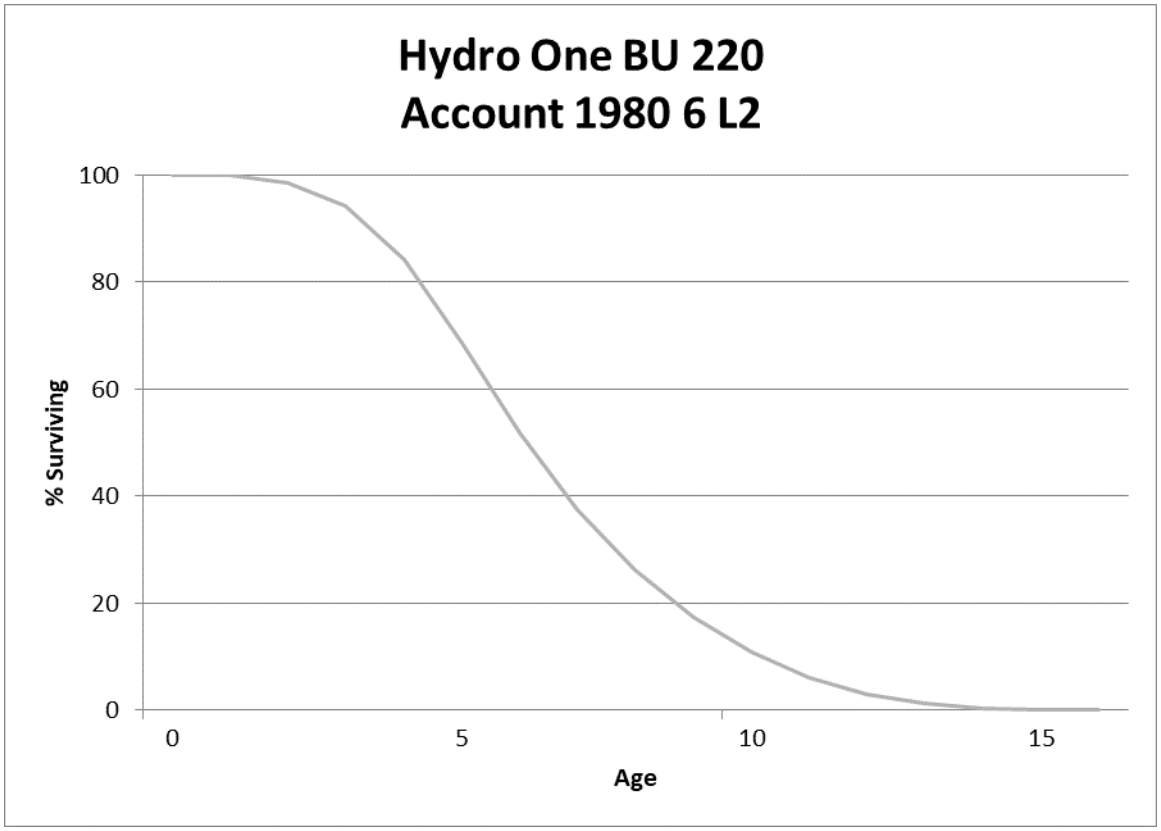
Account 1955 Communication Equipment (7 S6)

This account consists of various type of communication equipment associated with Distribution Operations. Such assets include fiber optic equipment, telecom equipment, radio equipment, and wire and power supply equipment. The plant balance in this account at December 31, 2019 is $29.1 million. Currently, the life of this account is 7 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 7-year life is still appropriate for this account. This study recommends retention of a 7-year life with an S6 dispersion for this account. A representative graph for the life of the account is shown in the curve below.



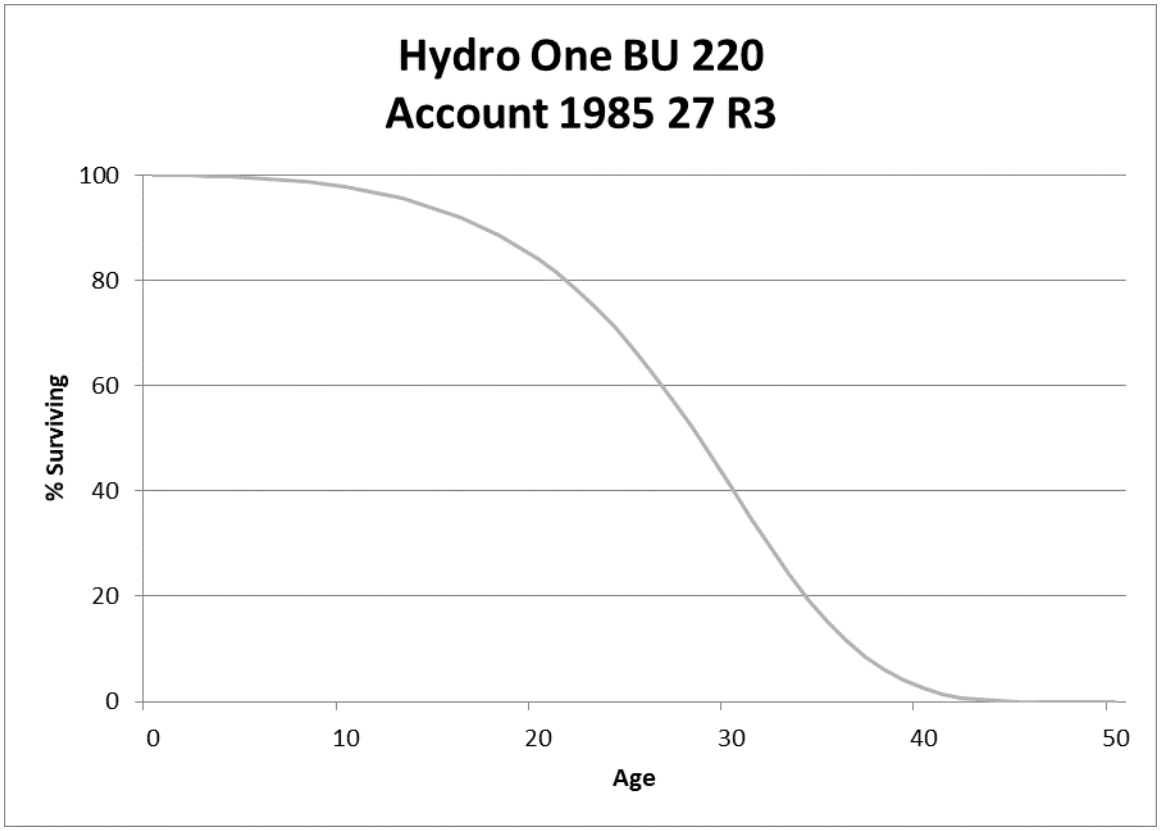
Account 1980 System Supervisory Equipment (6 L2)

This account consists of system supervisory equipment associated with Distribution Operations. Such assets include power lines, computer equipment, and related software. The plant balance in this account at December 31, 2019 is $133.3 million. Currently, the life of this account is 6 years with an L2 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing 6-year life is still appropriate for this account. This study recommends retention of a 6-year life with an L2 dispersion for this account. A representative graph for the life of the account is shown in the curve below.



Account 1985 Sentinel Lighting Rental Units (27 R3)

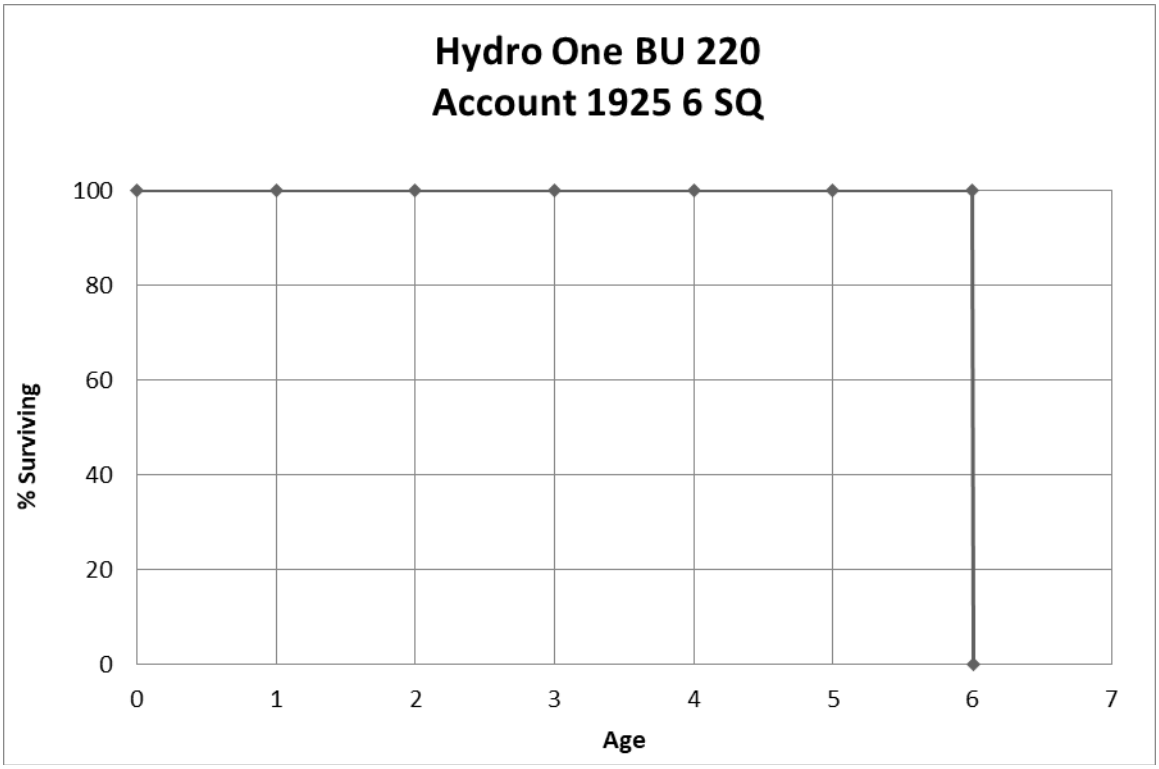
This account consists of sentinel lighting units with Distribution Operations. The plant balance in this account at December 31, 2019 is $15.3 million. Currently, the life of this account is 30 years with an R1.5 dispersion. Although limited retirement activity exists to analyze the life of the account, the actuarial analysis on this short-lived account was robust enough to indicate a reduction in life for this account. After seeking input from Company personnel, reviewing the analysis and incorporating professional judgment, the determination was that the existing year life should be shortened from its current level. This study recommends a 27-year life with an R3 dispersion for this account. A representative graph for the life of the account is shown in the curve below.



GENERAL AMORTIZED FUNCTIONAL GROUP

Account 1925 Computer Software (6 SQ)

This account consists of computer software for the Distribution Operations group. Such assets include general system software. The plant balance in this account at December 31, 2019 is $41.3 million. Currently, the amortization life of this account is 6 years. After reviewing plant lives with Company personnel, the determination was that the existing 6-year life is still appropriate for this account. A representative of the life of the account is shown in the curve below, a 6-year life with an SQ dispersion.



BU 300 COMMON OPERATIONS

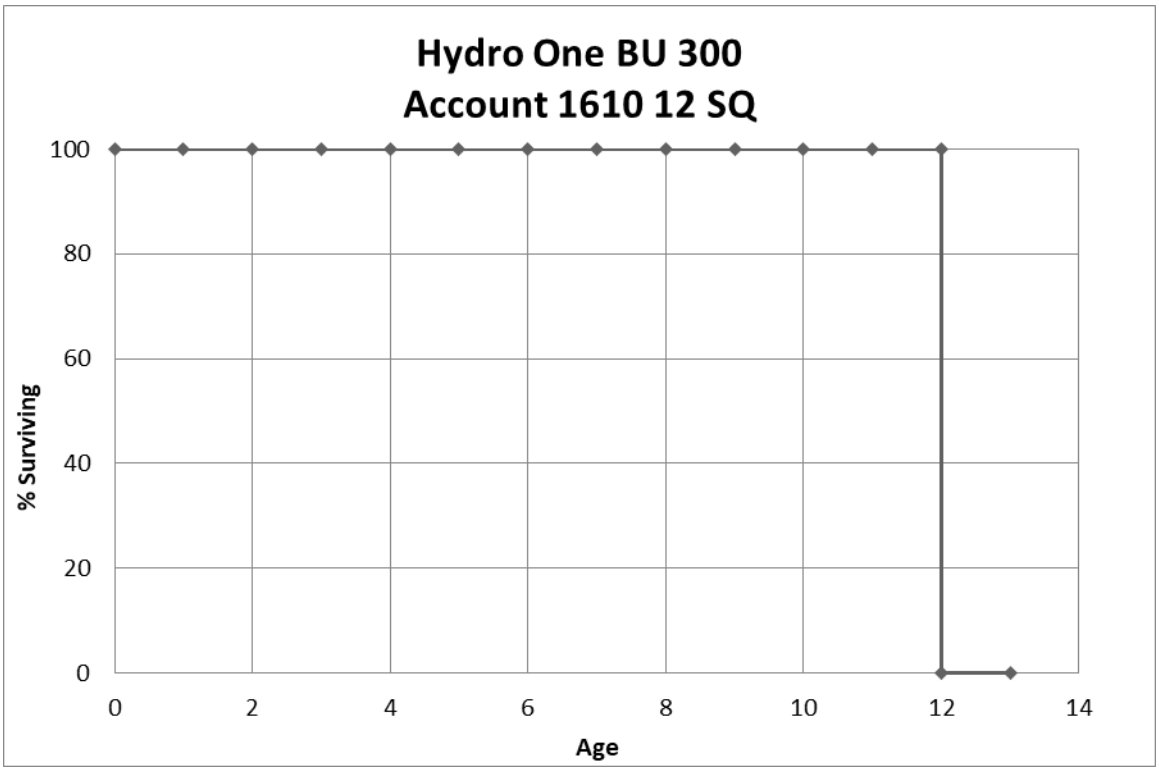
Common assets serve both the Transmission and Distribution Operations groups. The costs are allocated between each business unit.

INTANBIGLE FUNCTIONAL GROUP

Accounts in the intangible function are amortized. When those assets are fully accrued amortization ceases. Any new assets added are amortized using the assigned life of the account.

Account 1610 Computer Software (12 SQ)

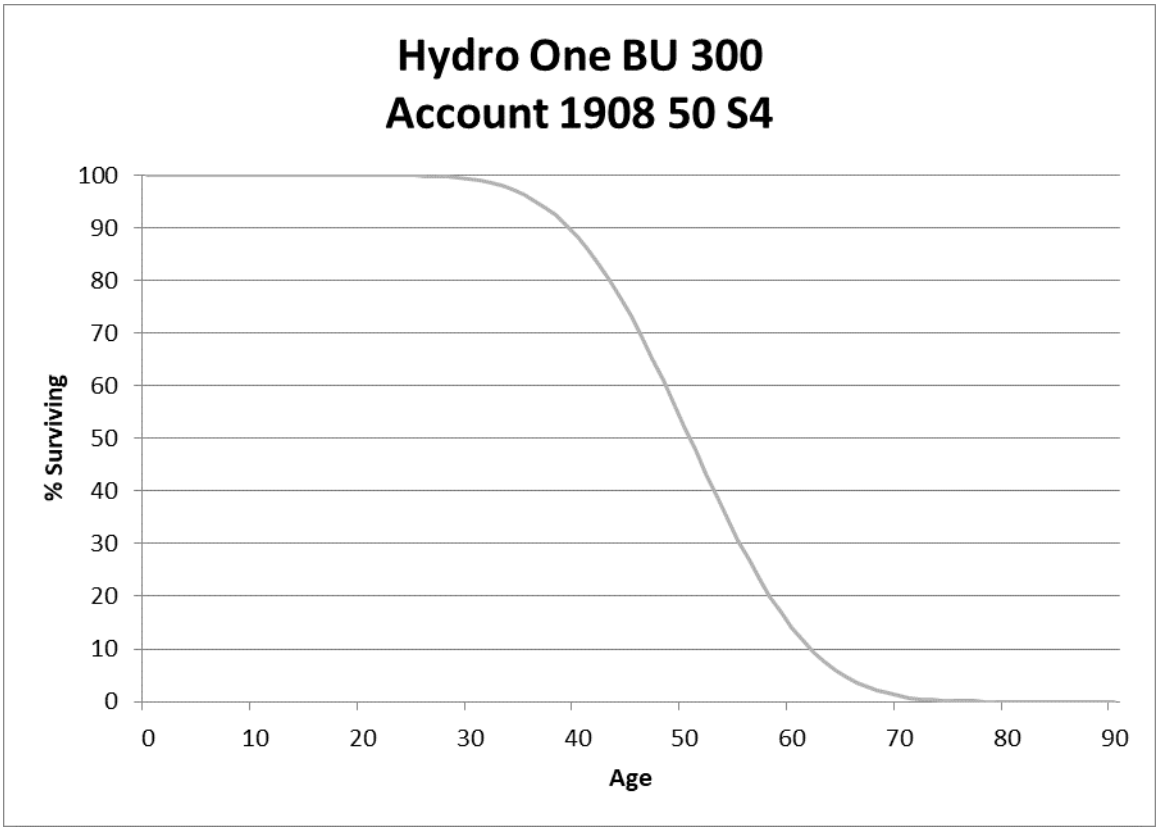
This account consists of computer software for general operations. Such assets include general system software. The plant balance in this account at December 31, 2019 is $636.3 million. Currently, the amortization life of this account is 10 years. The Company's major enterprise and cornerstone systems are booked in the account and allocated to transmission and distribution. Some of the systems are nearly 10 years old at this time with significant upgrades planned in the future. Given the continued use of these systems, a longer life is recommended in this account. After reviewing plant lives with Company personnel, the determination was that moving to a 12-year life is appropriate for this account. A representative of the life of the account is shown in the curve below, a 12-year life with an SQ dispersion.


Hydro One BU 300
Account 1610 12 SQ
100
80
60
40
20
0
% Surviving
0
2
4
6
8
10
12
14
Age

GENERAL DEPRECIATED FUNCTIONAL GROUP

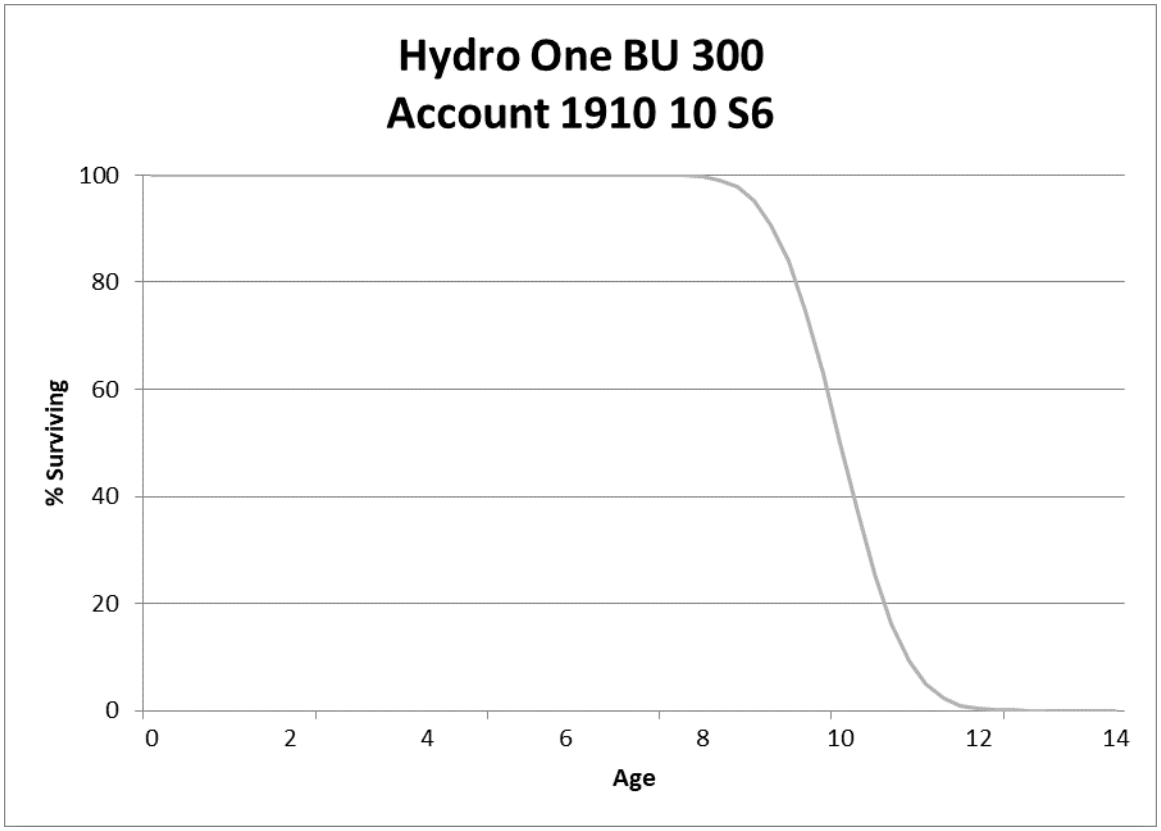
Account 1908 Buildings and Fixtures (50 S4)

This account consists of various general buildings and fixtures associated with Transmission and Distribution Operations. Such assets include buildings, road and surfaces, fences, auxiliary buildings, and road and surface areas. The plant balance in this account at December 31, 2019 is $130.8 million. Currently, the life of this account is 50 years with an S4 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing year life is still appropriate for this account. A representative graph for the life of the account is shown in the curve below, a 50-year life with an S4 dispersion.



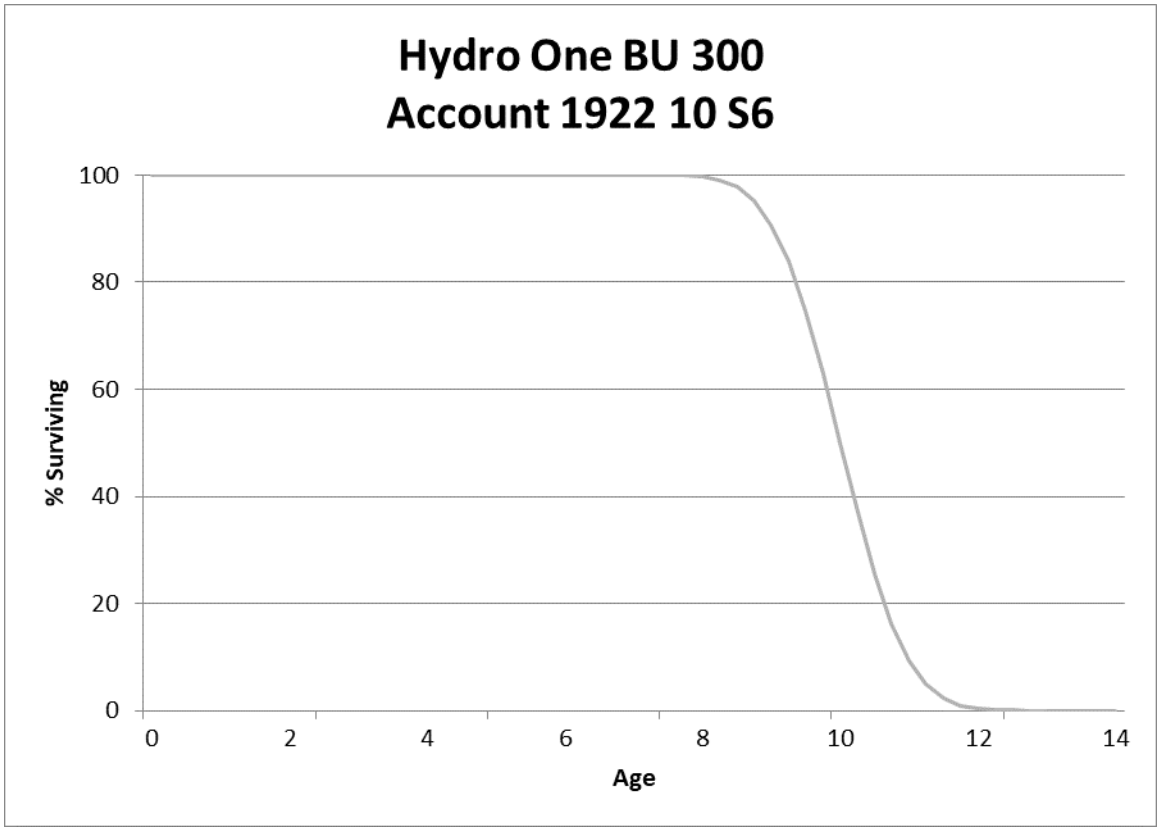
Account 1910 Leasehold Improvements (10 S6)

This account consists of various general leasehold improvements made to leased buildings associated with Transmission and Distribution Operations. The plant balance in this account at December 31, 2019 is $45.7 million. Currently, the life of this account is 10 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing year life is still appropriate for this account. A representative graph for the life of the account is shown in the curve below, a 10-year life with an S6 dispersion.



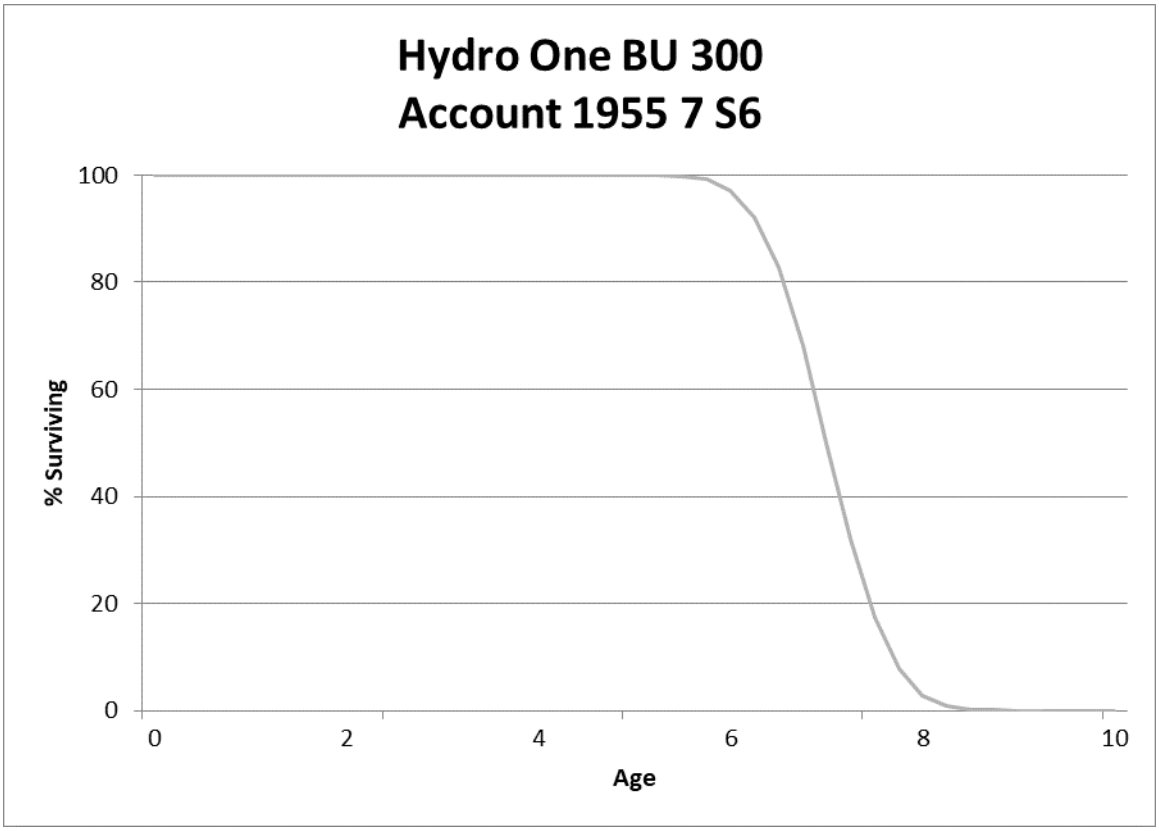
Account 1922 Computer Equipment - Hardware (10 S6)

This account consists of general computer hardware associated with Transmission and Distribution Operations. Such assets include local area network devices and cable. The plant balance in this account at December 31, 2019 is $15.9 million. Currently, the life of this account is 10 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing year life is still appropriate for this account. A representative graph for the life of the account is shown in the curve below, a 10-year life with an S6 dispersion.



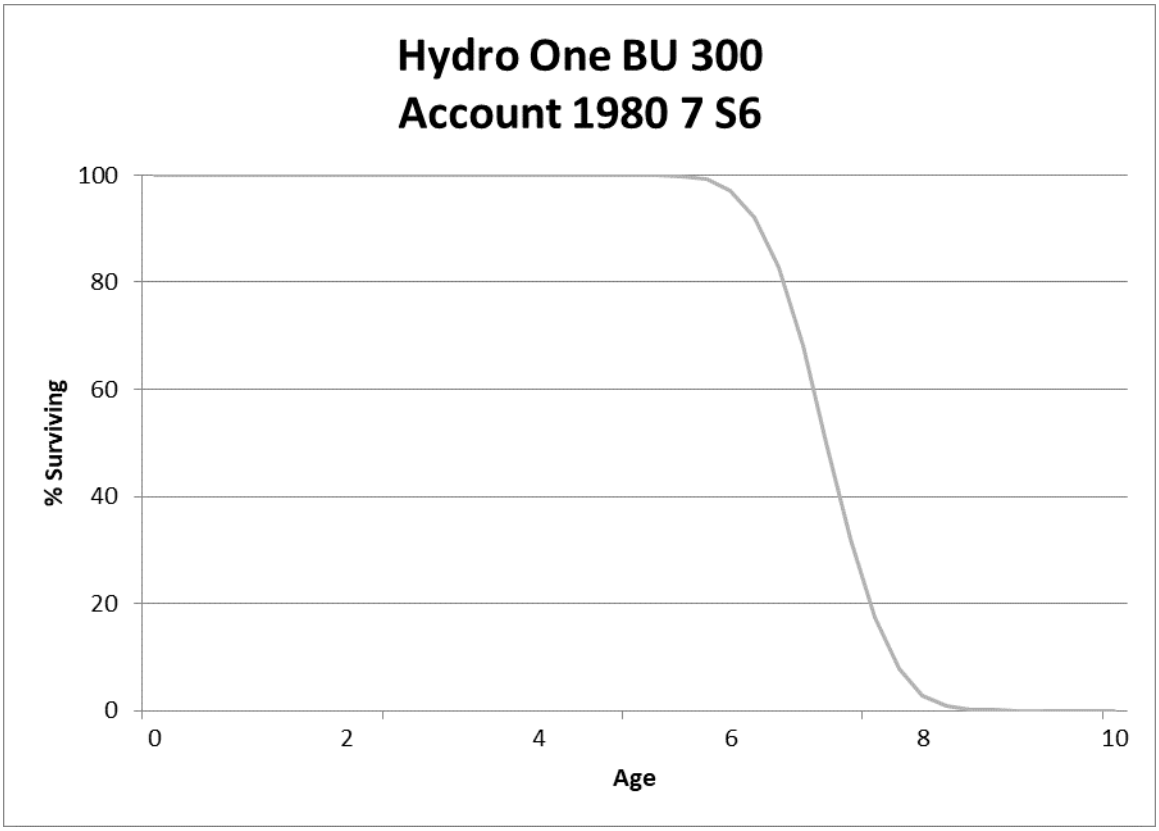
Account 1955 Communication Equipment (7 S6)

This account consists of various general communication equipment associated with Transmission and Distribution Operations. Such assets include telecom wire and equipment and radio equipment. The plant balance in this account at December 31, 2019 is $22.4 million. Currently, the life of this account is 7 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing year life is still appropriate for this account. A representative graph for the life of the account is shown in the curve below, a 7-year life with an S6 dispersion.



Account 1980 System Supervisory Equipment (7 S6)

This account consists of general system supervisory equipment associated with Transmission and Distribution Operations. Such assets include power line equipment, hardware, and computer software. The plant balance in this account at December 31, 2019 is $19.7 million. Currently, the life of this account is 7 years with an S6 dispersion. Limited retirement activity exists to analyze the life of the account. After seeking input from Company personnel and incorporating professional judgment, the determination was that the existing year life is still appropriate for this account. A representative graph for the life of the account is shown in the curve below, a 7-year life with an S6 dispersion.

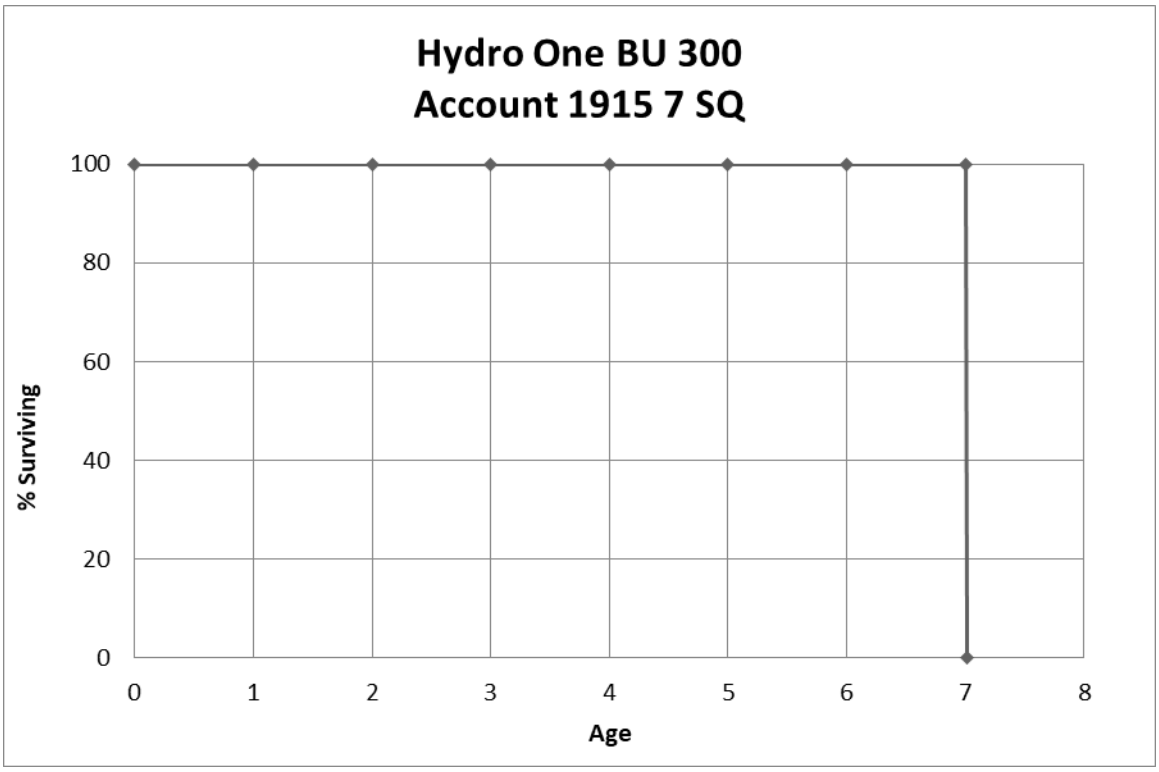


GENERAL AMORTIZED FUNCTIONAL GROUP

Accounts in the general amortized function are amortized. When those assets are fully accrued amortization ceases. Any new assets added are amortized using the assigned life of the account.

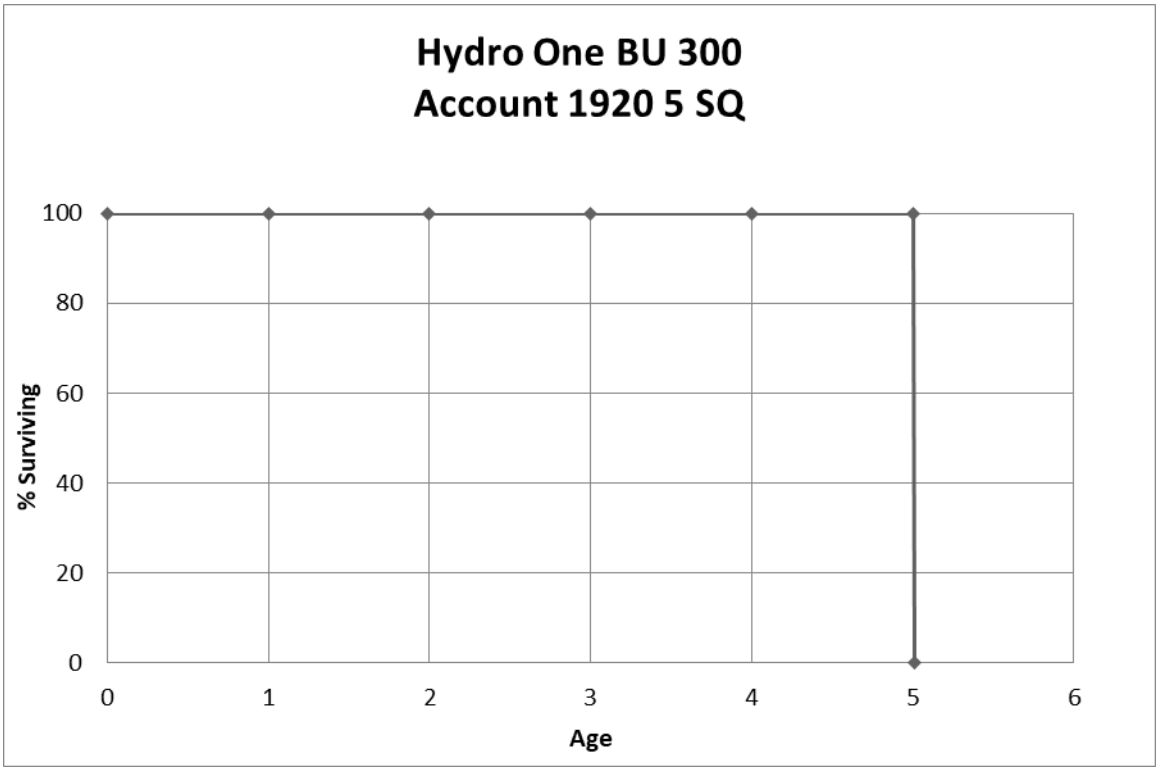
Account 1915 Office Furniture and Equipment (7 SQ)

This account consists of general office furniture and equipment. Such assets include desks, chairs, filing cabinets, etc. The plant balance in this account at December 31, 2019 is $10.6 million. Currently, the amortization life of this account is 7 years. After reviewing plant lives with Company personnel, the determination was that the existing 7-year life is still appropriate for this account. A representative graph showing the pattern of retirements for this account is shown below.



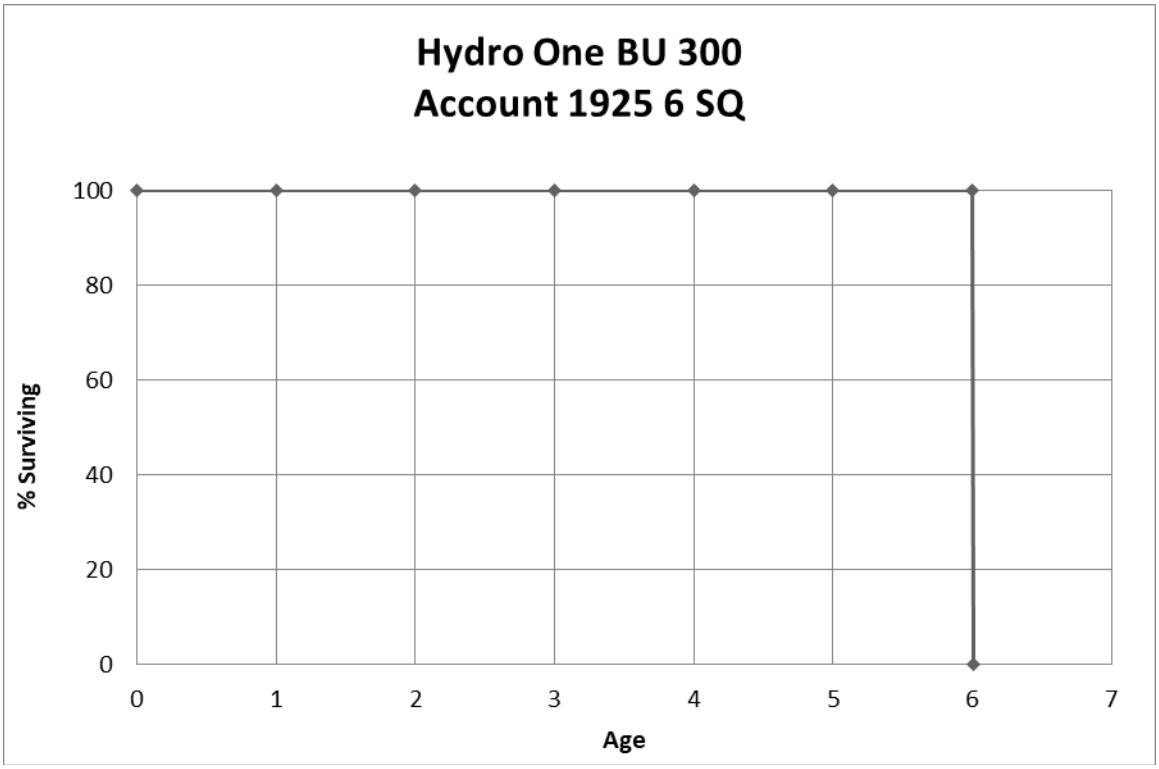
Account 1920 Computer Hardware - Minor (5 SQ)

This account consists of computer hardware, specifically computers, for general use. The plant balance in this account at December 31, 2019 is $67.7 million. Currently, the amortization life of this account is 5 years. After reviewing plant lives with Company personnel, the determination was that the existing 5-year life is still appropriate for this account. A representative graph showing the pattern of retirements for this account is shown below.



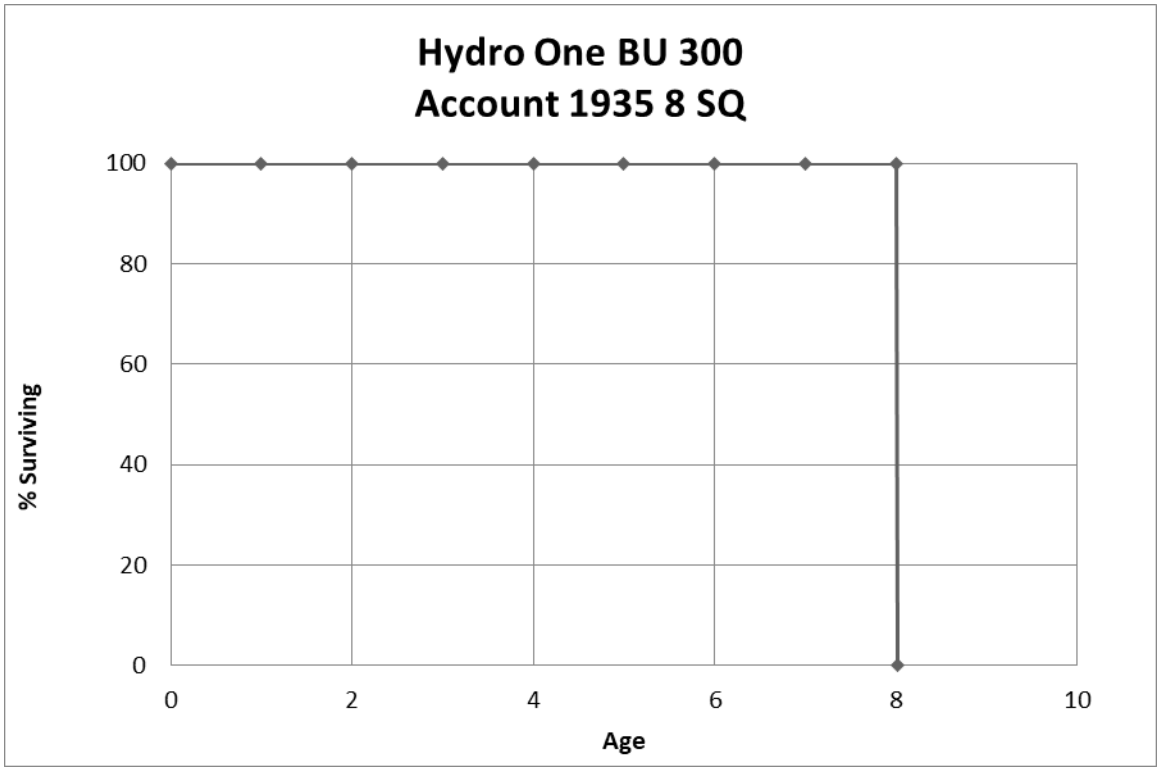
Account 1925 Computer Software (6 SQ)

This account consists of general computer software. Such assets include general system software and small amounts of associated hardware. The plant balance in this account at December 31, 2019 is $130.2 million. Currently, the amortization life of this account is 6 years. After reviewing plant lives with Company personnel, the determination was that the existing 6-year life is still appropriate for this account. A representative graph showing the pattern of retirements for this account is shown below.



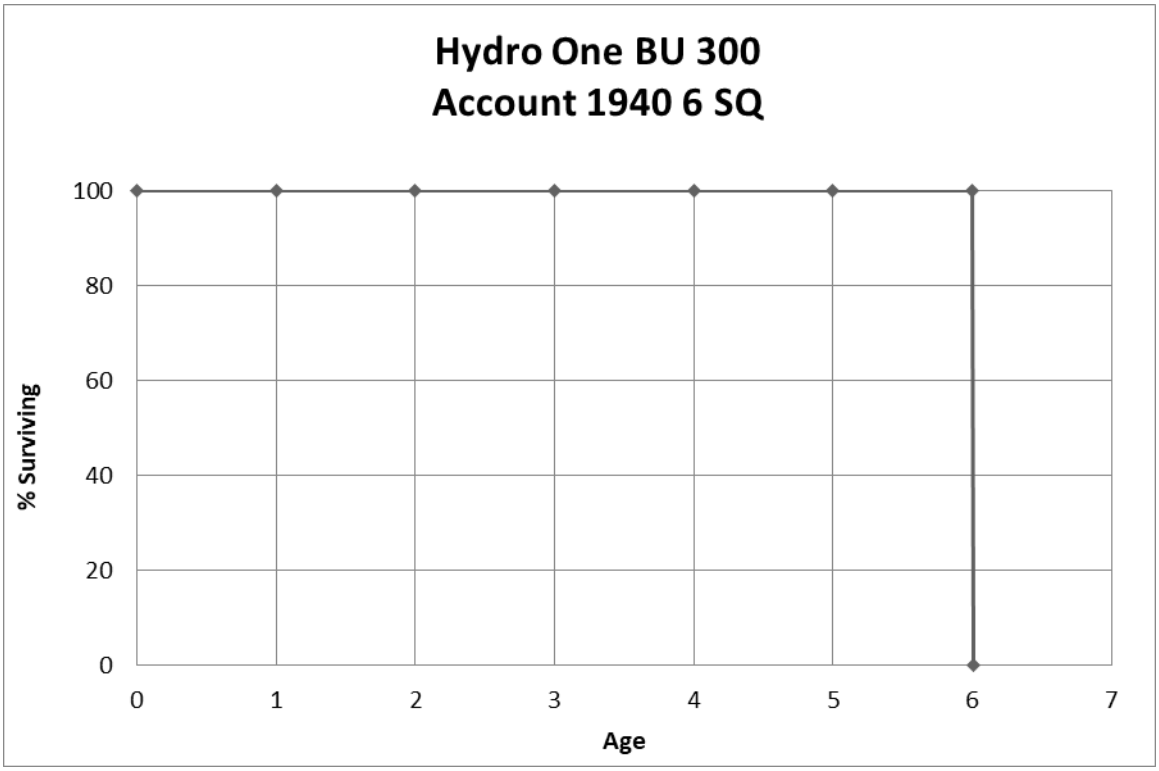
Account 1935 Stores Equipment (8 SQ)

This account consists of general stores equipment. Such assets include shelving and other stores assets. The plant balance in this account at December 31, 2019 is $0.4 million. Currently, the amortization life of this account is 8 years. After reviewing plant lives with Company personnel, the determination was that the existing 8-year life is still appropriate for this account. A representative graph showing the pattern of retirements for this account is shown below.



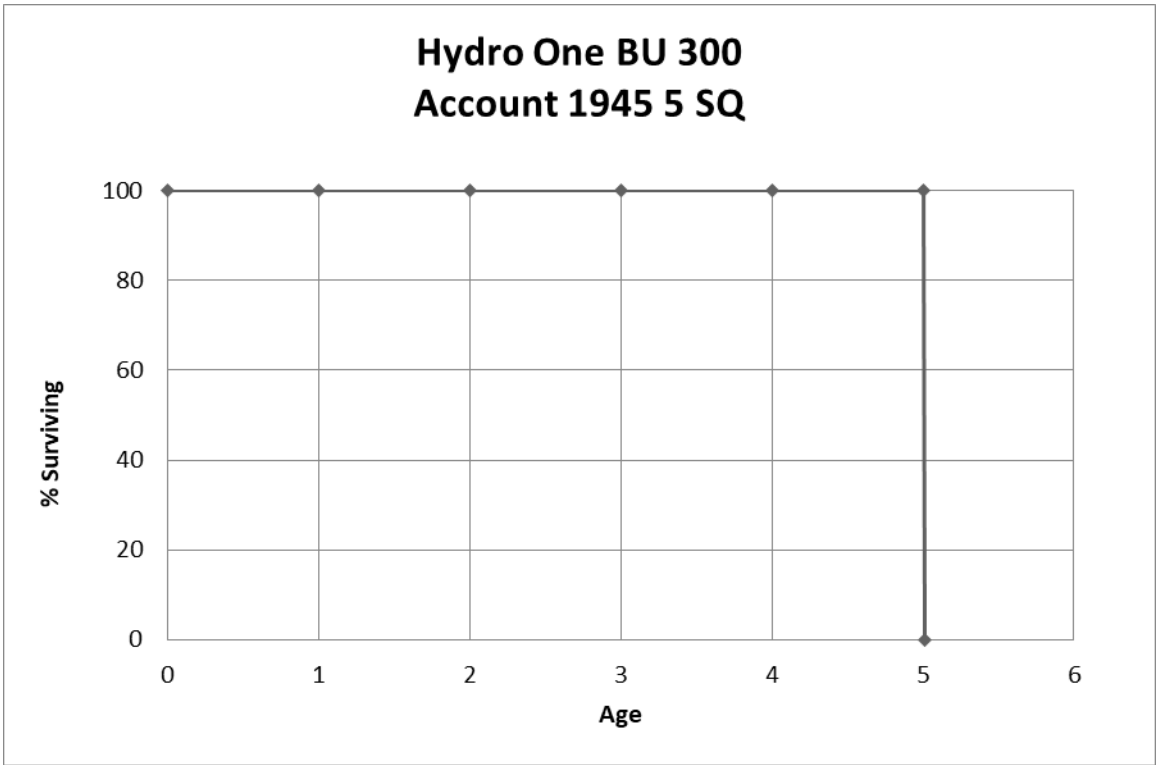
Account 1940 Tools Shop and Garage Equipment (6 SQ)

This account consists of general tools, shop, and garage equipment. The plant balance in this account at December 31, 2019 is $16.8 million. Currently, the amortization life of this account is 6 years. After reviewing plant lives with Company personnel, the determination was that the existing 6-year life is still appropriate for this account. A representative graph showing the pattern of retirements for this account is shown below.



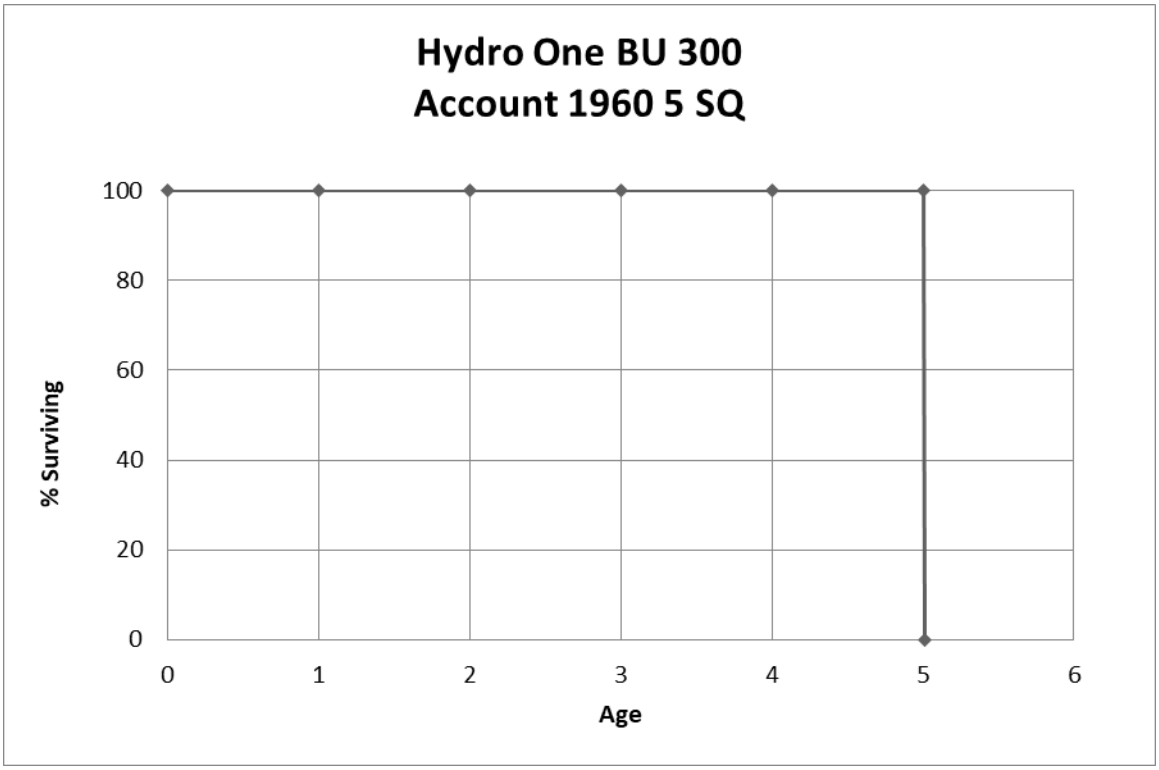
Account 1945 Measurement and Testing Equipment (5 SQ)

This account consists of general measuring and testing equipment. The plant balance in this account at December 31, 2019 is $12.1 million. Currently, the amortization life of this account is 5 years. After reviewing plant lives with Company personnel, the determination was that the existing 5-year life is still appropriate for this account. A representative graph showing the pattern of retirements for this account is shown below.



Account 1960 Miscellaneous Equipment (5 SQ)

This account consists of general miscellaneous equipment. The plant balance in this account at December 31, 2019 is $3.4 million. Currently, the amortization life of this account is 5 years. After reviewing plant lives with Company personnel, the determination was that the existing 5-year life is still appropriate for this account. A representative graph showing the pattern of retirements for this account is shown below.



APPENDIX A

Depreciation Rate Calculations

HYDRO ONE
BU 210 TRANSMISSION PLANT
CALCULATION OF DEPRECIATION RATES
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Allocated Reserve 12/31/2019	Unaccrued Balance	Remaining Life	Annual Accrual	Annual Accrual Rate	
INTANGIBLE PLANT								
1609	Capital Contributions	8,740,895	815,204	7,925,690	9.07	874,089	10.00%	
1610	Computer Software	16,340,452	2,491,028	13,849,424	8.48	1,634,045	10.00%	
TRANSMISSION PLANT								
1706	Land Rights	257,330,714	91,691,253	165,639,461	70.32	2,355,424	0.92%	
1708	Buildings and Fixtures	602,955,047	258,104,121	344,850,925	31.57	10,922,267	1.81%	
1715	Station Equipment	10,331,573,044	3,470,648,634	6,860,924,410	34.48	198,962,916	1.93%	
1720	Towers and Fixtures	2,783,289,839	876,789,671	1,906,500,168	55.32	34,462,083	1.24%	
1730	Overhead Conductors and Devices	2,019,114,308	750,628,792	1,268,485,517	48.21	26,314,140	1.30%	
1735	Undergound Conduit	310,338,976	141,977,003	168,361,974	37.14	4,533,470	1.46%	
1740	Underground Conductors and Devices	153,702,365	28,246,268	125,456,097	46.58	2,693,258	1.75%	
1745	Roads and Trails	308,456,260	129,735,928	178,720,332	38.61	4,629,450	1.50%	
General Plant								
	Depreciable							
1908	Buildings and Fixtures	151,615,103	64,572,586	87,042,517	31.66	2,749,017	1.81%	
1910	Leashold Improvements	100,228	100,228	0	0.00	0	10.00%	*
1922	Computer Hardware- Major	15,167,911	10,469,221	4,698,690	3.91	1,201,464	7.92%	
1955	Communication Equipment	499,352,541	309,378,029	189,974,511	9.28	20,466,767	4.10%	
1980	System Supervisory Equipment	452,165,605	393,832,779	58,332,826	1.69	34,469,486	7.62%	
	Amortizable							
1925	Computer Software Major	8,931,156	8,931,156	0	0.00	0	16.67%	*
	Total	17,919,174,444	6,538,411,901	11,380,762,542		346,267,876		

* Fully Accrued Rate for new investment only

HYDRO ONE
BU 220 DISTRIBUTION PLANT
CALCULATION OF DEPRECIATION RATES
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Allocated Reserve 12/31/2019	Unaccrued Balance	Remaining Life	Annual Accrual	Annual Accrual Rate
INTANGIBLE PLANT							
1609	Capital Contributions	48,642,612	21,128,813	27,513,799	5.66	4,864,261	10.00%
1610	Computer Software	255,544,978	122,393,754	133,151,223	5.21	25,554,498	10.00%
DISTRIBUTION PLANT							
	Depreciable						
1805	Land						
1806	Land Rights	240,422,418	88,311,968	152,110,450	69.61	2,185,324	0.91%
1808	Building and Fixtures	27,043,692	5,083,754	21,959,938	42.17	520,737	1.93%
1815	Transformer Station Equipment > 50 kV	231,496,548	78,682,599	152,813,949	34.49	4,431,235	1.91%
1820	Distribution Station Equipment < 50 kV	799,777,839	258,008,331	541,769,508	32.96	16,436,065	2.06%
1830	Poles, Towers and Fixtures	3,647,830,496	1,008,950,927	2,638,879,569	42.41	62,219,855	1.71%
1835	Overhead Conductors and Devices	2,068,367,636	671,994,615	1,396,373,021	42.41	32,927,541	1.59%
1840	Underground Conduit	24,297,741	10,007,522	14,290,219	39.55	361,307	1.49%
1845	Underground Conductors and Devices	926,229,848	508,301,406	417,928,442	17.91	23,338,075	2.52%
1850	Line Transformers	2,081,972,509	793,560,796	1,288,411,713	27.36	47,089,100	2.26%
1860	Meters	264,973,413	43,119,808	221,853,605	15.58	14,243,122	5.38%
1860	Meters (Sustainment) (All transfer to 1860)			0			
1555	Smart Meters	330,328,119	205,884,574	124,443,545	8.72	14,276,433	4.32%
GENERAL PLANT							
	Depreciable						
1908	Building and Fixtures	147,672,903	61,246,363	86,426,539	33.55	2,576,324	1.74%
1910	Leasehold Improvements	8,149,230	7,080,431	1,068,799	2.34	456,172	5.60%
1922	Minor Computer Equipment- Hardware	4,733,131	4,572,019	161,112	0.71	161,112	3.40%
1955	Communication Equipment	29,086,977	27,249,838	1,837,139	0.64	1,837,139	6.32%
1980	System Supervisory Equipment	133,312,933	103,654,582	29,658,351	2.23	13,317,647	9.99%
1985	Sentinel Lighting Rental Units	15,300,030	11,450,642	3,849,388	10.84	354,975	2.32%
	Amortized						
1925	Computer Application Software	41,261,340	39,381,089	1,880,251	0.27	6,876,890	16.67%

HYDRO ONE
BU 300 COMMON PLANT
CALCULATION OF DEPRECIATION RATES
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Allocated Reserve 12/31/2019	Unaccrued Balance	Remaining Life		Annual Accrual	Annual Accrual Rate
INTANGIBLE PLANT								
1610	Computer Software	636,292,886	362,672,761	273,620,125	5.16		53,024,407	8.33%
GENERAL PLANT								
	Depreciable							
1908	Building and Fixtures	130,768,147	55,318,804	75,449,343	35.99		2,096,495	1.60%
1910	Leasehold Improvements	45,666,322	38,286,428	7,379,894	4.05		1,822,487	3.99%
1922	Computer Equipment- Hardware	15,899,996	12,882,437	3,017,559	4.43		681,154	4.28%
1955	Communication Equipment	22,440,010	22,086,197	353,813	1.63		217,643	0.97%
1980	System Supervisory Equipment	19,681,555	11,150,901	8,530,654	3.94		2,166,766	11.01%
	Amortized							
1915	Office Furniture and Equipment	10,563,024	6,838,830	3,724,194	2.47		1,509,003	14.29%
1920	Computer Hardware-Minor	67,662,865	30,371,747	37,291,118	2.76		13,532,573	20.00%
1925	Computer Software Major	130,222,116	117,919,572	12,302,544	0.57	(1)	21,703,686	16.67%
1935	Stores Equipment	415,591	231,097	184,493	3.55		51,949	12.50%
1940	Tools, Shop and Garage Equipment	16,760,402	10,713,938	6,046,464	2.16		2,793,400	16.67%
1945	Measuring and Testing Equipment	12,092,835	5,988,930	6,103,905	2.52		2,418,567	20.00%
1960	Miscellaneous Equipment	3,417,518	1,282,996	2,134,521	3.12		683,504	20.00%
		1,111,883,265	675,744,637	436,138,628			102,701,635	

Note 1: Since the remaining life of account 1925 is less than 1 year, accrual is set at 1/ average service life

APPENDIX B

Depreciation Expense Comparison

HYDRO ONE
BU 210 TRANSMISSION PLANT
COMPARISON OF DEPRECIATION RATES
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Current Accrual Rate	Current Accrual Amount	Proposed Accrual Rate	Proposed Accrual Rate	Difference
INTANGIBLE PLANT							
1609	Capital Contributions	8,740,895	10.00%	874,089	10.00%	874,089	0
1610	Computer Software	16,340,452	10.00%	1,634,045	10.00%	1,634,045	0
TRANSMISSION PLANT							
1705	Land - Depreciable						
1706	Land Rights	257,330,714	0.96%	2,470,375	0.92%	2,355,424	(114,951)
1708	Buildings and Fixtures	602,955,047	1.83%	11,034,077	1.81%	10,922,267	(111,810)
1715	Station Equipment	10,331,573,044	2.08%	214,896,719	1.93%	198,962,916	(15,933,804)
1720	Towers and Fixtures	2,783,289,839	1.27%	35,347,781	1.24%	34,462,083	(885,698)
1730	Overhead Conductors and Devices	2,019,114,308	1.44%	29,075,246	1.30%	26,314,140	(2,761,106)
1735	Undergound Conduit	310,338,976	1.62%	5,027,491	1.46%	4,533,470	(494,021)
1740	Underground Conductors and Devices	153,702,365	1.80%	2,766,643	1.75%	2,693,258	(73,384)
1745	Roads and Trails	308,456,260	1.81%	5,583,058	1.50%	4,629,450	(953,608)
General Plant							
	Depreciable						
1905	Land - Depreciable						
1908	Buildings and Fixtures	151,615,103	2.10%	3,183,917	1.81%	2,749,017	(434,900)
1910	Leashold Improvements	100,228	-1.54%	0	10.00% *	0	0
1922	Computer Hardware- Major	15,167,911	9.28%	1,407,582	7.92%	1,201,464	(206,118)
1955	Communication Equipment	499,352,541	4.58%	22,870,346	4.10%	20,466,767	(2,403,579)
1980	System Supervisory Equipment	452,165,605	6.38%	28,848,166	7.62%	34,469,486	5,621,320
	Amortizable						
1925	Computer Software Major	8,931,156	16.67%	0	16.67% *	0	0
		17,919,174,444		365,019,537		346,267,876	(18,751,661)

* Account is fully accrued. Rate to be implemented when plant is added to this account.

HYDRO ONE
BU 220 DISTRIBUTION PLANT
COMPARISON OF DEPRECIATION RATES
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Current Accrual Rate	Current Accrual Amount	Proposed Accrual Rate	Proposed Accrual Rate	Difference	
INTANGIBLE PLANT								
1609	Capital Contributions	48,642,612	10.00%	4,864,261	10.00%	4,864,261	0	
1610	Computer Software	255,544,978	10.00%	25,554,498	10.00%	25,554,498	0	
DISTRIBUTION PLANT								
	Depreciable							
1805	Land							
1806	Land Rights	240,422,418	0.94%	2,259,971	0.91%	2,185,324	(74,647)	
1808	Building and Fixtures	27,043,692	1.82%	492,195	1.93%	520,737	28,541	
1815	Transformer Station Equipment > 50 kV	231,496,548	2.23%	5,162,373	1.91%	4,431,235	(731,138)	
1820	Distribution Station Equipment < 50 kV	799,777,839	2.70%	21,594,002	2.06%	16,436,065	(5,157,936)	
1830	Poles, Towers and Fixtures	3,647,830,496	1.70%	62,013,118	1.71%	62,219,855	206,736	
1835	Overhead Conductors and Devices	2,068,367,636	1.69%	34,955,413	1.59%	32,927,541	(2,027,873)	
1840	Underground Conduit	24,297,741	1.71%	415,491	1.49%	361,307	(54,184)	
1845	Underground Conductors and Devices	926,229,848	2.83%	26,212,305	2.52%	23,338,075	(2,874,230)	
1850	Line Transformers	2,081,972,509	2.31%	48,093,565	2.26%	47,089,100	(1,004,465)	
1860	Meters	264,973,413	6.63%	17,567,737	5.38%	14,243,122	(3,324,616)	
1860	Meters (Sustainment) (All transfer to 1860)	0	6.63%	0	0.00%	0	0	
1555	Smart Meters	330,328,119	6.36%	21,008,868	4.32%	14,276,433	(6,732,435)	
GENERAL PLANT								
	Depreciable							
1908	Building and Fixtures	147,672,903	1.84%	2,717,181	1.74%	2,576,324	(140,857)	
1910	Leasehold Improvements	8,149,230	5.50%	448,208	5.60%	456,172	7,964	
1922	Minor Computer Equipment- Hardware	4,733,131	-3.82%	(180,806)	14.29%	161,112	341,917	*
1955	Communication Equipment	29,086,977	-9.99%	(2,905,789)	16.67%	1,837,139	4,742,928	*
1980	System Supervisory Equipment	133,312,933	14.94%	19,916,952	9.99%	13,317,647	(6,599,305)	
1985	Sentinel Lighting Rental Units	15,300,030	2.94%	449,821	2.32%	354,975	(94,846)	
	Amortized							
1925	Computer Application Software	41,261,340	16.66%	1,880,251	16.67%	1,880,251	0	*
	Total	11,326,444,391		292,519,617		269,031,171	(23,488,445)	

* Account fully accrued in 2020. When new plant added use 10% for proposed rate for new assets only

HYDRO ONE
BU 300 COMMON PLANT
CALCULATION OF DEPRECIATION RATES
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Current Accrual Rate	Current Accrual Amount	Proposed Accrual Rate	Proposed Accrual Rate	Difference
INTANGIBLE PLANT							
1610	Computer Software	636,292,886	10.00%	63,629,289	8.33%	53,024,407	(10,604,881)
GENERAL PLANT							
	Depreciable						
1908	Building and Fixtures	130,768,147	1.53%	2,000,753	1.60%	2,096,495	95,742
1910	Leasehold Improvements	45,666,322	5.63%	2,571,014	3.99%	1,822,487	(748,527)
1922	Computer Equipment- Hardware	15,899,996	8.23%	1,308,570	4.28%	681,154	(627,415)
1955	Communication Equipment	22,440,010	-42.07%	(9,440,512)	0.97%	217,643	9,658,156
1980	System Supervisory Equipment	19,681,555	-37.04%	(7,290,048)	11.01%	2,166,766	9,456,814
	Amortized						
1915	Office Furniture and Equipment	10,563,024	14.28%	1,508,400	14.29%	1,509,003	604
1920	Computer Hardware-Minor	67,662,865	20.00%	13,532,573	20.00%	13,532,573	
1925	Computer Software Major	130,222,116	16.66%	21,695,004	16.67%	21,703,686	8,681
1935	Stores Equipment	415,591	12.50%	51,949	12.50%	51,949	
1940	Tools, Shop and Garage Equipment	16,760,402	16.66%	2,792,283	16.67%	2,793,400	1,117
1945	Measuring and Testing Equipment	12,092,835	20.00%	2,418,567	20.00%	2,418,567	
1960	Miscellaneous Equipment	3,417,518	20.00%	683,504	20.00%	683,504	
	Total	1,111,883,265	8.59%	95,461,345	9.24%	102,701,635	7,240,291

APPENDIX C

Depreciation Parameter Comparison

HYDRO ONE
CURRENT AT PROPOSED DEPRECIATION PARAMETERS
BU 210 TRANSMISSION AT DECEMBER 31, 2019

		Current				Proposed		
USofA	**USofA Description**	**Life**	**Curve**	**Rate**	**Procedure**	**Curve**	**Life**	**Procedure**
INTANGIBLE PLANT								
1609	Capital Contributions	10	SQ	10.00%	Amortize	10	SQ	Amortize
1610	Computer Software	10	SQ	10.00%	Amortize	10	SQ	Amortize
TRANSMISSION PLANT								
1705	Land - Depreciable	100	S6	0.96%	SL VG RL	NA	NA	SL BG RL
1706	Land Rights	100	S6	0.96%	SL VG RL	100	R4	SL BG RL
1708	Buildings and Fixtures	50	S6	1.83%	SL VG RL	50	S6	SL BG RL
1715	Station Equipment	45	S2	2.08%	SL VG RL	48	R2.5	SL BG RL
1720	Towers and Fixtures	75	S2	1.27%	SL VG RL	75	R3	SL BG RL
1730	Overhead Conductors and Devices	65	S3	1.44%	SL VG RL	70	R4	SL BG RL
1735	Undergound Conduit	55	S2	1.62%	SL VG RL	60	R2	SL BG RL
1740	Underground Conductors and Devices	55	S2	1.80%	SL VG RL	55	R2	SL BG RL
1745	Roads and Trails	50	S2	1.81%	SL VG RL	60	R4	SL BG RL
General Plant								
	Depreciable							
1905	Land - Depreciable	100	S6	0.98%	SL VG RL	NA	NA	
1908	Buildings and Fixtures	45	S4	2.10%	SL VG RL	50	S4	SL BG RL
1910	Leashold Improvements	10	S6	-1.54%	SL VG RL	10	S6	SL BG RL
1922	Computer Hardware- Major	10	S6	9.28%	SL VG RL	10	S6	SL BG RL
1955	Communication Equipment	20	L2	4.58%	SL VG RL	20	R2.5	SL BG RL
1980	System Supervisory Equipment	10	L2	6.38%	SL VG RL	10	R4	SL BG RL
	Amortizable							
1925	Computer Software Major	6	SQ	16.67%	Amortize	6	SQ	Amortize

BU 220 Current vs Proposed Parameters

		Current				Proposed		
USofA	**Description**	**Curve**	**Life**	**Accrual Rate**	**System**	**Curve**	**Life**	**System**
INTANGIBLE PLANT								
1609	Capital Contributions	10	SQ	10.00%	Amortization	10	SQ	Amortization
1610	Computer Software	10	SQ	10.00%	Amortization	10	SQ	Amortization
DISTRIBUTION PLANT								
	Depreciable							
1805	Land	50	S6	-0.18%	SL- VG-RL	NA	NA	
1806	Land Rights	100	S6	0.94%	SL- VG-RL	100	R4	SL- BG-RL
1808	Building and Fixtures	50	S4	1.82%	SL- VG-RL	50	R4	SL- BG-RL
1815	Transformer Station Equipment > 50 kV	40	R2.5	2.23%	SL- VG-RL	48	R2.5	SL- BG-RL
1820	Distribution Station Equipment < 50 kV	30	R2.5	2.70%	SL- VG-RL	45	R2.5	SL- BG-RL
1830	Poles, Towers and Fixtures	55	S2	1.70%	SL- VG-RL	55	R2	SL- BG-RL
1835	Overhead Conductors and Devices	55	S2	1.69%	SL- VG-RL	58	R2	SL- BG-RL
1840	Underground Conduit	50	S2	1.71%	SL- VG-RL	60	R1	SL- BG-RL
1845	Underground Conductors and Devices	30	S3	2.83%	SL- VG-RL	33	R3	SL- BG-RL
1850	Line Transformers	40	R2	2.31%	SL- VG-RL	40	R2	SL- BG-RL
1860	Meters	20	R5	4.89%	SL- VG-RL	18	R3	SL- BG-RL
1860	Meters (Sustainment) (All transfer to 1860)	15	R5	6.63%	SL- VG-RL	18	R3	SL- BG-RL
1555	Smart Meters	15	R5	6.36%	SL- VG-RL	18	R3	SL- BG-RL
GENERAL PLANT								
1908	Building and Fixtures	50	S4	1.84%	SL- VG-RL	50	S4	SL- BG-RL
1910	Leasehold Improvements	10	S6	5.50%	SL- VG-RL	10	S6	SL- BG-RL
1922	Minor Computer Equipment- Hardware	10	S6	-3.82%	SL- VG-RL	10	S6	SL- BG-RL
1955	Communication Equipment	7	S6	-9.99%	SL- VG-RL	7	S6	SL- BG-RL
1980	System Supervisory Equipment	6	L2	14.94%	SL- VG-RL	6	L2	SL- BG-RL
1985	Sentinel Lighting Rental Units	30	R1.5	2.94%	SL- VG-RL	27	R3	SL- BG-RL
	Amortized							
1925	Computer Application Software	6	SQ	16.66%	Amortization	6	SQ	Amortization

BU 300 Current vs Proposed Parameters

USofA		Current Curve Life	Current Rate	Current System	Proposed Curve Life	Proposed System
INTANGIBLE PLANT						
1610	Computer Software	10 SQ	10.00%	SL-VG-RL	12 SQ	Amortization
GENERAL PLANT						
	Depreciable					
1908	Building and Fixtures	50 S4	1.53%	SL-VG-RL	50 S4	SL-BG-RL
1910	Leasehold Improvements	10 S6	5.63%	SL-VG-RL	10 S6	SL-BG-RL
1922	Computer Equipment- Hardware	10 S6	8.23%	SL-VG-RL	10 S6	SL-BG-RL
1955	Communication Equipment	7 S6	-42.07%	SL-VG-RL	7 S6	SL-BG-RL
1980	System Supervisory Equipment	7 S6	-37.04%	SL-VG-RL	7 S6	SL-BG-RL
	Amortized					
1915	Office Furniture and Equipment	7 SQ	14.28%		7 SQ	Amortization
1920	Computer Hardware-Minor	5 SQ	20.00%		5 SQ	Amortization
1925	Computer Software Major	6 SQ	16.66%		6 SQ	Amortization
1935	Stores Equipment	8 SQ	12.50%		8 SQ	Amortization
1940	Tools, Shop and Garage Equipment	6 SQ	16.66%		6 SQ	Amortization
1945	Measuring and Testing Equipment	5 SQ	20.00%		5 SQ	Amortization
1960	Miscellaneous Equipment	5 SQ	20.00%		5 SQ	Amortization

APPENDIX D
Summary of Depreciation Book Reserve, Reallocated Depreciation Reserve, and Theoretical Depreciation Reserve

HYDRO ONE
BU 210 TRANSMISSION PLANT
COMPARISON OF PLANT AND ACCUMULATED DEPRECIATION
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Book Reserve	Allocated Reserve	Theoretical Reserve	Book - Allocated Reserve Difference
INTANGIBLE PLANT						
1609	Capital Contributions	8,740,895	993,019	815,204	815,204	177,815
1610	Computer Software	16,340,452	2,228,611	2,491,028	2,491,028	(262,417)
	Total Intangible	25,081,347	3,221,631	3,306,233	3,306,233	(84,602)
TRANSMISSION PLANT						
1705	Land - Depreciable					
1706	Land Rights	257,330,714	64,529,829	91,691,253	76,369,115	(27,161,424)
1708	Buildings and Fixtures	602,955,047	257,599,976	258,104,121	222,210,648	(504,145)
1715	Station Equipment	10,331,573,044	3,488,635,526	3,470,648,634	2,909,320,778	17,986,892
1720	Towers and Fixtures	2,783,289,839	913,200,613	876,789,671	730,273,051	36,410,943
1730	Overhead Conductors and Devices	2,019,114,308	682,292,689	750,628,792	628,652,056	(68,336,103)
1735	Undergound Conduit	310,338,976	135,895,617	141,977,003	118,251,825	(6,081,386)
1740	Underground Conductors and Devices	153,702,365	26,986,645	28,246,268	23,526,153	(1,259,622)
1745	Roads and Trails	308,456,260	180,556,112	129,735,928	109,989,905	50,820,184
	Suspense Activity		(2,128,553)	0	0	(2,128,553)
1705	Non Depreciable Land		253,214	0	0	253,214
	Total Transmission	16,766,760,553	5,747,821,670	5,747,821,670	4,818,593,530	(0)
General Plant						
	Depreciable					
1905N	Land Non Depreciable		582,963	0	0	582,963
1908	Buildings and Fixtures	151,615,103	59,221,096	64,572,586	55,602,894	(5,351,490)
1910	Leashold Improvements	100,228	94,752	100,228	100,228	(5,476)
1922	Computer Hardware- Major	15,167,911	8,512,298	10,469,221	9,236,037	(1,956,923)
1955	Communication Equipment	499,352,541	266,739,145	309,378,029	267,600,610	(42,638,884)
1980	System Supervisory Equipment	452,165,605	443,285,648	393,832,779	375,645,469	49,452,869
	Suspense Activity		1,544			1,544
	Total General	1,118,401,387	778,437,445	778,352,843	708,185,238	84,602
	Amortizable					
1925	Computer Software Major	8,931,156	8,931,156	8,931,156	8,931,156	0
	Total Amortizable	8,931,156	8,931,156	8,931,156	8,931,156	0
	Total Depreciable	17,919,174,444	6,538,411,901	6,538,411,901	5,539,016,157	0

HYDRO ONE
BU 220 DISTRIBUTION PLANT
COMPARISON OF PLANT AND ACCUMULATED DEPRECIATION
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Book Reserve 12/31/2019	Allocated Reserve	Theoretical Reserve	Book - Allocated Reserve Difference
INTANGIBLE PLANT						
1609	Capital Contributions	48,642,612	20,649,642	21,128,813	21,128,813	(479,171)
1610	Computer Software	255,544,978	120,873,652	122,393,754	122,393,754	(1,520,102)
DISTRIBUTION PLANT						
Depreciable						
1805	Land					
1806	Land Rights	240,422,418	83,772,336	88,311,968	73,075,310	(4,539,632)
1808	Building and Fixtures	27,043,692	4,535,373	5,083,754	4,234,550	(548,381)
1815	Transformer Station Equipment > 50 kV	231,496,548	86,541,540	78,682,599	65,177,690	7,858,941
1820	Distribution Station Equipment < 50 kV	799,777,839	322,877,955	258,008,331	213,945,221	64,869,625
1830	Poles, Towers and Fixtures	3,647,830,496	987,948,414	1,008,950,927	834,877,096	(21,002,513)
1835	Overhead Conductors and Devices	2,068,367,636	743,773,559	671,994,615	556,053,902	71,778,944
1840	Underground Conduit	24,297,741	14,971,891	10,007,522	8,280,902	4,964,369
1845	Underground Conductors and Devices	926,229,848	543,203,928	508,301,406	423,607,568	34,902,522
1850	Line Transformers	2,081,972,509	749,335,642	793,560,796	657,843,691	(44,225,155)
1860	Meters	264,973,413	16,413,730	43,119,808	35,680,253	(26,706,079)
1860	Meters (Sustainment) (All transfer to 1860)	0	5,175,673			5,175,673
1555	Smart Meters	330,328,119	133,807,017	205,884,574	170,362,854	(72,077,557)
1565	Smart Meters		(746,190)			(746,190)
Suspense			(19,704,568)			(19,704,568)
GENERAL PLANT						
Depreciable						
1908	Building and Fixtures	147,672,903	53,887,937	61,246,363	48,594,866	(7,358,426)
1910	Leasehold Improvements	8,149,230	5,576,275	7,080,431	6,239,885	(1,504,156)
1922	Minor Computer Equipment- Hardware	4,733,131	4,164,976	4,572,019	4,394,855	(407,043)
1955	Communication Equipment	29,086,977	19,763,440	27,249,838	26,423,497	(7,486,398)
1980	System Supervisory Equipment	133,312,933	127,458,917	103,654,582	83,831,697	23,804,335
1985	Sentinel Lighting Rental Units	15,300,030	8,819,430	11,450,642	9,155,017	(2,631,212)
	Suspense		(2,237,245)			(2,237,245)
1925	Computer Application Software	41,261,340	39,200,507	39,381,089	39,381,089	(180,581)
		11,326,444,391	4,070,063,832	4,070,063,832	3,404,682,512	0

HYDRO ONE
BU 300 COMMON PLANT
COMPARISON OF PLANT AND ACCUMULATED DEPRECIATION
USING SL- BROAD GROUP REMAINING LIFE RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account	Description	Plant Balance Total at 12/31/2019	Book Reserve	Allocated Reserve	Theoretical Reserve	Book - Allocated Reserve Difference
INTANGIBLE PLANT						
1610	Computer Software	636,292,886	402,672,668	362,672,761	362,672,761	39,999,908
GENERAL PLANT						
	Depreciable					
1908	Building and Fixtures	130,768,147	58,629,027	55,318,804	36,645,613	3,310,223
1910	Leasehold Improvements	45,666,322	22,677,387	38,286,428	27,174,410	(15,609,041)
1922	Computer Equipment- Hardware	15,899,996	9,253,698	12,882,437	8,856,192	(3,628,739)
1955	Communication Equipment	22,440,010	(1,483,048)	22,086,197	17,228,624	(23,569,244)
1980	System Supervisory Equipment	19,681,555	403,839	11,150,901	8,611,963	(10,747,063)
	Suspense		12,087,036			12,087,036
	Amortized					
1915	Office Furniture and Equipment	10,563,024	6,674,069	6,838,830	6,838,830	(164,761)
1920	Computer Hardware-Minor	67,662,865	26,989,978	30,371,747	30,371,747	(3,381,768)
1925	Computer Software Major	130,222,116	120,170,352	117,919,572	117,919,572	2,250,780
1935	Stores Equipment	415,591	218,046	231,097	231,097	(13,051)
1940	Tools, Shop and Garage Equipment	16,760,402	10,115,737	10,713,938	10,713,938	(598,201)
1945	Measuring and Testing Equipment	12,092,835	6,068,443	5,988,930	5,988,930	79,513
1960	Miscellaneous Equipment	3,417,518	1,267,404	1,282,996	1,282,996	(15,592)
	Total	1,111,883,265	675,744,637	675,744,637	634,536,673	

Allocation methodology assumes that for intangible plant and amortized plant the reallocated reserve equals the theoretical reserve.
Any excess or deficiency is allocated across the depreciable plant accounts.

APPENDIX E

Summary of Projection Lives by Business Unit

Hydro One 2019 Tx BU 210
Summary of Project Lives

Description	Current P-Life		Recommended P-Life		Plant	
	UsoA	Category	UsoA	Category	UsoA	Category
INTANGIBLE PLANT						
1609 Contributed Capital						
Contribued Capital		10		10		8,740,895
Total USoA 1609	10 SQ	10	10 SQ	10		8,740,895
1610 Computer Software						
1656 Genrl- Adm & Serv- Lan Fib Opt		10		10		1,894,826
1657 Genrl - Adm & Serv-Sys Software		10		10		1,569,069
Unknown		10		10		12,876,557
Total USoA 1610	10 SQ	10	10 SQ	10		16,340,452
TRANSMISSION PLANT						
1705D Land - Depreciable						
1210 Land Purch & Acqui (old Cap)		100		100		
Total USoA 1705D	100 S6	100		100		
1706 Land Rights						
1111 Rights & Easmnts <Landscaping>		100		100		2,959,657
1212 Easmnts & Rights		100		100		243,706,925
Land right		100		100		10,664,133
Total USoA 1706	100 S6	100	100 R4	100		257,330,714
1708 Buildings and Fixtures						
1120 Stn Building Components		50		50		470,950,497
1121 Cranes & Hoists In Bldgs		50		50		4,814,954
1260 Bldg W U/G Cable		50		50		31,740,987
1270 Serv Structures		50		50		25,538,801
Buildings & Fixtures		50		50		69,909,807
Total USoA 1708	50 S6	50	50 S6	50		602,955,047
1715 Station Equipment						
1111 Rights & Easmnts <Landscaping>		50		50		312
1112 Landscaping		50		50		30,684,868
1113 Site Imprv-Excl Fence		50		50		371,039,189
1123 Cost Equip Foundations		65		65		673,814,714
1127 Steel/Pipe Struc For Switch Eq		65		65		467,361,522
1128 Fences		30		30		143,923,281
1150 Rot Elec Eqp (No Wind'G)		65		65		18,782,246
1151 Rot Elec Eqp(Wind'Gs)		65		65		301,966
1152 Capacitors		30		30		151,444,578
1155 Regulators Incl Instal Cost		40		40		11,022,212
1159 Mobile Sub-Stations		30		30		3,350,897
1160 Misc Stn Eqp-Trsf/Volt Trsf		40		40		402,602,094
1161 Serv Swg-Ac/Dc-Light Trsf		55		55		280,546,279
1162 Control Cable & Conduit		60		60		470,546,755
1163 Grounding Systems		60		60		234,986,449
1164 Metering Units		15		15		63,979,446
1166 Switchboards		35		35		769,360,047
1167 Sup Cntrl-Prim H/Ware& Sys		20		20		651,570,657
1168 Sup Cntrl - Prim Appl S/Ware		20		20		23,822,684
1170 Service Systems		50		50		217,088,409
1175 Transf <=50Kv or <5Mva		50		50		71,177,422
1176 Trnsf <=115Kv or >5Mva		50		50		451,556,602
1177 Transf <=230Kv		50		50		466,856,199
1178 Transf >230Kv		50		50		333,436,542
1179 Transf Instal Cost		50		50		416,506,358

Hydro One 2019 Tx BU 210
Summary of Project Lives

Description	Current P-Life		Recommended P-Life		Plant	
	UsoA	Category	UsoA	Category	UsoA	Category
1181 Switching >=34.5Kv		45		45		212,571,500
1182 Switching >=115Kv		45		45		158,439,340
1183 Switching >=230Kv		45		45		183,049,683
1184 Sf6 Switchgear		45		45		411,887,025
1185 Reclosures		40		40		1,538,864
1186 Misc Switching		45		45		194,835,765
1187 Bus (Rigid & Strain)		45		45		341,903,275
1188 Cable		45		45		142,186,172
1190 Cct Breakers >=230Kv		45		45		329,577,808
1191 Cct Breakers >=115Kv		45		45		124,614,994
1192 Cct Breakers <115Kv		45		45		165,568,109
1193 Cct Breakers Install		45		45		255,894,446
1194 Encld Swgr (All Compnt)		45		45		85,635,341
Station equipment		45		45		998,108,991
Total USoA 1715	45 S2	42	48 R2.5	46.48		10,331,573,044
1720 Towers and Fixtures						
1230 Steel Twr, Sup & Ftng		90		90		1,621,295,029
1240 Poles Incl Xarm, Guy, Anchr		50		50		845,894,804
1245 Steel Poles		90		90		116,630,691
1249 Composite Poles		80		80		8,147,241
Tower and Fixtures		75		75		191,322,074
Total USoA 1720	75 S2	73	75 R3	5.39		2,783,289,839
1730 Overhead Conductors and Devices						
1220 Insulators		60		60		371,337,956
1232 Grounding System		50		50		163,470,457
1235 Opt Grnd Wire		50		50		67,493,185
1250 Overhd Conductor All		70		70		1,128,086,876
1252 Switches&Devce		60		60		48,899,023
1254 Retension Costs		60		60		40,718,896
Overhead Conductors and Devices		65		65		199,107,914
Total USoA 1730	65 S3	64	70 R4	63.26		2,019,114,308
1735 Underground Conduit						
1220 Insulators		55		60		140,166
1261 Ugrd Conduit		55		60		310,198,810
Total USoA 1735	55 S2	55	60 R2	60		310,338,976
1740 Underground Conductors and Devices						
1262 Ugrd Conductor		55		55		150,502,197
Underground Conductors and Devices		55		55		3,200,168
Total USoA 1740	55 S2	55	55 R2	55		153,702,365
1745 Roads and Trails						
1122 Perm Rds & Surfc Area		25		25		62,298,819
1174 Railway Track		30		30		8,007,705
1215 Clrng & Overbldng		70		70		162,494,424
1271 Roads & Trails		70		70		48,821,877
Roads and Trails		50		50		26,833,435
Total USoA 1745	50 S2	49	60 R4	21.26		308,456,260
GENERAL PLANT						
Depreciable						
1905D Land - Depreciable						
1828 Genrl -Comm -Site Improvement		100				
Total USoA 1905D	100 S6	100				

Hydro One 2019 Tx BU 210
Summary of Project Lives

Description	Current P-Life		Recommended P-Life		Plant	
	UsoA	Category	UsoA	Category	UsoA	Category
1908 Buildings and Fixtures						
1612 Genrl -Adm & Serv-Landscaping		50		50		23,920
1621 Genrl -Adm & Serv_Bld Frame & Mtl		50		50		33,080,432
1622 Genrl -Adm & Serv-Rds & Surfaces		25		25		4,049,783
1623 Genrl -Adm & Serv-Bld Frame		50		50		15,167,793
1628 Genrl -Adm & Serv-Fence		30		30		4,126,610
1650 Genrl - Adm & Serv-Distn Sys		50		50		14,510,214
1663 Genrl -Adm & Serv_Aux Eq Bld		50		50		13,235,290
1813 Genrl -Comm-Landscaping		50		50		62,867
1820 Genrl -Comm-Buildings		50		50		13,855,943
1853 Genrl -Comm-Str & Footings-Poles		50		50		33,313,180
Buildings and Fixtures		45		45		20,189,072
Total USoA 1908	45 S4	47	50 S4	31.53		151,615,103
1910 Leasehold Improvements						
1624 Genrl -Adm & Serv-Bldgs-Leased		10		10		100,228
Total USoA 1910	10 S6	10	10 S6	10		100,228
1922 Computer Hardware - Major						
1653 Genrl -Adm & Serv-Lan Elect Dev		10		10		12,746,679
1655 Genrl -Adm & Serv-Lan Cable		10		10		672,183
1656 Genrl -Adm & Serv-Lan Fib Opt		10		10		987,842
1657 Genrl - Adm & Serv-Sys Software		10		10		
Computer Hardware - Major		10		10		761,207
Total USoA 1922	10 S6	10	10 S6	10		15,167,911
1955 Communication Equipment						
1654 Genrl - Adm & Serv-Telcm Wire		7		7		2,594,458
1658 Genrl - Adm & Serv-Telcm Equip		7		7		2,246,461
1659 Genrl - Adm & Serv-Telcom Sw		7		7		717,041
1850 Genrl - Comm-Radio Equipment		10		10		56,562,632
1854 Genrl - Comm-Admin Telcom Equp		7		7		23,021,767
1863 Genrl - Comm Optical Wire		25		25		96,198,429
1864 Fenrl - Comm-Opt Wire Termtn		20		20		159,723,166
1865 Genrl - Comm-Opgw W Fib Cable		25		25		69,939,422
1870 Genrl - Comm-Power Supply Equp		15		15		20,776,985
Communication Equipment		20		20		67,572,178
Total USoA 1955	20 L2	17	20 R2.5	16.80		499,352,541
1980 System Supervisory Equipment						
1840 Genrl - Comm-Pwr Line Equip		15		15		172,434,836
1844 Genrl - Comm-Sys Cntrl Comp Eq		6		6		149,272,583
1846 Genrl - Comm-Dacs Appl S/Ware		6		6		2,678,368
1847 Genrl - Comm-Dacs Sys S/Ware		6		6		98,568,831
1860 Genrl - Comm-Pole		25		25		28,776,785
1864 Genrl - Comm-Opt Wire Termtn		20		20		16,209
System Supervisory Equipment		10		10		417,992
Total USoA 1980	10 L2	8	10 R4	4.93		452,165,605
Amortizable						
1925 Computer Software - Major						
1657 Genrl - Adm & Serv-Sys Software		6		6		8,931,156
Total USoA 1925	6 SQ	6	6 SQ	6		8,931,156

HYDRO ONE
BU 220 DISTRIBUTION PLANT
DEPRECIATION STUDY AS OF DECEMBER 31, 2019
SUMMARY OF P-LIFE ANALYSIS

	Current P-Life		Recommended P-Life		Plant
INTANGIBLE PLANT					
1609 Capital Contributions					
Computer software - Capital Contribution		10		10	3,452,431
2000		10		10	45,190,181
Total USoA 1609	10 SQ		10 SQ	10.00	48,642,612
1610 Computer Software					
Computer Software		10		10	39,939,973
1656		10		10	2,672,767
1657 Genrl - Adm & Serv-Sys Software		10		10	212,932,238
Total USoA 1610	10 SQ	10	10 SQ	10.00	255,544,978
DISTRIBUTION PLANT					
1806 Land Rights					
1806 Land Rights					
Land Rights					7,373,121
1111 Rights & Easmnts <Landscaping>		100		100	1,150,944
1212 Easmnts & Rights, Purch & Acqui		100		100	6,447,629
1215 Clrng & Overbldg		100		100	45,004,178
1311 Rural Intl Clring & Ovrbldg		100		100	177,843,246
1313 Rural Easements-Land Rights		100		100	2,589,204
1314 Rural Perm Rd & Surf Areas		25		25	14,095
Total USoA 1806	100 S6	100	100 R4	96.93	240,422,418
1808 Buildings & Fixtures					
1112 Landscaping		50		50	1,567,559
1120 Stn Buildings Components		50		50	22,527,848
1270 Serv Structures		50		50	2,250,042
1312 Rural Landscaping		50		50	698,243
Total USoA 1808	50 S4	50	50 R4	50.00	27,043,692
1815 Transformer Station Equipment > 50 kV					
Misc. Transformer Station Equipment > 50 kV		50		60	11,434,653
1113 Site Imprv - Excl Fence, Rd, Easmt		50		50	10,322,751
1122 Perm Rds & Surfc Area		25		60	3,414,614
1123 Cost Equip Foundations, Excav		50		65	12,241,338
1127 Steel/Pipe Struc for Switch Eq		50		65	13,835,009
1128 Fences, Gates, Bldg		30		30	7,709,810
1150 Rot Elec Eqp (No Wind'G)		65		20	129,369
1152 Capacitors		35		35	762,947
1155 Regulators Incl Instal Cost		40		40	2,057,108
1160 Misc Stn Eqp - Trsf/Volt Trsf		40		40	12,692,406
1161 Serv Swg - Ac/Dc-Light Trsf		50		55	2,397,858
1162 Control Cable & Conduit		50		60	3,577,327
1163 Grounding Systems		50		60	8,478,408
1164 Metering Units		15		15	7,866,112
1166 Switchboards		25		40	1,272,929
1167 Sup Cntrl - Prim H/Ware & Sys		20		20	1,253,618
1168 Sup Cntrl - Prim Appl S/Ware		20		20	646,032
1170 Service Systems		50		50	80,312
1175 Transf <=50Kv or <5Mva		50		50	6,586,096
1176 Transf <=115Kv or >5Mva		50		50	54,522,329
1177 Transf <=230Kv		50		50	7,473,860
1179 Transf Instal Cost		50		50	13,317,741
1181 Switching >=34.5Kv		40		40	8,663,807
1182 Switching >=115Kv		40		40	3,433,869
1184 Sf6 Switchgear		40		40	284,934
1185 Reclosures		40		40	22,982,798
1186 Misc Switching		40		45	3,336,473
1187 Bus (Rigid & Strain)		40		45	4,749,941
1188 Cable		40		45	4,488,552
1190 Cct Breakers >=230Kv		40		45	2,997
1191 Cct Breakers >=115Kv		40		45	706,868
1192 Cct Breakers <115Kv		40		45	540,039
1193 Cct Breakers Install		40		45	130,016
1194 Encld Swgr (All Compnt)		40		40	103,627
Total USoA 1815	40 R2.5	42	48 R2.5	48.21	231,496,548

HYDRO ONE
BU 220 DISTRIBUTION PLANT
DEPRECIATION STUDY AS OF DECEMBER 31, 2019
SUMMARY OF P-LIFE ANALYSIS

	Current P-Life		Recommended P-Life		Plant
1820 Distribution Station Equipment < 50 kV					
Misc Distribution Statnio Equipment < 50 kV		60		60	78,148,136
1113 Site Imprv - Excl Fence, Rd, Easmt		50		50	21,573,130
1122 Perm Rds & Surfc Area		60		60	8,513,238
1123 Cost Equip Foundations, Excav		60		65	41,089,729
1127 Steel/Pipe Struc for Switch Eq		50		65	37,312,713
1128 Fences, Gates, Bldg		50		30	34,379,700
1150 Rot Elec Eqp (No Wind'G)		65		20	1,150,165
1151 Rot Elec Eqp (Wind'Gs)		65		20	275,616
1152 Capacitors		35		35	426,170
1155 Regulators Incl Instal Cost		40		40	19,403,769
1159 Mobile Sub-Stations		30		30	27,415,878
1160 Misc Stn Eqp - Trsf/Volt Trsf		30		40	54,074,568
1161 Serv Swg - Ac/Dc-Light Trsf		50		55	4,802,480
1162 Control Cable & Conduit		50		60	7,095,245
1163 Grounding Systems		50		60	29,812,811
1164 Metering Units		12		15	96,245,560
1166 Switchboards		25		40	2,129,164
1167 Sup Cntrl - Prim H/Ware & Sys		15		20	8,697,192
1168 Sup Cntrl - Prim Appl S/Ware		15		20	590,086
1170 Service Systems		50		50	309,678
1173 Transf <=50Kv & >5Mva		50		50	102,309,358
1175 Transf <=50Kv or <5Mva		50		50	78,816,922
1179 Transf Instal Cost		50		50	37,550,132
1181 Switching >=34.5Kv		50		40	22,436,640
1184 Sf6 Switchgear		35		40	2,246,947
1185 Reclosures		40		40	50,779,371
1186 Misc Switching		50		45	8,070,419
1187 Bus (Rigid & Strain)		50		45	7,425,668
1188 Cable		50		45	12,678,060
1192 Cct Breakers <115Kv		40		45	521,791
1193 Cct Breakers Install		40		45	197,475
1194 Encld Swgr (All Compnt)		40		40	3,300,027
Total USoA 1820	30 R2.5	29	48 R2.5	44.77	799,777,839
1830 Poles, Towers and Fixtures					
Unidentfied		47		47	449,301,552
1230 Steel Twr, Sup & Ftng		75		75	1,195,861
1240 Poles Incl Xarm, Guy, Anchr		60		55	681,720,392
1245 Steel Poles		75		75	5,152,248
1249 Composite Poles		80		80	18,217,500
1340 Rural supports-Wood,Concret		55		55	2,486,502,196
1349 Steel Poles Support		75		75	5,740,747
Total UsoA 1830	55 S2	55	55 R2	54.21	3,647,830,496
1835 Overhead Conductors and Devices					
Unidentfied		45		45	4,946,546
1220 Insulators		45		45	76,890,368
1232 Grounding System		45		45	2,367,028
1235 Opt Grnd Wire		50		50	2,906
1250 Overhd Conductor All		60		65	369,773,551
1252 Switches & Devce		40		40	78,209,959
1320 Rural Switches/Load Interptr		40		40	311,945,015
1321 Rural Oil Sectnizer & Reclsr Sw		40		40	34,825,892
1322 Rural Instasectnlr & Rclsr Sw		45		45	26,614,903
1330 Rural Conductor Prim & Sec Overh		60		65	1,107,649,273
1376 Rural Voltage Regulators		40		40	26,729,892
1377 Rural Instl Vltge Regulators		40		40	13,455,780
1378 Rural Capacitors		40		40	10,234,930
1379 Rural install Capacitors		40		40	4,721,593
Total USoA 1835	55 S2	55	58 R2	58.13	2,068,367,636
1261 Ugrd Conduit		50		60	24,297,741
Total USoA 1840	50 S2	50	60 R1	60.00	24,297,741

HYDRO ONE
BU 220 DISTRIBUTION PLANT
DEPRECIATION STUDY AS OF DECEMBER 31, 2019
SUMMARY OF P-LIFE ANALYSIS

	Current P-Life		Recommended P-Life		Plant
1845 Underground Conductors and Devices					
Unidentfied		30		30	8,229,246
1231 Condctr Submarine Cbl		30		20	1,890,788
1262 Ugrd Conductor		30		30	21,885,607
1293 Ugrd Conductor Primary		30		30	1,797,750
1331 Rural Condctr Submarine Cbl		30		20	157,977,649
1393 Rural U/grd Conductor-Prime		30		30	207,203,542
1394 Rural U/Grd Condr Sec Serv		30		40	472,699,275
1395 Rural U/Grd Fuse Housing		30		30	54,545,991
Total USoA 1845	30 S3	30	33 R3	33.38	926,229,848
1850 Line Transformers					
Unidentfied		40		40	11,222,216
1255 Dx - Subtx Transformers		40		40	5,712,331
1256 Dx - Subtx Trnsfmrs Install		40		40	3,926,853
1295 U/GRD Fuse Housing		40		40	2,610,798
1341 Rural OH Trfmrs <=25 Kva		40		40	365,409,280
1342 Rural OH Trfmrs >25 & <=50 Kva		40		40	127,096,133
1343 Rural OH Trfmrs >50 & <=75 Kva		40		40	42,841,302
1344 Rural OH Trfmr >75 & <=100 Kva		40		40	35,865,777
1345 Pole Top Trfs >100 & <=200 Kva		40		40	19,418,760
1346 Pole Top Trfs >200 & <=300 Kva		40		40	9,456,497
1347 Dx - Ptop Trfmrs >300 & <=500 Kva		40		40	1,021,577
1348 Dx - Pole Top Trfmrs >500 Kva		40		40	931,265
1351 Rural Trsf Instal		40		40	870,698,262
1385 Rural U/Grd Trsf 0-50Kva		40		40	106,294,602
1386 Rural U/Grd Trsf 51-75 Kva		40		40	48,055,309
1387 Rural U/Grd Trsf 76-100 Kva		40		40	42,964,537
1388 Rural U/Grd Trsf 101-200Kva		40		40	19,374,797
1389 Rural U/Grd Trsf 201-300Kva		40		40	19,578,896
1390 Rural U/Grd Trsf 301-500Kva		40		40	35,557,176
1391 Rural U/Grd Trsf 501-750Kva		40		40	13,020,666
1392 Rural U/Grd Trsf >750Kva		40		40	10,627,242
1396 Rural U/Grd Trfmrs Instal		40		40	290,288,232
Total USoA 1850	40 R2	40	40 R2	40.00	2,081,972,509
1860 Meters					
All conventional meters are now 1 category		20		20	127,522,542
1356 Meters - Watthour, Single Ph		20		18	4,652,940
1358 Metering Polyphase		20		18	2,126,317
1360 PRIM M UNIT >=75 (MAT ONLY)		20		18	42,879
1361 Install - W/Hr & Dmd M S Ph		20		18	12,734,926
1362 Install - Meters Polyphase		20		18	1,985,716
1363 PRIM M UNIT<'75(MAT&INST)		20		18	8,881
1365 - Smart meters. See below		15		18	115,899,211
Total USoA 1860 excluding 1365	20 R5	20	18 R3	18.96	264,973,413
UsoA 1860 1365	15 R5	15			
*All assets being depreciated at 1860 1365 Rate					
1555 Smart Meters (No additions since 2016)					
1365 Smart Mtr - Incl Cost & Inst		15		15	330,328,119
Total USoA 1555	15 R5	15	18 R3	15.00	330,328,119
GENERAL PLANT					
Depreciable					
1908 Buildings and Fixtures					
Unidentfied		50		50	10,326,439
1612 Genrl - Adm & Serv-Landscaping		50		50	88,004
1621 Genrl - Adm & Serv Bld Frame & Mtl		50		50	51,623,437
1622 Genrl - Adm & Serv-Rds & Surfaces		50		50	16,190,102
1623 Genrl - Adm & Serv-Bld Frame		50		50	51,163,817
1628 Genrl - Adm - & Serv-Fence, Gate		30		30	1,924,207
1650 Genrl - Adm & Serv-Distn Sys		50		50	1,890,885
1663 Genrl - Adm & Serv Aux Eq Bld		50		50	14,331,390
1853 Communication building		50		50	134,622
Total USoA 1908	50 S4	49	50 S4	49.74	147,672,903

HYDRO ONE
BU 220 DISTRIBUTION PLANT
DEPRECIATION STUDY AS OF DECEMBER 31, 2019
SUMMARY OF P-LIFE ANALYSIS

	Current P-Life		Recommended P-Life		Plant
1910 Leasehold Improvements					
Unidentfied		10		10	183,579
1624 Genrl - Adm & Serv-Bldgs-Leased		10		10	7,965,651
Total USoA 1910	10 S6	10	10 S6	10.00	8,149,230
1922 Computer Hardware - Major					
1653 Genrl - Adm & Serv-Lan Elect Dev		10		10	2,035,010
1655 Genrl - Adm & Serv-Lan Cable		10		10	2,290,724
1656 Genrl - Adm & Serv-Lan Fib Opt		10		10	161,333
1657 Genrl - Adm & Serv-Sys Software		10		10	246,063
Total USoA 1922	10 S6	10	10 S6	10.00	4,733,131
1955 Communication Equipment					
Communication equipment		10		10	1,288,297
1654 Genrl - Adm & Serv-Telcm Wire		7		7	7,108,308
1656 Genrl - Adm & Serv-Lan Fib Opt		10		10	117,949
1658 Genrl - Adm & Serv-Telcm Equip		7		7	11,610,451
1659 Genrl - Adm & Serv-Telcom Sw		7		7	186,059
1850 Genrl - Comm Radio Equipment		10		10	7,670,314
1854 Genrl - Admin Telcom Equip		7		7	668,746
1863 Genrl - Comm Optical Wire		25		25	222,029
1864 Genrl - Comm Optical Wire Terrntn		7		7	211,852
1870 Genrl - Comm Power Supply Equp		15		15	2,972
Total USoA 1955	7 S6	7	7 S6	8.07	29,086,977
1980 System Supervisory Equipment					
1840 Genrl - Comm Pwr Line Equip		15		15	138,912
1844 Genrl - Comm Sys Cntrl Comp Eq		6		6	6,387,414
1847 Genrl - Comm Dacs Sys S/Ware		6		6	126,720,243
1860 Genrl - Comm Pole Comm Cab Bths		25		25	66,364
Total USoA 1980	6 L2	6	6 L2	6.02	133,312,933
1985 Sentinel Lightning Rental Units					
Genrl - Dist Sentnal Lite Units		30		30	1,000
1374 Genrl - Dist Sentnal Lite Units		30		30	15,299,030
Total USoA 1985	30 R1.5	30	27 R3	30.00	15,300,030
Amortizable					
1925 Computer Software - Major					
1657 Genrl - Adm & Serv-Sys Software		6		6	41,261,340
Total USoA 1925	6 SQ	6	6 SQ	6.00	41,261,340

HYDRO ONE
BU 300 COMMON PLANT
DEPRECIATION STUDY AS OF DECEMBER 31, 2019
SUMMARY OF P-LIFE ANALYSIS

Description	Current P-Life		Recommended P-Life		Plant	
	UsoA	Category	UsoA	Category	UsoA	Category
INTANGIBLE PLANT						
1610 Computer Software						
1656 Genrl- Adm & Serv- Lan Fib Opt		10			10	30,330,585
1657 Genrl - Adm & Serv-Sys Software		10			12	486,755,349
Computer Software		10			12	119,206,953
Total USoA 1610	10 SQ	10		12 SQ	11.90	636,292,886
GENERAL PLANT						
Depreciable						
1610 Buildings and Fixtures						
1621 Genrl - Adm & Serv-Bld Frame&Mtl		50			50	43,375,143
1622 Genrl - Adm & Serv-Rds&Surfaces		25			25	6,375,550
1623 Genrl - Adm & Serv-Bld Frame		50			50	43,732,509
1628 Genrl - Adm & Serv-Fence,Gate		30			30	1,445,483
1650 Genrl - Adm & Serv-Distn Sys		50			50	987,634
1663 Genrl - Adm & Serv-Aux Eq Bld		50			50	14,292,836
1812 Genrl- Comm-Road and Surface Areas		50			50	2,408
Buildings and Fixtures		50			10	20,556,584
Total USoA 1908	50 S4	47		50 S4	42.27	130,768,147
1910 Leasehold Improvements						
1624 Genrl - Adm & Serv-Bldgs-Leased		10			10	45,291,202
Leasehold Improvemetns		10			10	375,120
Total USoA 1910	10 S6	10		10 S6	10.00	45,666,322
1922 Computer Equipment - Hardware						
Unidentifed		10			10	3,558,618
1653 Genrl - Adm & Serv-Lan Elect Dev		10			10	11,836,023
1655 Genrl - Adm & Serv-Lan Cable		10			10	505,356
Total USoA 1922	10 S6	10		10 S6	10.00	15,899,996
1955 Communication Equipment						
1654 Genrl - Adm & Serv-Telcm Wire		7			7	2,396,026
1658 Genrl - Adm & Serv-Telcm Equip		7			7	15,285,793
1850 Genrl - Comm-Radio Equipment		10			10	11,318
1854 Genrl - Comm-Admin Telcom Equp		7			7	4,433,155
1870		?			7	313,718
Total USoA 1955	7 S6	7		7 S6	7.00	22,440,009
1980 System Supervisory Equipment						
1840 Genrl - Comm-Pwr Line Equip		15			15	389,017
1844 - Genrl - Comm-Sys Cntrl Comp Eq		6			6	3,705,164
1847 Genrl- Comm-DASC Sys S/Ware		6			6	3,240,918
System Supervisory Equipment		7			7	12,346,456
Total USoA 1980	7 S6	6		7 S6	6.81	19,681,555
Amortizable						
1915 Office Furniture and Equipment						
S007 Mfa - 7 Yr Sl		7			7	10,563,024
Total USoA 1915	7 SQ	7		7 SQ	7.00	10,563,024
1920 Computer Hardware - Minor						
S005 Computers - 40% Db (Default)		5			5	67,662,865
Total USoA 1920	5 SQ	5		5 SQ	5.00	67,662,865
1925 Computer Software - Major						
1657 Genrl - Adm & Serv-Sys Software		6			6	129,894,394
Computer Hardware - Major		6			6	327,722
Total USoA 1925	6 SQ	6		6 SQ	6.00	130,222,116

HYDRO ONE
BU 300 COMMON PLANT
DEPRECIATION STUDY AS OF DECEMBER 31, 2019
SUMMARY OF P-LIFE ANALYSIS

Description	Current P-Life		Recommended P-Life		Plant	
	UsoA	Category	UsoA	Category	UsoA	Category
1935 Stores Equipment						
S008 Mfa - 8Yr Sl(Def)		8			8	415,591
Total USoA 1935	8 SQ	8		8 SQ	8.00	415,591
1940 Tools, Shop and Garage Equipment						
S006 Mfa - 6Yr Sl(Def)		8			8	16,760,402
Total USoA 1940	8 SQ	8		8 SQ	8.00	16,760,402
1945 Measurement and Testing Equipment						
S005 Mfa - 5Yr Sl(Def)		5			5	12,092,835
Total USoA 1945	5 SQ	5		5 SQ	5.00	12,092,835
1960 Miscellaneous Equipment						
S005 Mfa - 5Yr Sl(Def)		5			5	3,417,518
Total USoA 1960	5 SQ	5		5 SQ	5.00	3,417,518
Total BU 300						1,111,883,265

APPENDIX F
Alliance Consulting Group –
Background and Qualifications

COMPANY PROFILE

Alliance Consulting Group is an international consulting firm formed in 2004 by Dane Watson. In addition to the partner, Alliance also has three full-time Senior Consultants, Dr. Karen Ponder, Ms. Rhonda Watts and Ms. Rebecca Richards as well as other support staff. Alliance is dedicated to providing quality consulting and expert services to the utility industry. Our professionals have more than 120 years of combined experience around the utility industry, and we have been employed in the industry as utility employees and consultants.

The Alliance Consulting Group has performed over 275 depreciation studies for electric, gas, steam, water, wastewater, cable and communications utilities across the country and Canada since its founding by Mr. Watson in 2004. These utilities encompass regulated, non-regulated, municipal and federal agencies. The studies were provided in a timely manner with thorough analysis.

PERSONNEL

PEOPLE

DANE WATSON, PROJECT MANAGER

The project manager will be Dane Watson of Alliance. He was previously employed as a Property Accounting Services Manager for TXU and has twenty years of experience at a Fortune 100 utility in property accounting, depreciation and valuation. He has managed fixed asset accounting for regulated entities and non-regulated entities. He has an industry-wide reputation with significant experience as an expert witness in depreciation, valuation and rate base areas and has provided testimony and support in many state regulatory commission dockets. Mr. Watson has conducted depreciation studies for a variety of assets for both regulated and non-regulated companies. He has held a number of national industry roles related to depreciation and property accounting including twice chairing the Plant Accounting and Valuation Committee of the Edison Electric Institute. He has attended all the classes offered by the Depreciation Programs, Inc. (DPI) and continues to re-fresh his training by teaching various depreciation related seminars across the country. He developed the training materials for the Intermediate and Advanced Training sessions of the Society for Depreciation Professionals and teaches a number of courses. He twice served as general editor of the industry publication "Introduction to Depreciation and Net Salvage of Public Utility Plant and Plant of Other Industries", is contributing editor of other industry publications and is a frequent speaker at conferences on depreciation related issues. Mr. Watson led the industry adoption of SFAS 143 and was industry panelist before FERC (FERC Docket 02-0700) testifying on their implementation of SFAS 143. He also served as project lead (functional) in the development of both automated regulated group depreciation and fixed asset systems and item based fixed asset and depreciation systems while at TXU. Mr. Watson is a Licensed Professional Engineer in the State of Texas (PE) and a Certified Depreciation Professional (CDP).

KAREN PONDER, SENIOR CONSULTANT

Dr. Karen Ponder is a Senior Consultant at Alliance with over forty years of experience in utility financial matters. Dr. Ponder has a doctorate degree in engineering valuation from Iowa State University where her dissertation was entitled, "Some Aspects of Statistically Modeling the Simulated Plant Record Method." She is considered a subject matter expert in depreciation and capital recovery in the utility industry and has

performed studies for regulated and non-regulated entities involving property of various types. Dr. Ponder has conducted statistical analysis of life and net salvage components and incorporated knowledge of equipment failure, new technological trends, and company practices to develop life and net salvage estimates. She has provided support during rate case litigation including study write-up, testimony, and responses to interrogatories. She was an instructor for many years at Depreciation Programs, Inc. in Kalamazoo, Michigan and serves as a faculty member for the Society of Depreciation Professional's Annual Training courses. Dr, Ponder is a Certified Depreciation Professional. (CDP).

Rhonda Watts, Senior Consultant

Rhonda Watts is a Senior Consultant at Alliance who participates in the various activities related to the completion of the depreciation study and provides Expert Witness testimony if needed. Rhonda has over thirty years of experience in utility accounting, depreciation and regulatory matters. She is considered a subject matter expert in depreciation and capital recovery in the utility industry and has performed studies for regulated entities involving property of electric, gas, water and wastewater and communication utilities. She has conducted statistical analysis of life and net salvage components and incorporated knowledge of equipment failure, new technological trends, and company practices to develop life and net salvage estimates. She has provided support during rate case litigation including study write-up, testimony, and responses to interrogatories. Rhonda has also testified before three state regulatory bodies.

Rebecca Richards, Senior Consultant

Rebecca Richards is a Senior Consultant at Alliance and a Certified Depreciation Professional (CDP). She was previously employed as a Team Lead of Property Accounting at We Energies and has nine years of experience at a Fortune 500 company in utility property accounting, depreciation and areas of corporate finance. She has a vast working knowledge of fixed asset and finance systems including SAP, UI, and PowerPlan. Rebecca has managed fixed asset accounting for both regulated and non-regulated entities. She has coordinated depreciation studies for all types of utilities including electric, gas, water, and steam heating.

DANE A. WATSON, PE, MBA, CDP

MANAGING PARTNER, ALLIANCE CONSULTING GROUP

Profile

- 36 years of experience in utility depreciation, valuation and property accounting.
- Industry wide reputation with significant experience as Expert Witness, in depreciation, valuation, and rate base areas.
- Proven experience in effectively managing property systems and reengineering processes/ systems to achieve significant cost savings.
- Goal-Oriented, "outside the box" thinker with demonstrated strong leadership and communication capabilities.

Relevant Experience and Accomplishments

- Depreciation and Asset Accounting
  - Conducted over 275 depreciation studies for electric (generation, transmission, and distribution), gas (transmission, distribution, LNG and storage), water/wastewater, telecom and mining companies (regulated and non-regulated) and supported over 35 state regulatory bodies and FERC.
  - Ongoing teaching of depreciation (basic and advanced) in many industry venues (EEI/AGA, SDP, Michigan State, State Commissions).
  - Lead or served in numerous national industry roles related to depreciation and property accounting including twice chairing the Plant Accounting and Valuation Committee of the Edison Electric Institute and twice chairing the Society of Depreciation Professionals.
  - Served as gas and electric industry Project Manager for the implementation of SFAS 143.
  - Served as general editor for "Introduction to Depreciation and Net Salvage".
  - Managed fixed asset accounting, depreciation accounting and analysis, lease accounting, inventory accounting, transportation accounting and records management for one of the largest electric and gas utilities in the US.
- System/Process Reengineering
  - Reengineered fixed asset process and managed redesign of a Fixed Asset system to create a $1.5-$2.0 million savings per year.
  - Designed and implemented a new leased asset tracking and payment system that enabled reduction of errors in lease payments by $3-$4 million per year.
  - Designed and implemented an internal shared asset tracking and allocation system to meet stringent affiliate transaction rules.
  - Championed, designed and implemented imaging system to replace paper and microfilm document storage system saving over $1 million per year.

Employment History:

- 2004-present
  - Partner Alliance Consulting Group, Plano, TX
- 1996-2004

- Manager of Property Accounting Services TXU Business Services, Dallas, TX
  Testified in 15 rate or restructuring proceedings before various Commissions including the Texas Railroad Commission, the Texas Public Utilities Commission and the FERC. Lead Sarbanes-Oxley implementation for property processes. During tenure, increased scope to managing all fixed asset and construction accounting, inventory accounting, transportation accounting, and fixed asset accounting systems. Lead efforts to convert 14 companies to a new fixed asset system. Restructured valuation system to provide a 90% faster response time. Implemented new construction/fixed asset systems that facilitated a 12 FTE reduction in staff. Built state-of-the-art lease accounting system to handle reporting and payment of all TXU leases. Built highly automated imaging system to replace microfilm and paper document storage and retrieval system reducing costs and shortening response time.

- 1992-1996
  - Technical Support Manager Texas Utilities Generating Company, Dallas, TX
    Managed group responsible for depreciation and valuation analysis for TXU as well as special projects. Responsible for teaching and running engineering economics analysis for large capital projects. Managed nuclear plant decommissioning studies and electrical line loss allocation studies, as well as depreciation studies.

- 1985-1992
  - Associate Engineer to Senior Engineer Texas Utilities Generating Company, Dallas, TX
    Given increasing responsibility related to depreciation and valuation program creation, valuation analysis, depreciation analysis, training TXU employees in engineering economics, report preparation, writing and supporting depreciation testimony before the Texas Public Utilities Commission.

Education:

- M.B.A., General Business, Amberton University, Garland, TX
- B.S., Electrical Engineering, University of Arkansas

Honors and Awards

- Professional Engineer (TX)
- Certified Depreciation Professional (“CDP”)
- Senior Member of the Institute of Electronics and Electrical Engineers (“IEEE”)
- IEEE 3rd Millennium Medal
- IEEE Region 5 Treasurer, Audit Committee Chair, IEEE-USA Secretary Treasurer, IEEE MGA Treasurer, IEEE Finance Committee Member
- American Association of Engineering Societies (AESS) Treasurer
- Twice Chair of the Edison Electric Institute (“EEI”) Property Accounting and Valuation Committee
- Former Board member and twice President of the Society of Depreciation Professionals

KAREN HALLAMAN PONDER, PH.D.,CDP

SENIOR CONSULTANT, ALLIANCE CONSULTING GROUP

Profile

- Recognized expert in the field, particularly with regard to historical analyses of life and net salvage.
- More than 40 years of experience in utility property accounting, depreciation, and valuation.
- Involved in dozens of depreciation studies through all facets of the process including regulatory support through information discovery and rate proceedings.
- Prepared depreciation studies for all types of utilities including electric, gas water and wastewater.
- Taught courses on depreciation models and theory, actuarial analysis, and simulated plant record analysis more than 35 years in nationally recognized training venues.
- Certified Depreciation Professional as recognized by the Society of Depreciation Professionals

Professional Experience:

- 2004-present
    - Senior Consultant - Alliance Consulting Group, Plano, TX

      Involved in all aspects of conducting depreciation studies from data gathering to analysis and supporting recommendations through testimony. Participated in more than 250 depreciation studies. Subject matter expert on depreciation theory. Performed depreciation studies for various entities ranging from electric, gas, mining, water and wastewater.
- 1993-2004
    - Capital Recovery Specialist - Texas Utilities, Dallas, TX.

      Responsible for studies and analysis of asset data in a variety of assignments ranging from the engineering department to property accounting.
- 1985-1997
    - Faculty Member - Depreciation Programs of Kalamazoo, Michigan

      Taught classes on Depreciation Models, Simulated Plant Record Method Analysis, and Actuarial Analysis. Participants included company representatives, staff of various state commissions and consultants from the United States and Canada.
- 1978-1984
    - Senior Engineer - Texas Utilities, Dallas, TX.

      Held positions of increasing responsibility in various utility departments including general office engineering, economic research and budgets. Responsibilities included preparing depreciation studies and rate case support.

Education

- Ph.D., Industrial Engineering with specialty in Engineering Valuation, Iowa State University
- M.S., Statistics, Iowa State University
- B.S., Mathematical Statistics *summa cum laude*, McNeese State University, Lake Charles, LA

Memberships

- Society of Depreciation Professionals
- Society of Depreciation Professionals, Training Faculty, 2007 to present
- Society of Depreciation Professionals, Secretary, 2014 to 2015
- Society of Depreciation Professionals, Training Deputy Chair, 2018 to present

RHONDA WATTS

SENIOR CONSULTANT, ALLIANCE CONSULTING GROUP

Profile

- 31 years of experience in utility accounting, property accounting, depreciation, and regulatory processes. Participated in over 200 depreciation studies.
- Industry reputation with experience as Expert Witness in depreciation.
- Performed numerous depreciation studies through all facets of the process including regulatory support and testimony. Experienced focus on historical analyses of life and net salvage.
- Prepares depreciation studies for all types of utilities including electric, gas, telecommunication, water and wastewater.

Professional Experience

- 2009-present
    - Senior Consultant - Alliance Consulting Group, Plano, TX

      Senior Consultant involved in all aspects of depreciation studies. Performs depreciation studies for electric, gas, communication, water and wastewater utility clients. Provides study support during rate case litigation including drafting study narratives and testimony and responding to interrogatories. Provided testimony before state regulatory bodies.
- 1996-2009
    - Senior Manager - Deloitte & Touche LLP

      Senior Manager in the Energy and Resources Group with concentration in the areas of depreciation and fixed asset accounting systems. Areas of expertise include the principles and procedures of capital recovery, utility organization, accounting and information systems and regulatory practices.
- 1990-1996
    - Accountant - Nevada Power Company

      Accountant and Analyst positions of increasing responsibility. Areas of responsibility include plant and receivables accounting, depreciation study updating, rate case schedule preparation and support, regulatory compliance reporting, financial report preparation, and budget variance analysis.
- 1986-1990
    - Primary Accountant - UNLV Foundation

      Primary Accountant responsible for the proper processing and accounting of donations to the UNLV Foundation in support of academic excellence. Also compiled financial reports for the Board of Directors and Trustees.

Major Projects

- Conducted numerous depreciation studies and assisted in regulatory support through testimony, information discovery and rate proceedings for various electric, gas, water and wastewater utility companies.
- Assisted various audit teams in the review of client's implementation of FASB 143 and Interpretation No. 47 (Asset Retirement Obligations). The review encompasses the Company's processes, assessments, calculations and supporting documentation.
- Managed teams in the conduct of Sarbanes Oxley Section 404 readiness testing for international advertising, marketing and communication services companies in 2004 and 2005.

Education

- Bachelor of Science in Business Administration, Accounting and Finance emphasis, University of Nevada, Las Vegas

Certifications and Memberships

- Member of EEI/AGA Property Accounting and Valuation Committee and Society of Depreciation Professionals
- Past President and other leadership positions for the Society of Depreciation Professionals

Other Professional Activities

- Review and content contributor for Hahne-Aliff "Accounting for Public Utilities", Chapter 6 Public Utility Depreciation during tenure at Deloitte
- Former Board member as well as Treasurer, Secretary, Vice President and President of the Society of Depreciation Professionals
- Presenter at AGA/EEI Accounting Committee Meetings
- Taught client requested Depreciation Basics

REBECCA RICHARDS, CDP

SENIOR CONSULTANT, ALLIANCE CONSULTING GROUP

Profile

- 15 years of experience in utility property accounting, depreciation, and corporate finance.
- Coordinated several depreciation studies for all types of utilities including electric, gas, water, and steam heating
- Certified Depreciation Professional as recognized by the Society of Depreciation Professionals

Professional Experience

- 2015-present
    - Senior Consultant - Alliance Consulting Group, Plano, TX

      Senior Consultant involved in all aspects of depreciation studies. Perform depreciation studies for electric, gas, communication, water and wastewater utility clients. Provide support during rate case litigation including drafting study narratives and responding to interrogatories.
- 2006-2015
    - Team Lead Property Accounting - We Energies, Milwaukee, WI

      Managed all fixed asset internal and external reporting and property accounting functions in compliance with state and federal regulatory requirements. Established and maintained the Company's capitalization and depreciation policies. Initiated and oversaw all process improvement initiatives related to fixed asset finance systems and processes. Coordinated depreciation studies and supported rate case and regulatory proceedings. Vast working knowledge of fixed asset and finance systems including SAP, UI, and PowerPlant.
- 1995-2006
    - Operations Manager - Courtyard by Marriott, Brookfield, WI

      Hired, trained, and developed all front desk associates and maintained Marriott's high quality customer service standards.

Education

- Bachelor of Science in Accounting, Marquette University, Milwaukee, WI
- Associates Degree in Accounting, Milwaukee Area Technical College, Milwaukee, WI

Memberships

- EEI/AGA Property Accounting and Valuation Committee
- Society of Depreciation Professionals

TESTIMONY APPEARANCES

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Minnesota	Minnesota Public Utilities Commission	E015-D-21-229	Allete Minnesota Power	2021	Intangible, Transmission, Distribution, and General Depreciation Study
Michigan	Michigan Public Service Commission	U-20849	Consumers Energy	2021	Electric and Common Depreciation Study
Texas	Texas Public Utility Commission	51802	Southwestern Public Service Company	2021	Electric Technical Update
MultiState	FERC	RP21-441-000	Florida Gas Transmission	2021	Gas Depreciation Study
New Mexico	New Mexico Public Regulation Commission	20-00238-UT	Southwestern Public Service Company	2021	Electric Technical Update
MultiState	FERC	ER21-709-000	American Transmission Company	2020	Electric Depreciation Study
Yukon Territory Canada	Yukon Energy Board	2021 General Rate Application	Yukon Energy	2020	Electric Depreciation Study
Texas	Texas Public Utility Commission	51611	Sharyland Utilities	2020	Electric Depreciation Study
Texas	Texas Public Utility Commission	51536	Brownsville Public Utilities Board	2020	Electric Depreciation Study
New Jersey	New Jersey Board of Public Utilities	WR20110729	Suez Water New Jersey	2020	Water and Waste Water Depreciation Study
Idaho	Idaho Public Service Commission	SUZ-W-20-02	Suez Water Idaho	2020	Water Depreciation Study
Texas	Texas Public Utility Commission	50944	Monarch Utilities	2020	Water and Waste Water Depreciation Study
Michigan	Michigan Public Service Commission	U-20844	Consumers Energy/DTE Electric	2020	Ludington Pumped Storage Depreciation Study
Tennessee	Tennessee Public Utility Commission	20-00086	Piedmont Natural Gas	2020	Gas Depreciation Study
Texas	Railroad Commission of Texas	OS-00005136	CoServ Gas	2020	Gas Depreciation Study

Texas	Railroad Commission of Texas	GUD 10988	EPCOR Gas Texas	2020	Gas Depreciation Study
Florida	Florida Public Service Commission	20200166-GU	People Gas System	2020	Gas Depreciation Study
Mississippi	Federal Energy Regulatory Commission	ER20-1660-000	Mississippi Power Company	2020	Electric Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable**	**Company**	**Year**	**Description**
Texas	Public Utility Commission of Texas	50557	Corix Utilities	2020	Water and Waste Water Depreciation Study
Georgia	Georgia Public Service Commission	42959	Liberty Utilities Peach State Natural Gas	2020	Gas Depreciation Study
New Jersey	New Jersey Board of Public Utilities	GR20030243	South Jersey Gas	2020	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	20AL-0049G	Public Service of Colorado	2020	Gas Depreciation Study
New York	Federal Energy Regulatory Commission	ER20-716-000	LS Power Grid New York, Corp.	2019	Electric Transmission Depreciation Study
Mississippi	Mississippi Public Service Commission	2019-UN-219	Mississippi Power Company	2019	Electric Depreciation Study
Texas	Public Utility Commission of Texas	50288	Kerrville Public Utility District	2019	Electric Depreciation Study
Texas	Railroad Commission of Texas	GUD 10920	CenterPoint Gas	2019	Gas Depreciation Study and Propane Air Study
Texas, New Mexico	Federal Energy Regulatory Commission	ER20-277-000	Southwestern Public Service Company	2019	Electric Production and General Plant Depreciation Study
Alaska	Regulatory Commission of Alaska	U-19-086	Alaska Electric Light and Power	2019	Electric Depreciation Study
Delaware	Delaware Public Service Commission	19-0615	Suez Water Delaware	2019	Water Depreciation Study
Texas	Public Utility Commission of Texas	49831	Southwestern Public Service Company	2019	Electric Depreciation Study
New Mexico	New Mexico Public Regulation Commission	19-00170-UT	Southwestern Public Service Company	2019	Electric Depreciation Study

Georgia	Georgia Public Service Commission	42516	Georgia Power Company	2019	Electric Depreciation Study
Georgia	Georgia Public Service Commission	42315	Atlanta Gas Light	2019	Gas Depreciation Study
Arizona	Arizona Corporation Commission	G-01551A-19-0055	Southwest Gas Corporation	2019	Gas Removal Cost Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
New Hampshire	New Hampshire Public Service Commission	DE 19-064	Liberty Utilities	2019	Electric Distribution and General
New Jersey	New Jersey Board of Public Utilities	GR19040486	Elizabethtown Natural Gas	2019	Gas Depreciation Study
Texas	Public Utility Commission of Texas	49421	CenterPoint Houston Electric LLC	2019	Electric Depreciation Study
North Carolina	North Carolina Utilities Commission	Docket No. G-9, Sub 743	Piedmont Natural Gas	2019	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-18-121	Municipal Power and Light City of Anchorage	2018	Electric Depreciation Study
Various	FERC	RP19-352-000	Sea Robin	2018	Gas Depreciation Study
Texas New Mexico	Federal Energy Regulatory Commission	ER19-404-000	Southwestern Public Service Company	2018	Electric Transmission Depreciation Study
California	Federal Energy Regulatory Commission	ER19-221-000	San Diego Gas and Electric	2018	Electric Transmission Depreciation Study
Kentucky	Kentucky Public Service Commission	2018-00281	Atmos Kentucky	2018	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-18-054	Matanuska Electric Coop	2018	Electric Generation Depreciation Study
California	California Public Utilities Commission	A17-10-007	San Diego Gas and Electric	2018	Electric and Gas Depreciation Study
Texas	Public Utility Commission of Texas	48401	Texas New Mexico Power	2018	Electric Depreciation Study
Nevada	Public Utility Commission of Nevada	18-05031	Southwest Gas	2018	Gas Depreciation Study
Texas	Public Utility Commission of Texas	48231	Oncor Electric Delivery	2018	Depreciation Rates

Texas	Public Utility Commission of Texas	48371	Entergy Texas	2018	Electric Depreciation Study
Kansas	Kansas Corporation Commission	18-KCPE-480-RTS	Kansas City Power and Light	2018	Electric Depreciation Study
Arkansas	Arkansas Public Service Commission	18-027-U	Liberty Pine Bluff Water	2018	Water Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
Kentucky	Kentucky Public Service Commission	2017-00349	Atmos KY	2018	Gas Depreciation Rates
Tennessee	Tennessee Public Utility Commission	18-00017	Chattanooga Gas	2018	Gas Depreciation Study
Texas	Railroad Commission of Texas	10679	Si Energy	2018	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-17-104	Anchorage Water and Wastewater	2017	Water and Waste Water Depreciation Study
Michigan	Michigan Public Service Commission	U-18488	Michigan Gas Utilities Corporation	2017	Gas Depreciation Study
Texas	Railroad Commission of Texas	10669	CenterPoint South Texas	2017	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	17-061-U	Empire District Electric Company	2017	Depreciation Rates for New Wind Generation
Kansas	Kansas Corporation Commission	18-EPDE-184-PRE	Empire District Electric Company	2017	Depreciation Rates for New Wind Generation
Oklahoma	Oklahoma Corporation Commission	PUD 201700471	Empire District Electric Company	2017	Depreciation Rates for New Wind Generation
Missouri	Missouri Public Service Commission	EO-2018-0092	Empire District Electric Company	2017	Depreciation Rates for New Wind Generation
Michigan	Michigan Public Service Commission	U-18457	Upper Peninsula Power Company	2017	Electric Depreciation Study
Florida	Florida Public Service Commission	20170179-GU	Florida City Gas	2017	Gas Depreciation Study
Michigan	FERC	ER18-56-000	Consumers Energy	2017	Electric Depreciation Study
Missouri	Missouri Public Service Commission	GR-2018-0013	Liberty Utilities	2017	Gas Depreciation Study

Michigan	Michigan Public Service Commission	U-18452	SEMCO	2017	Gas Depreciation Study
Texas	Public Utility Commission of Texas	47527	Southwestern Public Service Company	2017	Electric Production Depreciation Study
MultiState	FERC	ER17-1664	American Transmission Company	2017	Electric Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
Alaska	Regulatory Commission of Alaska	U-17-008	Municipal Power and Light City of Anchorage	2017	Generating Unit Depreciation Study
Mississippi	Mississippi Public Service Commission	2017-UN-041	Atmos Energy	2017	Gas Depreciation Study
Texas	Public Utility Commission of Texas	46957	Oncor Electric Delivery	2017	Electric Depreciation Study
Oklahoma	Oklahoma Corporation Commission	PUD 201700078	CenterPoint Oklahoma	2017	Gas Depreciation Study
New York	FERC	ER17-1010-000	New York Power Authority	2017	Electric Depreciation Study
Texas	Railroad Commission of Texas	GUD 10580	Atmos Pipeline Texas	2017	Gas Depreciation Study
Texas	Railroad Commission of Texas	GUD 10567	CenterPoint Texas	2016	Gas Depreciation Study
MultiState	FERC	ER17-191-000	American Transmission Company	2016	Electric Depreciation Study
New Jersey	New Jersey Board of Public Utilities	GR16090826	Elizabethtown Natural Gas	2016	Gas Depreciation Study
North Carolina	North Carolina Utilities Commission	Docket G-9 Sub 77H	Piedmont Natural Gas	2016	Gas Depreciation Study
Michigan	Michigan Public Service Commission	U-18195	Consumers Energy/DTE Electric	2016	Ludington Pumped Storage Depreciation Study
Alabama	FERC	ER16-2313-000	SEGCO	2016	Electric Depreciation Study
Alabama	FERC	ER16-2312-000	Alabama Power Company	2016	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-18127	Consumers Energy	2016	Natural Gas Depreciation Study

Mississippi	Mississippi Public Service Commission	2016 UN 267	Willmut Natural Gas	2016	Natural Gas Depreciation Study
Iowa	Iowa Utilities Board	RPU-2016-0003	Liberty-Iowa	2016	Natural Gas Depreciation Study
Illinois	Illinois Commerce Commission	GRM #16-208	Liberty-Illinois	2016	Natural Gas Depreciation Study
Kentucky	FERC	RP16-097-000	KOT	2016	Natural Gas Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
Alaska	Regulatory Commission of Alaska	U-16-067	Alaska Electric Light and Power	2016	Generating Unit Depreciation Study
Florida	Florida Public Service Commission	160170-EI	Gulf Power	2016	Electric Depreciation Study
California	California Public Utilities Commission	A 16-07-002	California American Water	2016	Water and Waste Water Depreciation Study
Arizona	Arizona Corporation Commission	G-01551A-16-0107	Southwest Gas	2016	Gas Depreciation Study
Texas	Public Utility Commission of Texas	45414	Sharyland	2016	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	16A-0231E	Public Service Company of Colorado	2016	Electric Depreciation Study
Multi-State NE US	FERC	16-453-000	Northeast Transmission Development, LLC	2015	Electric Depreciation Study
Arkansas	Arkansas Public Service Commission	15-098-U	CenterPoint Arkansas	2015	Gas Depreciation Study and Cost of Removal Study
New Mexico	New Mexico Public Regulation Commission	15-00296-UT	Southwestern Public Service Company	2015	Electric Depreciation Study
Atmos Energy Corporation	Tennessee Regulatory Authority	14-00146	Atmos Tennessee	2015	Natural Gas Depreciation Study
New Mexico	New Mexico Public Regulation Commission	15-00261-UT	Public Service Company of New Mexico	2015	Electric Depreciation Study
Hawaii	NA	NA	Hawaii American Water	2015	Water/Wastewater Depreciation Study
Kansas	Kansas Corporation Commission	16-ATMG-079-RTS	Atmos Kansas	2015	Gas Depreciation Study

Texas	Public Utility Commission of Texas	44704	Entergy Texas	2015	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-15-089	Fairbanks Water and Wastewater	2015	Water and Waste Water Depreciation Study
Arkansas	Arkansas Public Service Commission	15-031-U	Source Gas Arkansas	2015	Underground Storage Gas Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
New Mexico	New Mexico Public Regulation Commission	15-00139-UT	Southwestern Public Service Company	2015	Electric Depreciation Study
Texas	Public Utility Commission of Texas	44746	Wind Energy Transmission Texas	2015	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	15-AL-0299G	Atmos Colorado	2015	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	15-011-U	Source Gas Arkansas	2015	Gas Depreciation Study
Texas	Railroad Commission of Texas	GUD 10432	CenterPoint- Texas Coast Division	2015	Gas Depreciation Study
Kansas	Kansas Corporation Commission	15-KCPE-116-RTS	Kansas City Power and Light	2015	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-120	Alaska Electric Light and Power	2014-2015	Electric Depreciation Study
Texas	Public Utility Commission of Texas	43950	Cross Texas Transmission	2014	Electric Depreciation Study
New Mexico	New Mexico Public Regulation Commission	14-00332-UT	Public Service of New Mexico	2014	Electric Depreciation Study
Texas	Public Utility Commission of Texas	43695	Xcel Energy	2014	Electric Depreciation Study
Multi State – SE US	FERC	RP15-101	Florida Gas Transmission	2014	Gas Transmission Depreciation Study
California	California Public Utilities Commission	A.14-07-006	Golden State Water	2014	Water and Waste Water Depreciation Study
Michigan	Michigan Public Service Commission	U-17653	Consumers Energy Company	2014	Electric and Common Depreciation Study

Colorado	Public Utilities Commission of Colorado	14AL-0660E	Public Service of Colorado	2014	Electric Depreciation Study
Wisconsin	Wisconsin	05-DU-102	WE Energies	2014	Electric, Gas, Steam and Common Depreciation Studies
Texas	Public Utility Commission of Texas	42469	Lone Star Transmission	2014	Electric Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
Nebraska	Nebraska Public Service Commission	NG-0079	Source Gas Nebraska	2014	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-055	TDX North Slope Generating	2014	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-054	Sand Point Generating LLC	2014	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-045	Matanuska Electric Coop	2014	Electric Generation Depreciation Study
Texas, New Mexico	Public Utility Commission of Texas	42004	Southwestern Public Service Company	2013-2014	Electric Production, Transmission, Distribution and General Plant Depreciation Study
New Jersey	New Jersey Board of Public Utilities	GR13111137	South Jersey Gas	2013	Gas Depreciation Study
Various	FERC	RP14-247-000	Sea Robin	2013	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	13-078-U	Arkansas Oklahoma Gas	2013	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	13-079-U	Source Gas Arkansas	2013	Gas Depreciation Study
California	California Public Utilities Commission	Proceeding No.: A.13-11-003	Southern California Edison	2013	Electric Depreciation Study
North Carolina/South Carolina	FERC	ER13-1313	Progress Energy Carolina	2013	Electric Depreciation Study
Wisconsin	Public Service Commission of Wisconsin	4220-DU-108	Northern States Power Company - Wisconsin	2013	Electric, Gas and Common Transmission, Distribution and General

Texas	Public Utility Commission of Texas	41474	Sharyland	2013	Electric Depreciation Study
Kentucky	Kentucky Public Service Commission	2013-00148	Atmos Energy Corporation	2013	Gas Depreciation Study
Minnesota	Minnesota Public Utilities Commission	13-252	Allete Minnesota Power	2013	Electric Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
New Hampshire	New Hampshire Public Service Commission	DE 13-063	Liberty Utilities	2013	Electric Distribution and General
Texas	Railroad Commission of Texas	10235	West Texas Gas	2013	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-154	Alaska Telephone Company	2012	Telecommunications Utility
New Mexico	New Mexico Public Regulation Commission	12-00350-UT	Southwestern Public Service Company	2012	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1269ST	Public Service Company of Colorado	2012	Gas and Steam Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1268G	Public Service Company of Colorado	2012	Gas and Steam Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-149	Municipal Power and Light City of Anchorage	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40824	Xcel Energy	2012	Electric Depreciation Study
South Carolina	Public Service Commission of South Carolina	Docket 2012-384-E	Progress Energy Carolina	2012	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-141	Interior Telephone Company	2012	Telecommunications Utility
Michigan	Michigan Public Service Commission	U-17104	Michigan Gas Utilities Corporation	2012	Gas Depreciation Study
North Carolina	North Carolina Utilities Commission	E-2 Sub 1025	Progress Energy Carolina	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40606	Wind Energy Transmission Texas	2012	Electric Depreciation Study

Texas	Texas Public Utility Commission	40604	Cross Texas Transmission	2012	Electric Depreciation Study
Minnesota	Minnesota Public Utilities Commission	12-858	Northern States Power Company - Minnesota	2012	Electric, Gas and Common Transmission, Distribution and General
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
Texas	Railroad Commission of Texas	10170	Atmos Mid-Tex	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10174	Atmos West Texas	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10182	CenterPoint Beaumont/ East Texas	2012	Gas Depreciation Study
Kansas	Kansas Corporation Commission	12-KCPE-764-RTS	Kansas City Power and Light	2012	Electric Depreciation Study
Nevada	Public Utility Commission of Nevada	12-04005	Southwest Gas	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10147, 10170	Atmos Mid-Tex	2012	Gas Depreciation Study
Kansas	Kansas Corporation Commission	12-ATMG-564-RTS	Atmos Kansas	2012	Gas Depreciation Study
Texas	Texas Public Utility Commission	40020	Lone Star Transmission	2012	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-16938	Consumers Energy Company	2011	Gas Depreciation Study
Colorado	Public Utilities Commission of Colorado	11AL-947E	Public Service of Colorado	2011	Electric Depreciation Study
Texas	Texas Public Utility Commission	39896	Entergy Texas	2011	Electric Depreciation Study
MultiState	FERC	ER12-212	American Transmission Company	2011	Electric Depreciation Study
California	California Public Utilities Commission	A1011015	Southern California Edison	2011	Electric Depreciation Study
Mississippi	Mississippi Public Service Commission	2011-UN-184	Atmos Energy	2011	Gas Depreciation Study

Michigan	Michigan Public Service Commission	U-16536	Consumers Energy Company	2011	Wind Depreciation Rate Study
Texas	Public Utility Commission of Texas	38929	Oncor	2011	Electric Depreciation Study
Texas	Railroad Commission of Texas	10038	CenterPoint South TX	2010	Gas Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
Alaska	Regulatory Commission of Alaska	U-10-070	Inside Passage Electric Cooperative	2010	Electric Depreciation Study
Texas	Public Utility Commission of Texas	36633	City Public Service of San Antonio	2010	Electric Depreciation Study
Texas	Texas Railroad Commission	10000	Atmos Pipeline Texas	2010	Gas Depreciation Study
Multi State – SE US	FERC	RP10-21-000	Florida Gas Transmission	2010	Gas Depreciation Study
Maine/ New Hampshire	FERC	10-896	Granite State Gas Transmission	2010	Gas Depreciation Study
Texas	Public Utility Commission of Texas	38480	Texas New Mexico Power	2010	Electric Depreciation Study
Texas	Public Utility Commission of Texas	38339	CenterPoint Electric	2010	Electric Depreciation Study
Texas	Texas Railroad Commission	10041	Atmos Amarillo	2010	Gas Depreciation Study
Georgia	Georgia Public Service Commission	31647	Atlanta Gas Light	2010	Gas Depreciation Study
Texas	Public Utility Commission of Texas	38147	Southwestern Public Service	2010	Electric Technical Update
Alaska	Regulatory Commission of Alaska	U-09-015	Alaska Electric Light and Power	2009-2010	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-10-043	Utility Services of Alaska	2009-2010	Water Depreciation Study
Michigan	Michigan Public Service Commission	U-16055	Consumers Energy/DTE Energy	2009-2010	Ludington Pumped Storage Depreciation Study
Michigan	Michigan Public Service Commission	U-16054	Consumers Energy	2009-2010	Electric Depreciation Study

Michigan	Michigan Public Service Commission	U-15963	Michigan Gas Utilities Corporation	2009	Gas Depreciation Study
Michigan	Michigan Public Service Commission	U-15989	Upper Peninsula Power Company	2009	Electric Depreciation Study
Texas	Railroad Commission of Texas	9869	Atmos Energy	2009	Shared Services Depreciation Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
Mississippi	Mississippi Public Service Commission	09-UN-334	CenterPoint Energy Mississippi	2009	Gas Depreciation Study
Texas	Railroad Commission of Texas	9902	CenterPoint Energy Houston	2009	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	09AL-299E	Public Service Company of Colorado	2009	Electric Depreciation Study
Louisiana	Louisiana Public Service Commission	U-30689	Cleco	2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	35763	Southwestern Public Service Company	2008	Electric Production, Transmission, Distribution and General Plant Depreciation Study
Wisconsin	Wisconsin	05-DU-101	WE Energies	2008	Electric, Gas, Steam and Common Depreciation Studies
North Dakota	North Dakota Public Service Commission	PU-07-776	Northern States Power Company - Minnesota	2008	Net Salvage
New Mexico	New Mexico Public Regulation Commission	07-00319-UT	Southwestern Public Service Company	2008	Testimony – Depreciation
Multiple States	Railroad Commission of Texas	9762	Atmos Energy	2007-2008	Shared Services Depreciation Study
Minnesota	Minnesota Public Utilities Commission	E015/D-08-422	Minnesota Power	2007-2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	35717	Oncor	2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	34040	Oncor	2007	Electric Depreciation Study

Michigan	Michigan Public Service Commission	U-15629	Consumers Energy	2006-2009	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	06-234-EG	Public Service Company of Colorado	2006	Electric Depreciation Study
Arkansas	Arkansas Public Service Commission	06-161-U	CenterPoint Energy – Arkla Gas	2006	Gas Distribution Depreciation Study and Removal Cost Study
Asset Location	**Commission**	**Docket (If Applicable)**	**Company**	**Year**	**Description**
Texas, New Mexico	Public Utility Commission of Texas	32766	Southwestern Public Service Company	2005-2006	Electric Production, Transmission, Distribution and General Plant Depreciation Study
Texas	Railroad Commission of Texas	9670/9676	Atmos Energy Corp	2005-2006	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9400	TXU Gas	2003-2004	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9313	TXU Gas	2002	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9225	TXU Gas	2002	Gas Distribution Depreciation Study
Texas	Public Utility Commission of Texas	24060	TXU	2001	Line Losses
Texas	Public Utility Commission of Texas	23640	TXU	2001	Line Losses
Texas	Railroad Commission of Texas	9145-9148	TXU Gas	2000-2001	Gas Distribution Depreciation Study
Texas	Public Utility Commission of Texas	22350	TXU	2000-2001	Electric Depreciation Study, Unbundling
Texas	Railroad Commission of Texas	8976	TXU Pipeline	1999	Pipeline Depreciation Study
Texas	Public Utility Commission of Texas	20285	TXU	1999	Fuel Company Depreciation Study
Texas	Public Utility Commission of Texas	18490	TXU	1998	Transition to Competition
Texas	Public Utility Commission of Texas	16650	TXU	1997	Customer Complaint

Texas	Public Utility Commission of Texas	15195	TXU	1996	Mining Company Depreciation Study
Texas	Public Utility Commission of Texas	12160	TXU	1993	Fuel Company Depreciation Study
Texas	Public Utility Commission of Texas	11735	TXU	1993	Electric Depreciation Study

TAB 9
DEPRECIATION STUDY

YUKON ENERGY

ELECTRIC UTILITY PLANT

DEPRECIATION RATE STUDY

AT DECEMBER 31, 2018

http://www.utilityalliance.com

YUKON ENERGY
ELECTRIC UTILITY PLANT
DEPRECIATION RATE STUDY
EXECUTIVE SUMMARY

Yukon Energy ("Yukon" or "Company") engaged Alliance Consulting Group to conduct a depreciation study of the Company's Electric utility plant depreciable assets as of December 31, 2018.

This study recommends an overall decrease of $164 thousand in annual depreciation expenses for all accounts when using the proposed depreciation rates and proposed true-up. This is in comparison to the existing annual depreciation accrual without including the existing true-up. A summary comparison of annual accrual by utility function is shown below.

	Existing	Proposed	Proposed	
Function	Annual Accrual	Annual Accrual	Annual True-Up	Difference
Land and Land Rights	2,576	2,576	(13)	(13)
Hydro Production	3,739,725	3,942,725	(140,298)	62,701
Diesel Plant	978,694	953,366	(88,166)	(113,493)
Distribution System	480,657	481,697	49,971	51,012
Main Transmission Facilities	2,974,173	3,367,031	(79,597)	313,261
Sub Transmission Lines	1,255,111	1,213,393	(46,022)	(87,739)
Building	1,374,449	1,213,572	(67,334)	(228,211)
Transportation	449,738	475,144	19,268	44,674
LNG Operations	1,221,932	1,029,423	(13,981)	(206,490)
Total Company	12,477,055	12,678,927	(366,170)	(164,299)

Appendix B shows a detailed comparison of the approved versus proposed depreciation rates and annual accruals by account for each utility function.

YUKON ENERGY

ELECTRIC UTILITY PLANT

DEPRECIATION RATE STUDY

AT DECEMBER 31, 2018

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PURPOSE

The purpose of this study is to develop depreciation rates for the depreciable property as recorded on Yukon Energy's books at December 31, 2018. The account based depreciation rates were designed to recover the total remaining undepreciated investment over the remaining life of Yukon Energy's property on a straight-line basis. Land and other non-depreciable property were excluded from this study.

Established in 1987, Yukon Energy is a publicly owned electrical utility that operates as a business, at arms length from the Yukon government. We are the main generator and transmitter of electrical energy in Yukon. Yukon Energy works with its parent company Yukon Development Corporation to provide its customers with safe, reliable power.

There are over 21,000 electricity consumers in the territory. Yukon Energy directly serves about 2,200 of these customers, who live in and around Dawson City, Mayo Faro, and some other communities throughout the Yukon. Indirectly, Yukon provides power to most other Yukon communities through ATCO Electric Yukon. ATCO buys wholesale power from us and sells it to retail customers in the territory.

Yukon Energy has the capacity to generate just over 132 megawatts of power. Most of Yukon's daily generation comes from hydro. Yukon uses diesel and LNG for back-up or emergency power, and to meet peaks during cold weather when Yukon does not have enough renewable electricity to meet the demand. Yukon's headquarters are located near the Whitehorse Rapids hydro plant in Whitehorse, with community offices in Mayo and Dawson City.

STUDY RESULTS

Overall depreciation rates for all Yukon Energy depreciable property are shown in Appendix A. These rates translate into an annual depreciation accrual of $13.0 million based on Yukon Energy's depreciable investment at December 31, 2018. The annual equivalent depreciation expense calculated by the same method using the approved rates was $12.6 million, resulting in a $568 thousand increase in annual depreciation expense. Appendix A presents the calculation of the annual depreciation rates and resulting accrual. Appendix B presents a comparison of approved versus proposed rates and annual accruals by account. Appendix C presents a summary of life and mortality curve parameters by account.

GENERAL DISCUSSION

Definition

The term "depreciation" as used in this study is considered in the accounting sense, that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. This expense is systematically allocated to accounting periods over the life of the properties. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. On retirement the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

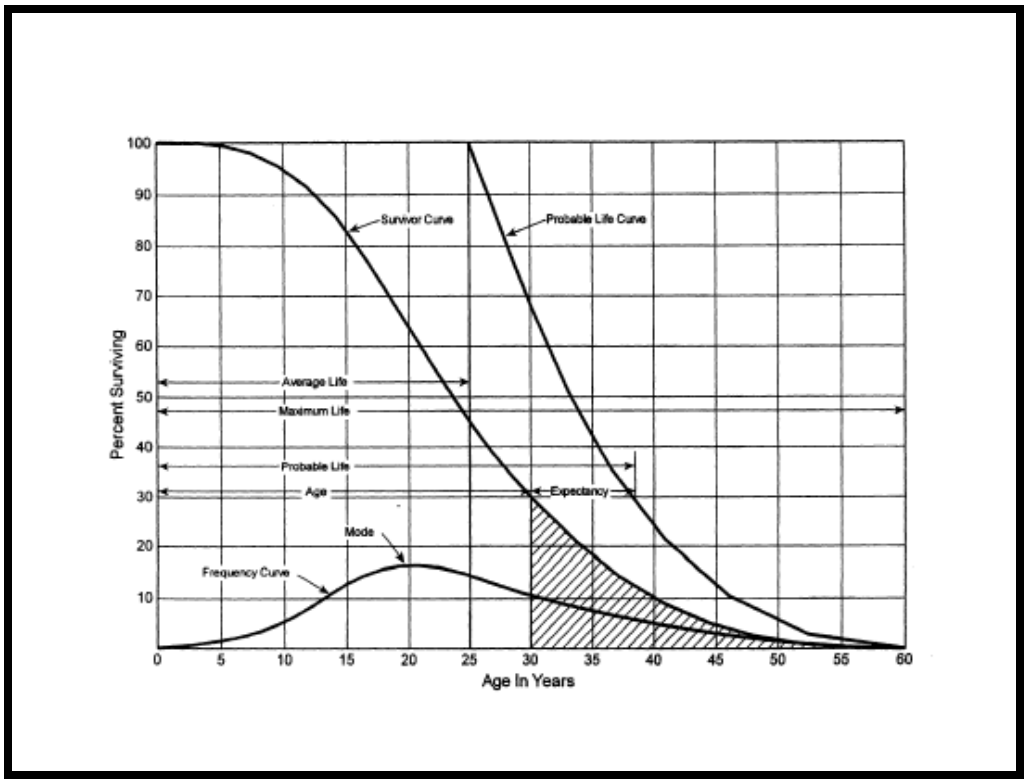
Basis of Depreciation Estimates

The straight-line, broad (average) life group, remaining-life depreciation system was employed to calculate annual and accrued depreciation in this study. In this system, the annual depreciation expense for each group is computed by dividing the original cost of the asset less allocated depreciation reserve less estimated net salvage by its respective average life group remaining life. The resulting annual accrual amounts of all depreciable property within a function were accumulated, and the total was divided by the original cost of all functional depreciable property to determine the depreciation rate. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group. The computations of the annual functional depreciation rates are shown in Appendix A.

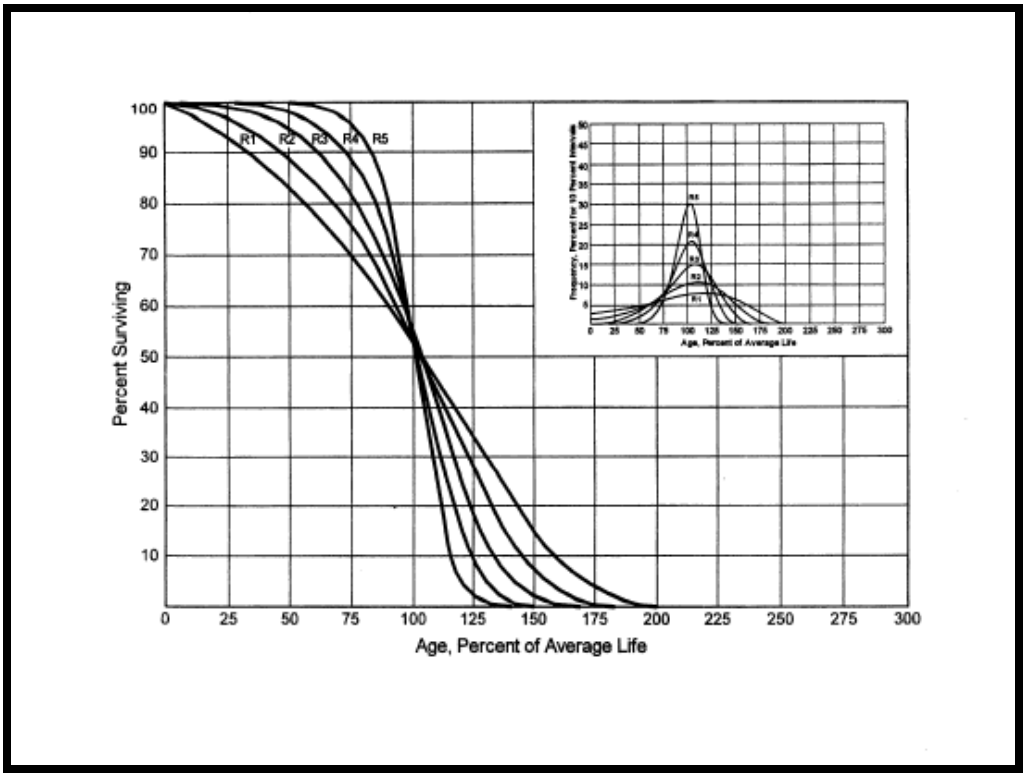
Actuarial analysis was used with each account within a function where sufficient data was available, and judgment was used to some degree on all accounts.

Survivor Curves

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of survivor curves. Individual property units within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by first constructing a survivor curve which is plotted as a percentage of the units surviving at each age. A survivor curve represents the percentage of property remaining in service at various age intervals. The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at Iowa State College Engineering Experiment Station in the first half of the prior century. Through common usage, revalidation and regulatory acceptance, these curves have become a descriptive standard for the life characteristics of industrial property. An example of an Iowa Curve is shown below.



There are four families in the Iowa Curves that are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. For distributions with the mode age greater than the average life, an "R" designation (i.e., Right modal) is used. The family of “R” moded curves is shown below.



Similarly, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. An "L" designation (i.e., Left modal) is used for the family whose mode age is less than the average life. A special case of left modal dispersion is the "O" or origin modal curve family. Within each curve family, numerical designations are used to describe the relative magnitude of the retirement frequencies at the mode. A "6" indicates that the retirements are not greatly dispersed from the mode (i.e., high mode frequency) while a "1" indicates a large dispersion about the mode (i.e., low mode frequency). For example, a curve with an average life of 30 years and an "L3" dispersion is a

moderately dispersed, left modal curve that can be designated as a 30 L3 Curve. An SQ, or square, survivor curve occurs where no dispersion is present (i.e., units of common age retire simultaneously).

Most property groups can be closely fitted to one Iowa Curve with a unique average service life. The blending of judgment concerning current conditions and future trends along with the matching of historical data permits the depreciation analyst to make an informed selection of an account's average life and retirement dispersion pattern.

Actuarial Analysis

Actuarial analysis (retirement rate method) was used in evaluating historical asset retirement experience where vintage data were available and sufficient retirement activity was present. In actuarial analysis, interval exposures (total property subject to retirement at the beginning of the age interval, regardless of vintage) and age interval retirements are calculated. The complement of the ratio of interval retirements to interval exposures establishes a survivor ratio. The survivor ratio is the fraction of property surviving to the end of the selected age interval, given that it has survived to the beginning of that age interval. Survivor ratios for all of the available age intervals were chained by successive multiplications to establish a series of survivor factors, collectively known as an observed life table. The observed life table shows the experienced mortality characteristic of the account and may be compared to standard mortality curves such as the Iowa Curves. Where data was available, accounts were analyzed using this method. Placement bands were used to illustrate the composite history over a specific era, and experience bands were used to focus on retirement history for all vintages during a set period. The results from these analyses for those accounts which had data sufficient to be analyzed using this method are shown in the Life Analysis section of this report.

Judgment

Any depreciation study requires informed judgment by the analyst conducting the study. A knowledge of the property being studied, company policies and procedures, general trends in technology and industry practice, and a sound basis of understanding depreciation theory are needed to apply this informed judgment. Judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, simulated plant record method analysis, and actuarial analysis.

Judgment is not defined as being used in cases where there are specific, significant pieces of information that influence the choice of a life or curve. Those cases would simply be a reflection of specific facts into the analysis. Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, implications of applying certain curves, property mix in accounts or a multitude of other considerations that impact the analysis (potentially in various directions), judgment is used to take all of these factors and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one factor in these cases may have a substantial impact on the analysis, but overall, may shed light on the utilization and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent judgment. At the very least for example, any analysis requires choosing which bands to place more emphasis.

The establishment of appropriate average service lives and retirement dispersions for the Hydro, Diesel, Distribution, Transmission, Buildings, Transportation and LNG Plant accounts require judgment to incorporate the understanding of the operation of the system with the available accounting information analyzed using the Retirement Rate actuarial methods. The appropriateness of lives and curves depends not only on statistical analyses, but also on how well future retirement patterns will match past retirements.

Current applications and trends in use of the equipment also need to be factored into life and survivor curve choices in order for appropriate mortality characteristics to be chosen.

Average Life Group Depreciation

At the request of Yukon Energy, this study continues to use the ALG depreciation procedure to group the assets within each account. In its last depreciation study, Yukon Energy was authorized to use the average life group, whole life ("ALG-WL") depreciation procedure. This study continues to use the ALG depreciation procedure to group the assets within each account.

In a whole life representation, the annual accrual rate is computed by the following equation,

Annual Accrual rate =1/ Average Service Life

In the last study, Yukon Energy included a True Up amount that recovers the difference between the book reserve and the theoretical depreciation reserve over the remaining life of each account. This study includes the same computation.

Theoretical Depreciation Reserve

The book depreciation reserve was derived from Company records at the individual account level. This study used a reserve model that relied on a prospective concept relating future retirement and accrual patterns for property, given current life and salvage estimates. The theoretical reserve of a group is developed from the estimated remaining life, total life of the property group, and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current forecasts were used throughout the life of the group for future depreciation accruals. The computation involves multiplying the vintage balances within the group by the theoretical reserve ratio for each vintage. The average life group method requires an estimate of dispersion and service life to establish how much of each vintage is expected to be retired in each year until all property within the group is retired. Estimated average service lives and dispersion determine the amount within each average life group. The straight-line remaining-life theoretical reserve ratio at any given age (RR) is calculated as:

$$RR = 1 - \frac{(Average\ Remaining\ Life)}{(Average\ Service\ Life)} * (1 - Net\ Salvage\ Ratio)$$

DETAILED DISCUSSION

Depreciation Study Process

This depreciation study encompassed four distinct phases. The first phase involved data collection and field interviews. The second phase was where the initial data analysis occurred. The third phase was where the information and analysis was evaluated. Once the first three stages were complete, the fourth phase began. This phase involved the calculation of deprecation rates and the documenting the corresponding recommendations.

During the Phase I data collection process, historical data was compiled from continuing property records and general ledger systems. Data was validated for accuracy by extracting and comparing to multiple financial system sources. Audit of this data was validated against historical data from prior periods, historical general ledger sources, and field personnel discussions. This data was reviewed extensively to put in the proper format for a depreciation study. Also as part of the Phase I data collection process, numerous discussions were conducted with engineers and field operations personnel to obtain information that would assist in formulating life and salvage recommendations in this study. One of the most important elements of performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is beneficial when evaluating the output from the life and net salvage programs in relation to the Company's actual asset utilization and environment. Information that was gleaned in these discussions is found both in the Detailed Discussion of this study in the life analysis and salvage analysis sections and also in workpapers.

Phase 2 is where the actuarial analysis is performed. Phase 2 and 3 overlap to a significant degree. The detailed property records information is used in phase 2 to develop observed life tables for life analysis. These tables are visually compared to industry standard tables to determine historical life characteristics. It is possible that the analyst would cycle back to this phase based on the evaluation process

performed in phase 3. Net salvage analysis consists of compiling historical salvage and removal data by functional group to determine values and trends in gross salvage and removal cost. In the case of Yukon Energy, no net salvage analysis was performed. This information was then carried forward into phase 3 for the evaluation process.

Phase 3 is the evaluation process which synthesizes analysis, interviews, and operational characteristics into a final selection of asset lives and mortality curve parameters. The historical analysis from phase 2 is further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in phase 1. Phases 2 and 3 allow the depreciation analyst to validate the asset characteristics as seen in the accounting transactions with actual Company operational experience.

Finally, Phase 4 involved the calculation of accrual rates, making recommendations and documenting the conclusions in a final report. The calculation of accrual rates is found in Appendix A. Recommendations for the various accounts are contained within the Detailed Discussion of this report. The depreciation study flow diagram shown as Figure 1[1] documents the steps used in conducting this study. Depreciation Systems[2], page 289 documents the same basic processes in performing a depreciation study which are: Statistical analysis, evaluation of statistical analysis, discussions with management and operational personnel, forecast assumptions, and documented recommendations.

[1] Public Utility Finance & Accounting, A Reader
[2] Depreciation Systems, by Drs. W. C. Fitch and F.K. Wolf, Iowa State Press, 1994, page 289.

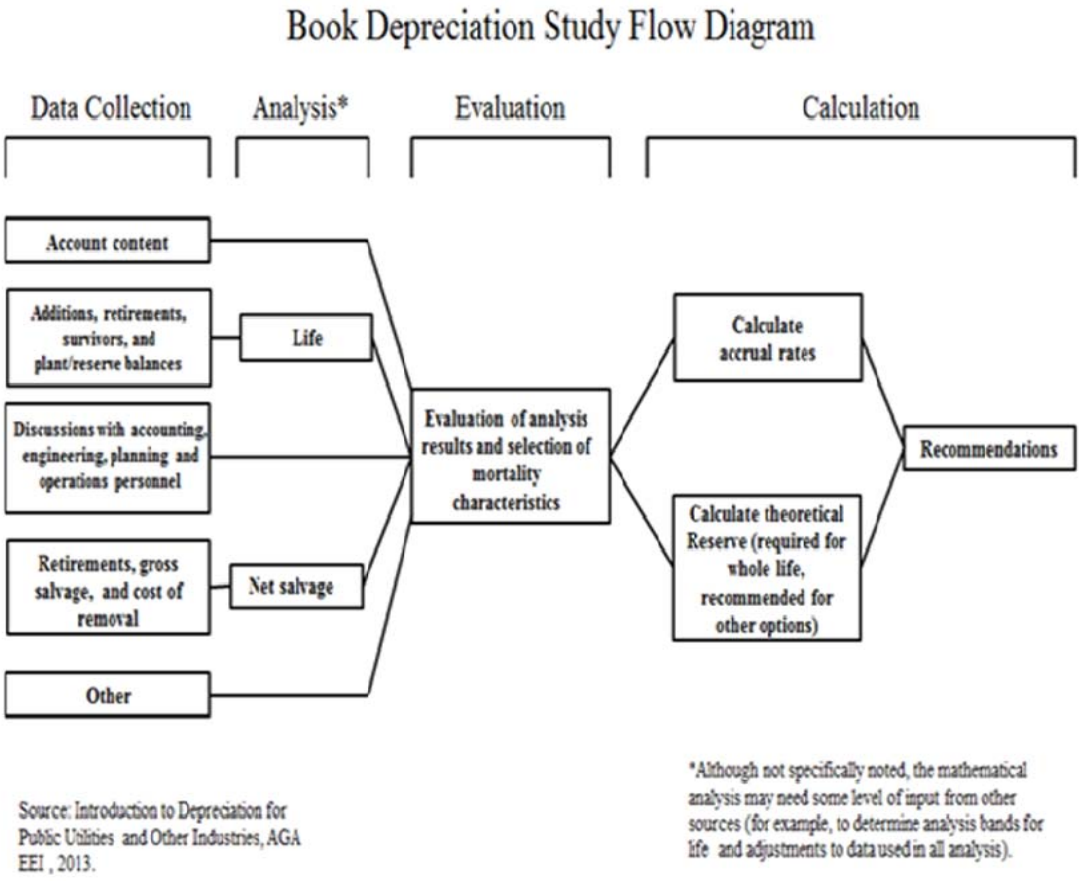


Figure 1

YUKON ENERGY DEPRECIATION STUDY PROCESS

Depreciation True Up Calculation

Annual depreciation expense amounts for the depreciable accounts of Yukon Energy were calculated by the straight-line method, average life group procedure, and remaining-life technique. With this approach, remaining lives were calculated according to standard ALG expectancy techniques, using the Iowa Survivor Curves noted in the calculation. For each plant account, the difference between the book depreciation reserve and theoretical depreciation reserve, was divided by the average remaining life to yield the annual depreciation true up. These calculations are shown in Appendix A.

Depreciation Rate Calculation Process

Annual depreciation expense amounts for accounts all accounts were calculated by the straight-line, average life group procedure, whole-life technique. .

These calculations are shown in Appendix A. The calculations of the theoretical depreciation reserve values and the corresponding remaining life calculations are shown in workpapers. Book depreciation reserves were based on Company individual accounts and the theoretical reserve computation was used to compute a composite remaining life for each account.

Life Analysis

The retirement rate actuarial analysis method was applied to all accounts for Yukon Energy. For each account, an actuarial retirement rate analysis was made with placement and experience bands of varying width. The historical observed life table was plotted and compared with various Iowa Survivor Curves to obtain the most appropriate match. A selected curve for each account is shown in the Life Analysis Section of this report. The observed life tables for all analyzed placement and experience bands are provided in workpapers.

For each account on the overall band (i.e. placement from earliest vintage year which varied for each account through 2018), approved survivor curves from the prior study, if applicable modified by subsequent orders, were used as a starting

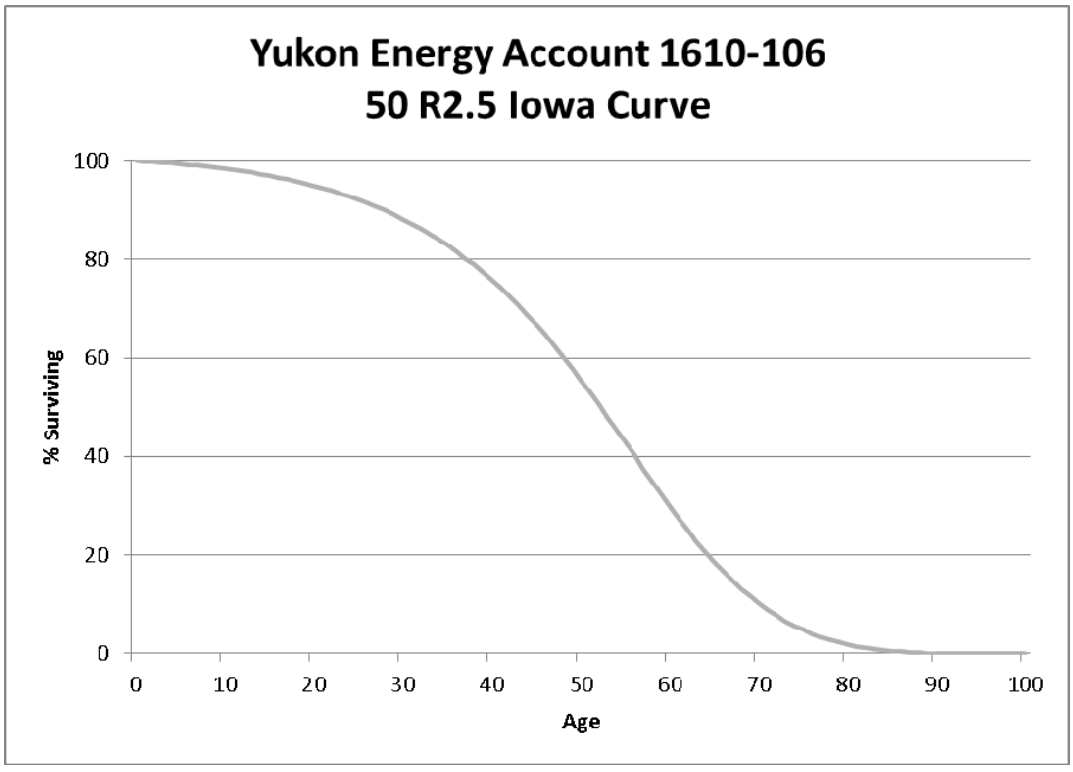
point. Then using the same average life, various dispersion curves were plotted. Frequently, visual matching would confirm one specific dispersion pattern (i.e. L, S. or R) as an obviously better match than others. The next step would be to determine the most appropriate life using that dispersion pattern. Then, after looking at the overall experience band, different experience bands were plotted and analyzed. Next placement bands of varying width were plotted with each experience band discussed above. Repeated matching usually pointed to a focus on one dispersion family and small range of service lives. The goal of visual matching was to minimize the differential between the observed life table and Iowa curve in top and mid range of the plots. These results are used in conjunction with all other factors that may influence asset lives.

LAND AND LAND RIGHTS

Only one account in the land function is depreciable. Most of the assets in this function are non-depreciable property and are excluded from this study.

Account 1610-106 Land Rights

This account consists of land rights associated with general plant operations. The plant balance in this account at December 31, 2018 is $129 thousand. The longest life for general plant assets is 50 years. Yukon currently depreciates land rights over 50 years and uses the R2.5 dispersion. There was insufficient transactional data for an actuarial life analysis. This study recommends retaining the existing life of 50 years and R2.5 dispersion curve. A representative graphs is shown below.



HYDRO PLANT

Yukon Energy has three Hydro Plants: Whitehorse, Aishihik, and Mayo. The Whitehorse hydro plant has served Yukoners since 1958. It was developed to supply electricity to a growing Yukon population. It began with two turbines; a third one was added in 1969, and a fourth in 1985. In the summertime, the Whitehorse hydro facilities can produce 40 megawatts of power. In the winter, when flow in the Yukon River is reduced, it can only produce about 25 megawatts. This is why projects that can supply winter generation are so important to serving customers. When water is least available, Yukon Energy's demand for power is highest.

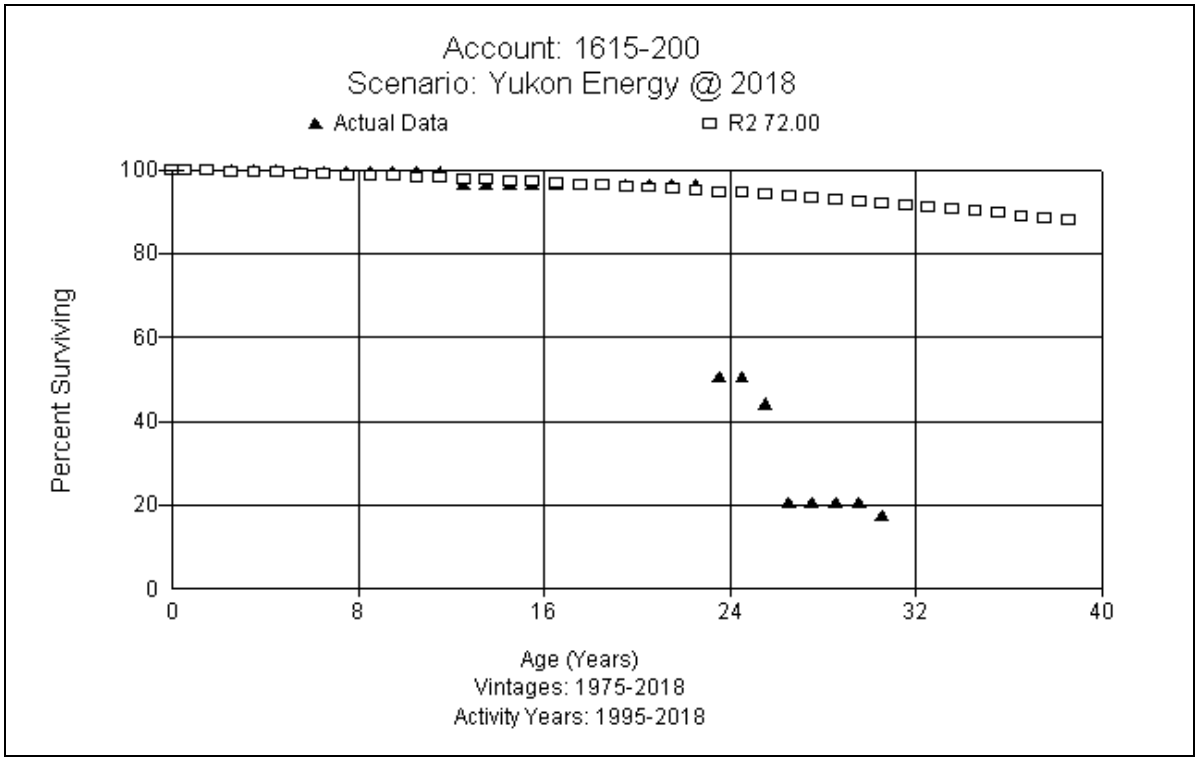
The Aishihik facility is located a remarkable 110 meters underground. It is the first underground power plant north of the 60th parallel in the western world. The original plant included two hydro units that could each produce up to 15 megawatts of renewable power. In 2011, a seven-megawatt hydro generator was added. The facility can now produce enough power to supply about 12,500 non-electrically heated homes. Aishihik annual produces about 25 percent of the total energy generated by Yukon Energy. The Aishihik plant is extremely important to Yukon Energy's operations. Although the 40-megawatt Whitehorse Rapids hydro facility is larger than Aishihik, the effective capacity of the Whitehorse plant is reduced by close to half during the coldest months of the year because of reduced water flow on the Yukon River. Aishihik is the only hydroelectric facility in Yukon that can store energy in the summer when demand is low, to be used in the winter when demand is high. It can also store energy during wet years, to be used in dry years when the levels of the lake water are lower.

The Mayo A hydro facility has served Yukoners since 1951. It was developed to supply electricity to the United Keno Hill Mine at Elsa, about 45 kilometers north of Mayo. It also generates power for other Yukon communities via Yukon Energy's transmission system. The Mayo B hydro project, completed in 2011, involved building a new powerhouse 3.7 kilometers downstream from the existing hydro plant

(Mayo A). This increased the Company's capacity to generate additional renewable energy at the existing site from five megawatts to 15 megawatts, without the need for a new dam or reservoir. Together the two plants can supply electricity to as many as 7,000 non-electrically heated homes. The Mayo hydro facilities are located in the central Yukon about 400 kilometers north of Whitehorse.

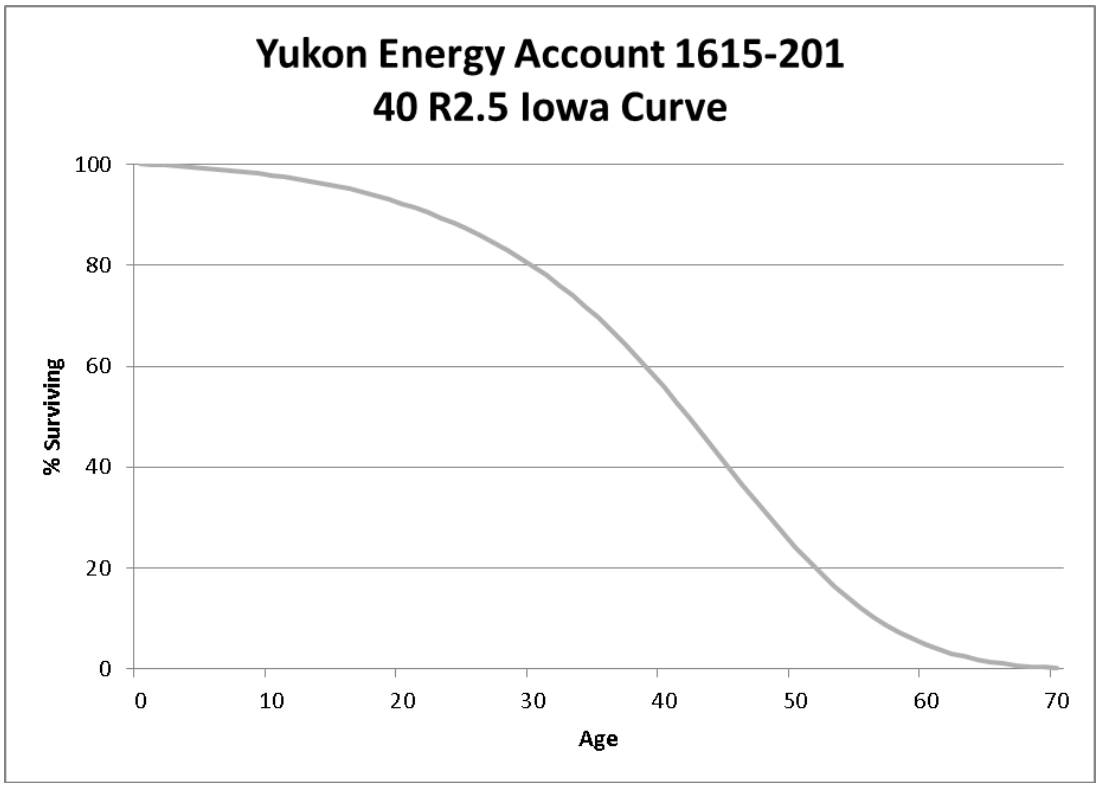
Account 1615-200 Hydro Structures and Improvements 72 R2

This account consists of buildings, structures, and other related assets used in hydro production, including elevator upgrades, bridge work, and gate house improvements. The plant balance in this account at December 31, 2018 is $34.2 million. The approved life and curve for this account is 72 R2. Based on the limited indications from the actuarial analysis, information provided by Company personnel and judgment, this study recommends retaining the existing 72 R2 for this account. A graph of the observed life table versus the recommended curve type is shown below.



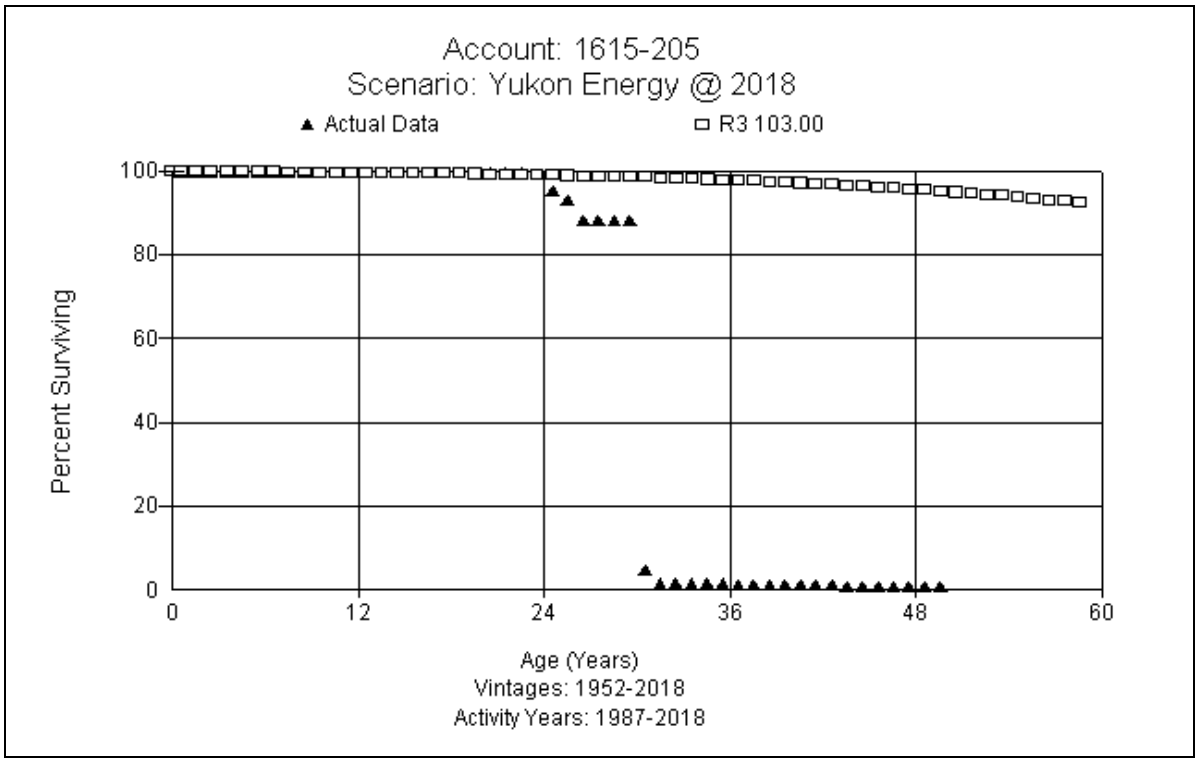
Account 1615-201 Hydro Buildings and Improvements 40 R2.5

This account is a newly created group. In 2019, an asset previously booked in account 1645-200, Buildings- Structures and Improvements. The asset is an elevator at Aishihik Hydro plant. The plant balance in this account will be $10.3 million. The approved life and curve for this account is 40 R2.5. Based on information provided by Company personnel and judgment, this study recommends retaining the existing 40 R2.5 for this account. A representative curve shape is shown below.



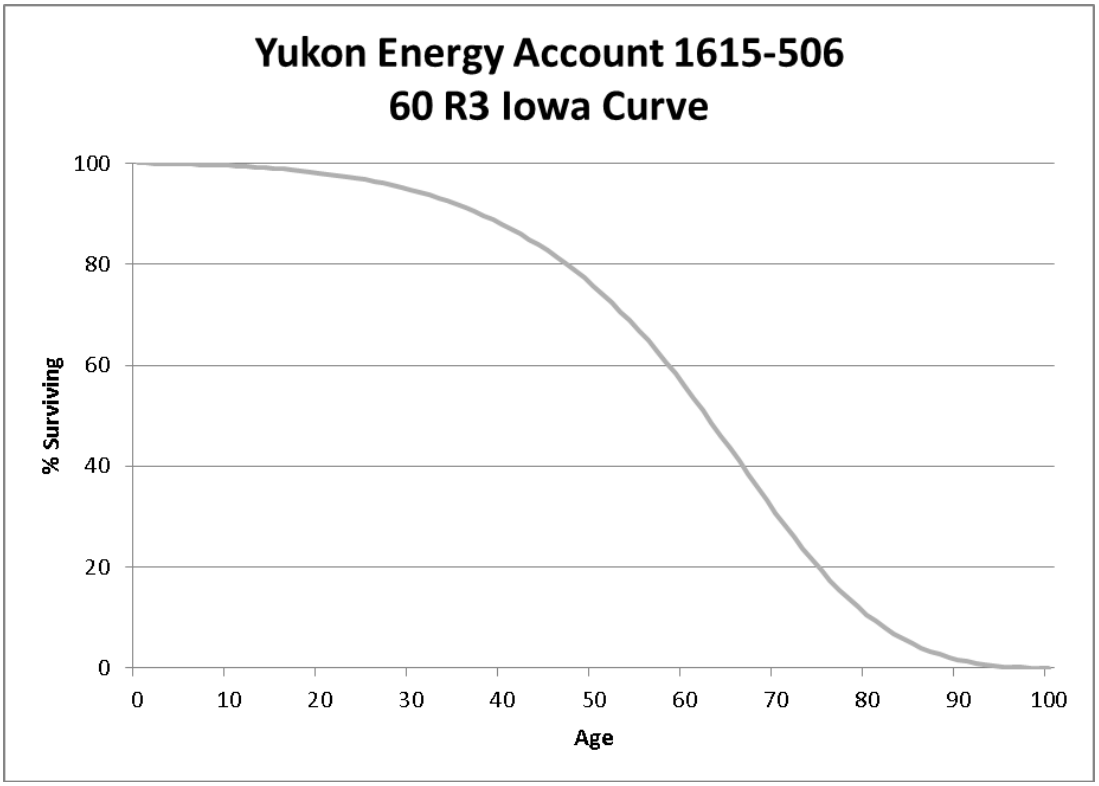
Account 1615-205 & 206 Hydro Reservoirs, Dams, and Waterways 103 R3

This account consists of reservoirs, dams, waterways, and other related assets used in hydro production including bridges, dams, embankments, tunnels and canals. The plant balance in this account at December 31, 2018 is $172.9 million. The approved life and curve for this account is 103 R3. Based on the limited indications from the actuarial analysis, information provided by Company personnel and judgment, this study recommends retaining the existing 103 R3 for this account. A graph of the observed life table versus the recommended curve type is shown below.



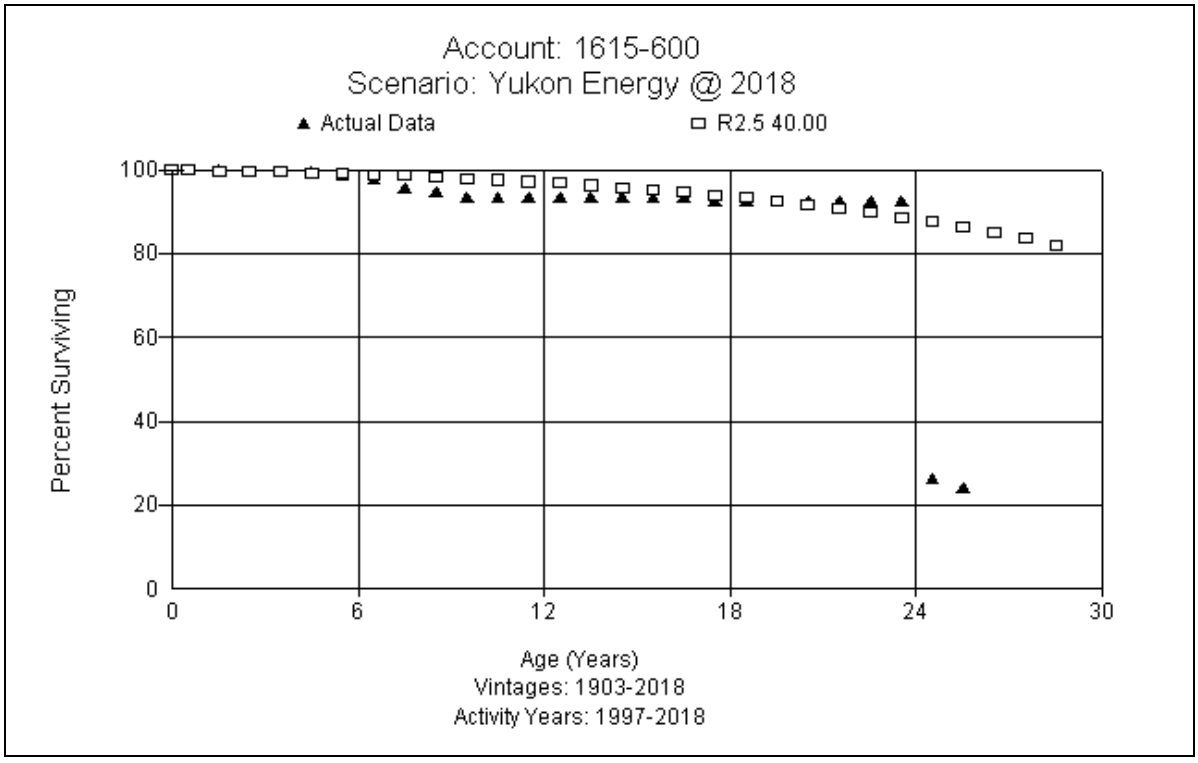
Account 1615-506 Hydro Water Wheels, Turbines, and Generators 60 R3

This account consists of water wheels, turbines, and other related assets used in hydro production including runners, gates, regulator systems, generator cooling systems, and generators. The plant balance in this account at December 31, 2018 is $26.3 million. The approved life and curve for this account is 85 R3. Operational personnel stated the approved life is too long, and that they have already replaced runners and rewound generators prior to reaching 60 years. There was insufficient transactional data for an actuarial life analysis. Based on information provided by Company personnel, this study recommends decreasing the life to 60 years and retaining the R3 curve for this account. A representative graph is shown below.



Account 1615-600 Hydro Accessory Electrical Equipment 40 R2.5

This account consists of generator controls, bus equipment, and other related assets used in hydro production including auxiliary generators, switching equipment, excitation systems, and station control systems. The plant balance in this account at December 31, 2018 is $26.6 million. The approved life and curve for this account is 45 R3. Based on information provided by Company personnel and the indications from the actuarial analysis, this study recommends decreasing the life to 40 years and moving to an R2.5 curve for this account. A graph of the observed life table versus the recommended curve type is shown below.

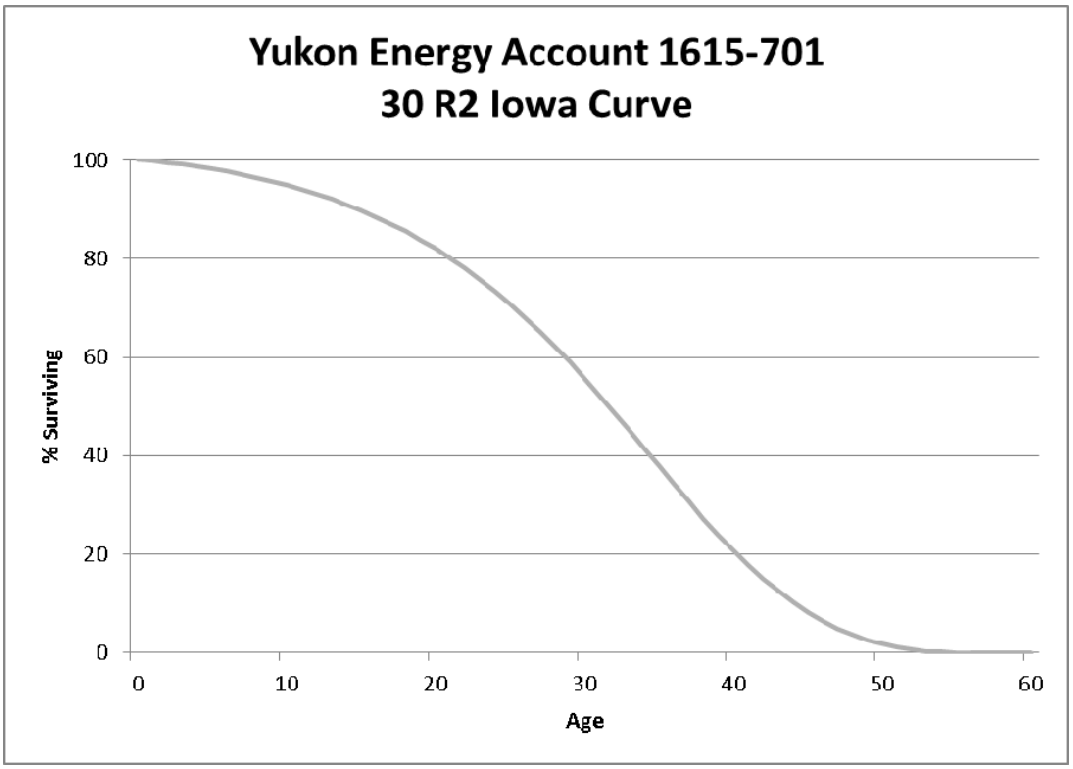


Account 1615-601 Hydro Accessory Digital Equipment 20 SQ

This account consists of digital generating apparatus, conversion and switching equipment, and other related equipment used in hydro production. The plant balance in this account at December 31, 2018 is $838 thousand. The approved life and curve for this account is 20 SQ. Based on type of assets, discussions with Company personnel, and the existing parameters, this study recommends retaining the existing 20 SQ for this account. No graph is shown for this account.

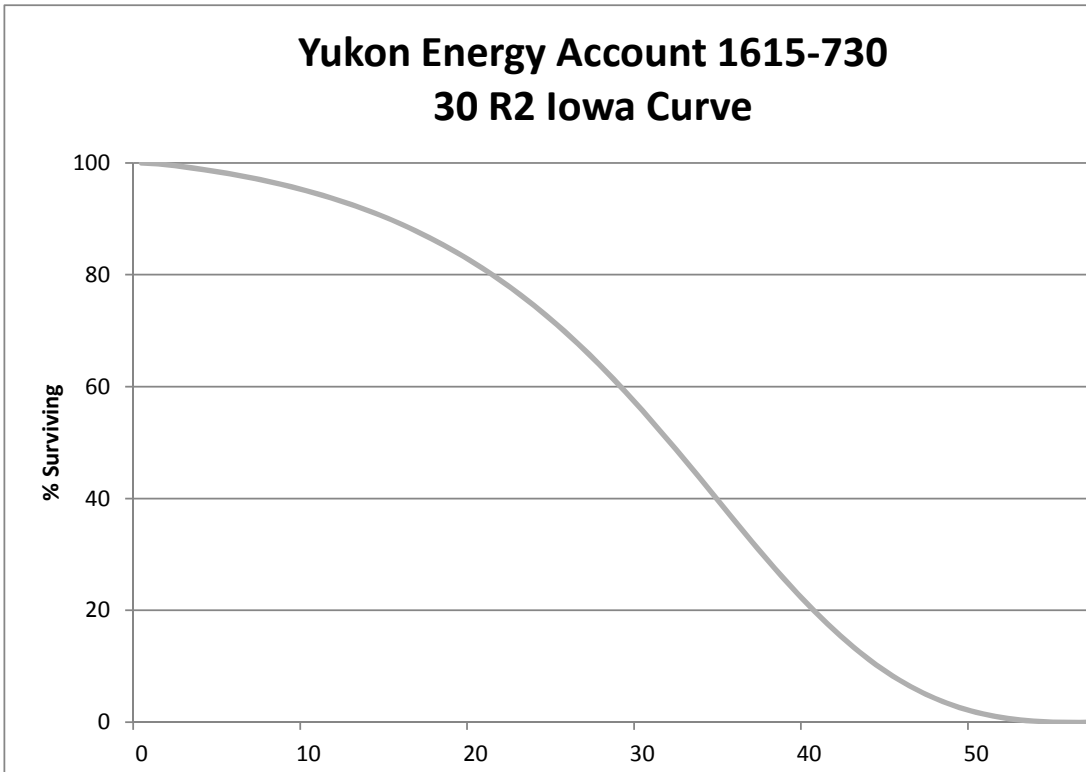
Account 1615-700 Hydro Miscellaneous Power Plant Equipment 30 R2

This account consists of compressed air and vacuum systems, cranes and hoisting equipment, station maintenance equipment, and other miscellaneous equipment used in hydro production. The plant balance in this account at December 31, 2018 is $11.5 million. The approved life and curve for this account is 30 R2. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel, and the existing parameters, this study recommends retaining the existing 30 R2 for this account. A representative graph is shown below.



Account 1615-730 Hydro Fences 30 R2

This account consists of fencing assets located at the hydro plants. The plant balance in this account at December 31, 2018 is $107 thousand. The approved life and curve for this account is 30 R2. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and the existing parameters, this study recommends retaining the existing 30 R2 curve for this account. A representative graph is shown below.

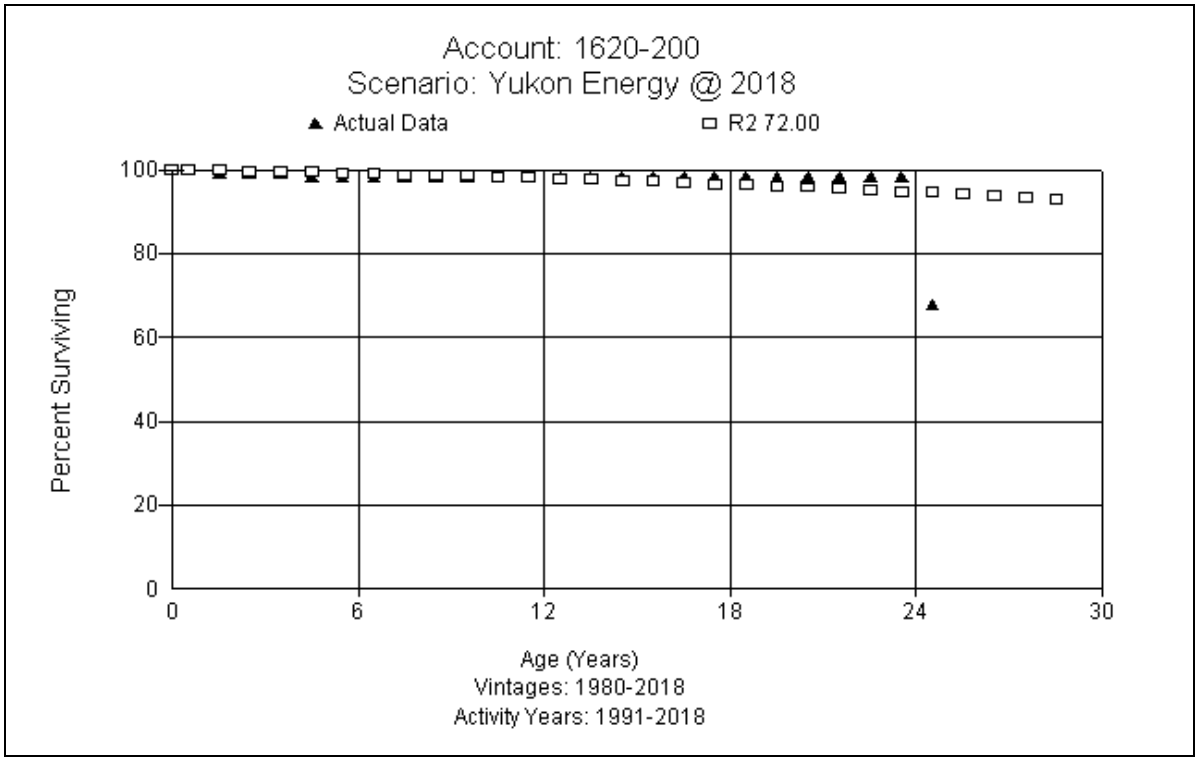


DIESEL PLANT

For most of the year, the Company relies on hydro for energy supply. In 2018, close to 94 percent of the electricity the Company generated was with hydro. However they also use back-up diesel generation during power outages, to supplement their hydro facilities in very cold weather, and during droughts. As an isolated grid in one of the planet's least-forgiving environments, a reliable backup system is crucial. Yukon Energy currently has diesel generators in Whitehorse, Mayo, Dawson, and Faro

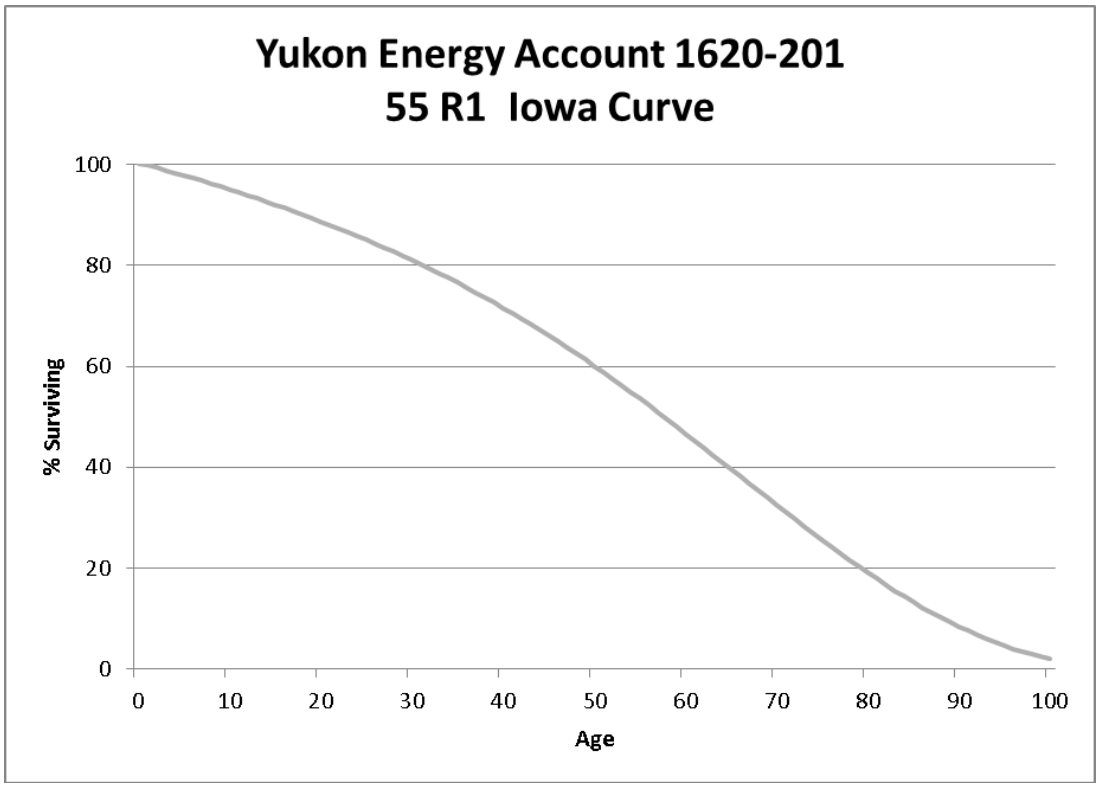
Account 1620-200 Diesel Structures and Improvements 72 R2

This account consists of structures, foundations, and other related assets at the diesel production plants. The plant balance in this account at December 31, 2018 is $1.6 million. The approved life and curve for this account is 72 R2. Based on information provided by Company personnel and judgment, this study recommends retaining the existing 72 R2 for this account. A graph of the observed life table versus the recommended curve type is shown below.


Account: 1620-200
Scenario: Yukon Energy @ 2018
Actual Data
R2 72.00
Percent Surviving
100
80
60
40
20
0
0
6
12
18
24
30
Age (Years)
Vintages: 1980-2018
Activity Years: 1991-2018

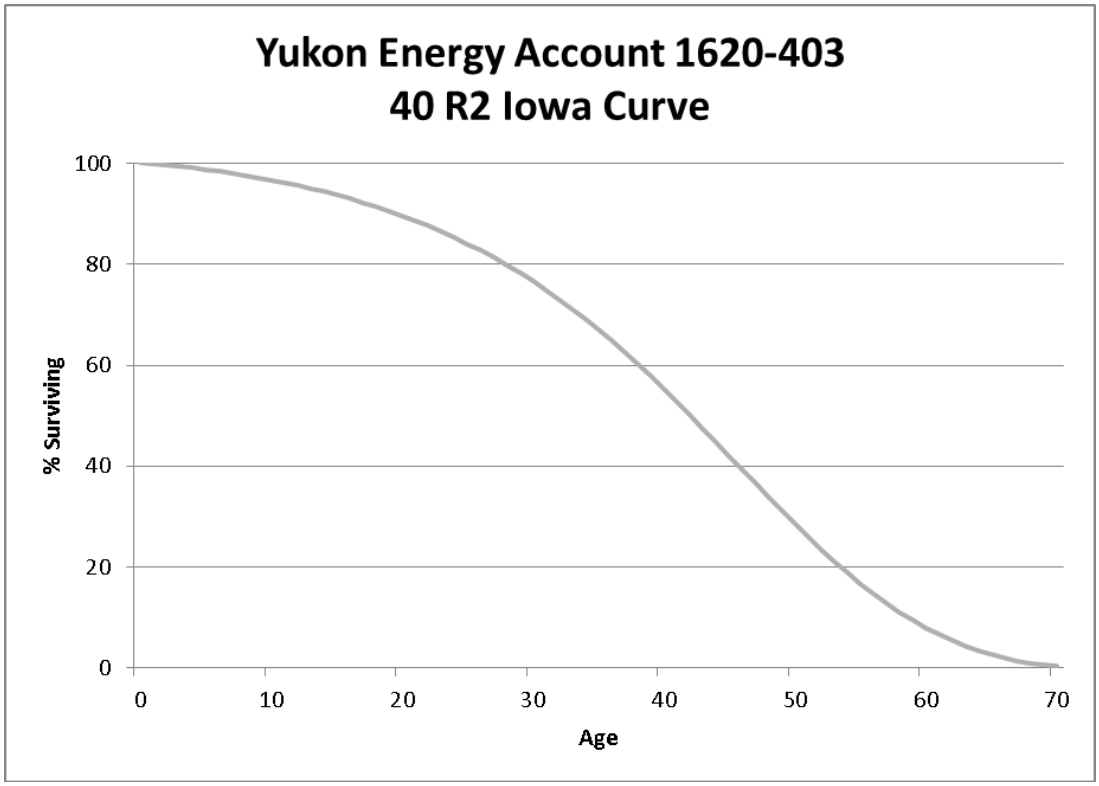
Account 1620-201 Diesel Buildings and Improvements 55 R1

This account consists of diesel production buildings, upgrades, renovations, and other related assets at the diesel production plants. The plant balance in this account at December 31, 2018 is $466 thousand. The approved life and curve for this account is 55 R1. There was insufficient transactional data for an actuarial life analysis. Based on information provided by Company personnel and judgment, this study recommends retaining the existing 55 R1 for this account. A representative graph is shown below.



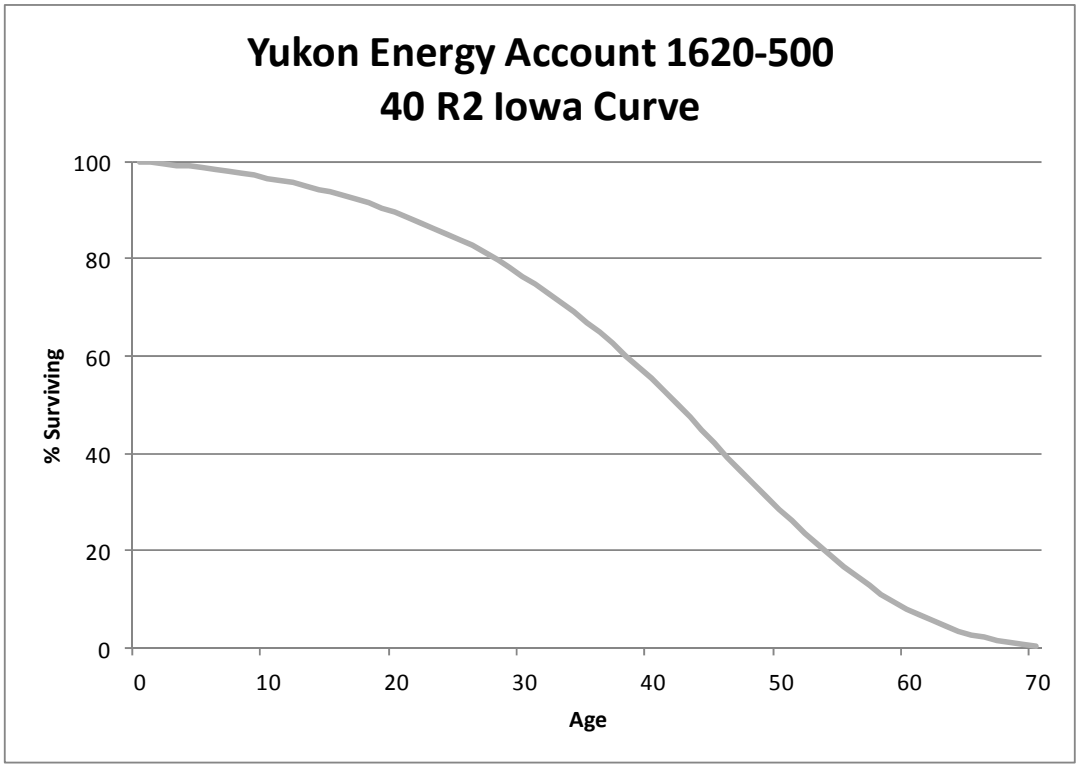
Account 1620-403 Diesel Fuel Holders, Producers, and Accessories 40 R2

This account consists of pumps, storage tanks, natural gas/fuel oil piping and other related assets at the diesel production plants. The plant balance in this account at December 31, 2018 is $1.7 million. The approved life and curve for this account is 25 R2. Discussions with operational personnel stated the existing life seems short, that many of the existing assets are approximately 15 to 20 years old, are still reliable, and not currently in need of replacement. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends increasing to a 40 year life and retaining the existing R2 curve for this account. A representative graph is shown below.



Account 1620-500 Generating Equipment and Prime Movers 40 R2

This account consists of generators, prime movers, and other related assets at the diesel production plants including air filtering systems, engines, cooling systems, and recording instruments. The plant balance in this account at December 31, 2018 is $13.8 million. The approved life and curve for this account is 40 R2. Discussions with operational personnel stated the block is estimated to last 40 years or more and that some smaller components in this account may have a shorter life, but overall a life of 40 years seems reasonable. There was insufficient transactional data for an actuarial life analysis. Based on the type of assets, information provided by Company personnel and judgment, this study recommends retaining the existing 40 R2 for this account. A representative graph is shown below.



Account 1620-501 Generating Equipment and Prime Movers Faro Diesel 11 SQ

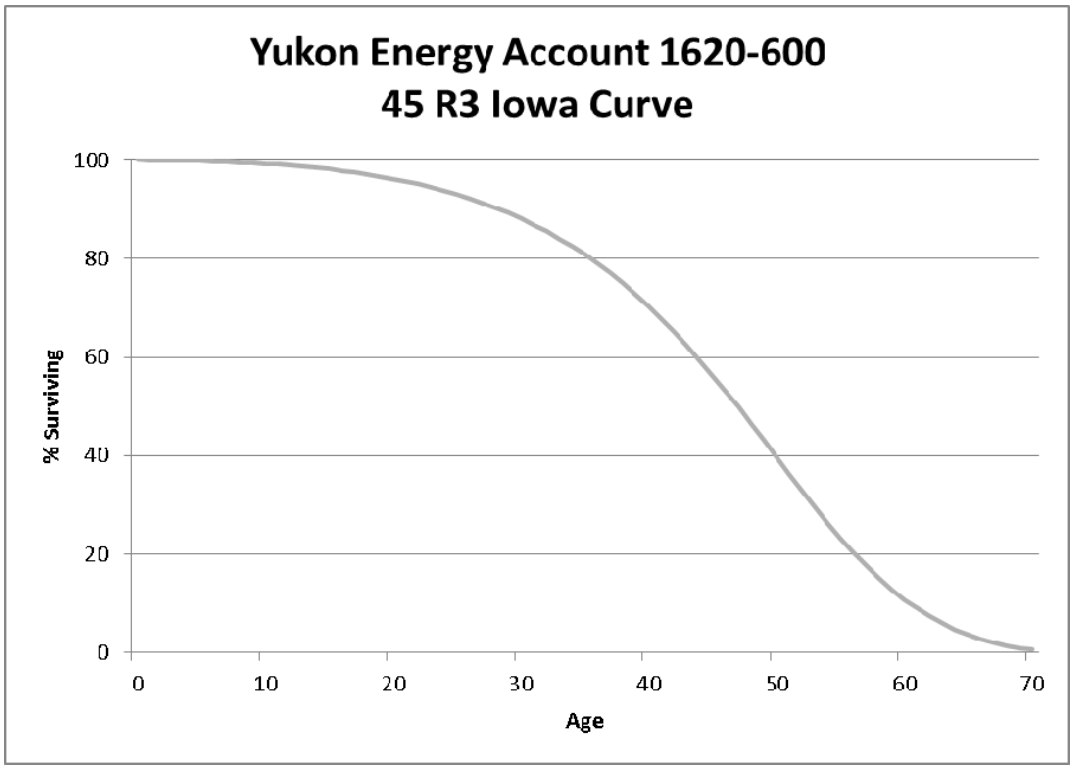
This account consists of generators, prime movers, and other related assets at the diesel production plants including air filtering systems, engines, cooling systems, and recording instruments at the Faro Diesel facility. The plant balance in this account at December 31, 2018 is $2.0 million. The approved life and curve for this account is 11 SQ. The Company will be retiring these assets associated with the Faro diesels in 2021, and the current service life reflects the retirement of those assets. Based on input from the Company, the current plan to retire these assets in 2021 remains the same. No change in life is planned for this account.

Account 1620-508 Diesel Minto Generating Equipment 12 SQ

This account consists of diesel generating and control equipment at Minto Mine. The plant balance in this account at December 31, 2018 is $244 thousand. The approved life and curve for this account is 12 SQ. Yukon amortizes the costs for the plant controls over a 12 year period. Based on information provided by Company personnel, this study recommends retaining the existing 12 SQ for this account. No graph is shown for this account.

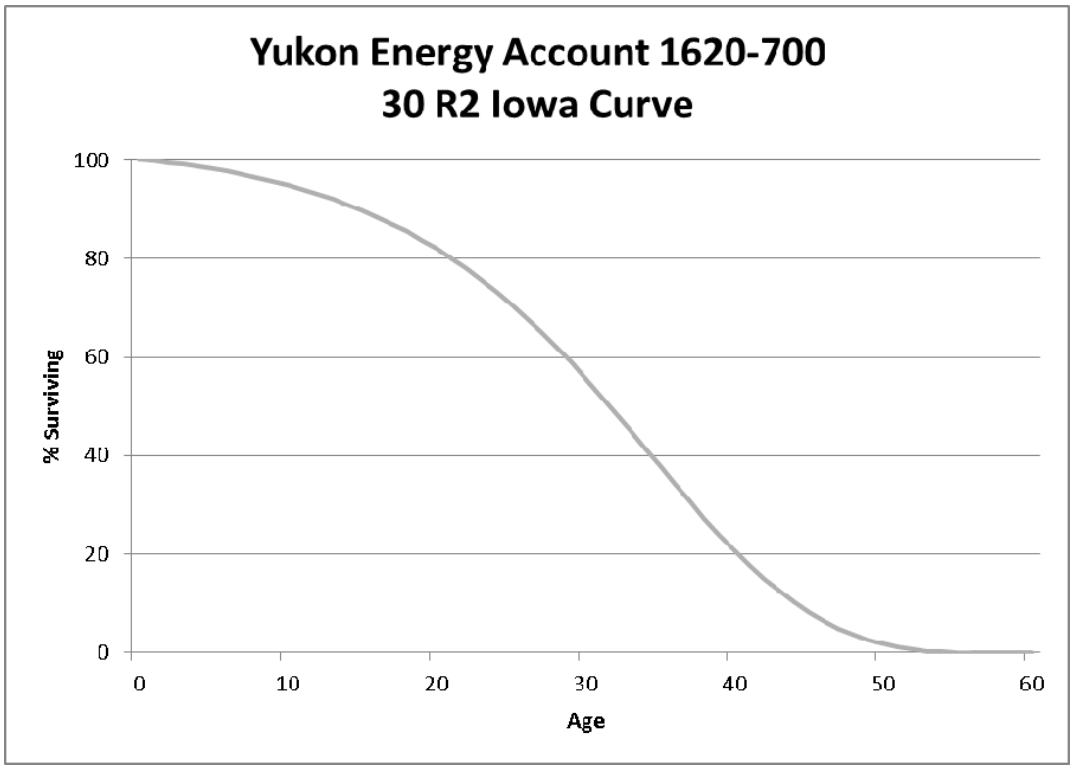
Account 1620-600 Diesel Accessory Electrical Equipment 45 R3

This account consists of auxiliary generators, switching and control equipment, circuit breakers, and other related assets at the diesel production plants. The plant balance in this account at December 31, 2018 is $5.4 million. The approved life and curve for this account is 45 R3. There was insufficient transactional data for an actuarial life analysis. Based on the type of assets, information provided by Company personnel and judgment, this study recommends retaining the existing 45 R3 for this account. A representative graph is shown below.



Account 1620-700 Diesel Miscellaneous Power Plant Equipment 30 R2

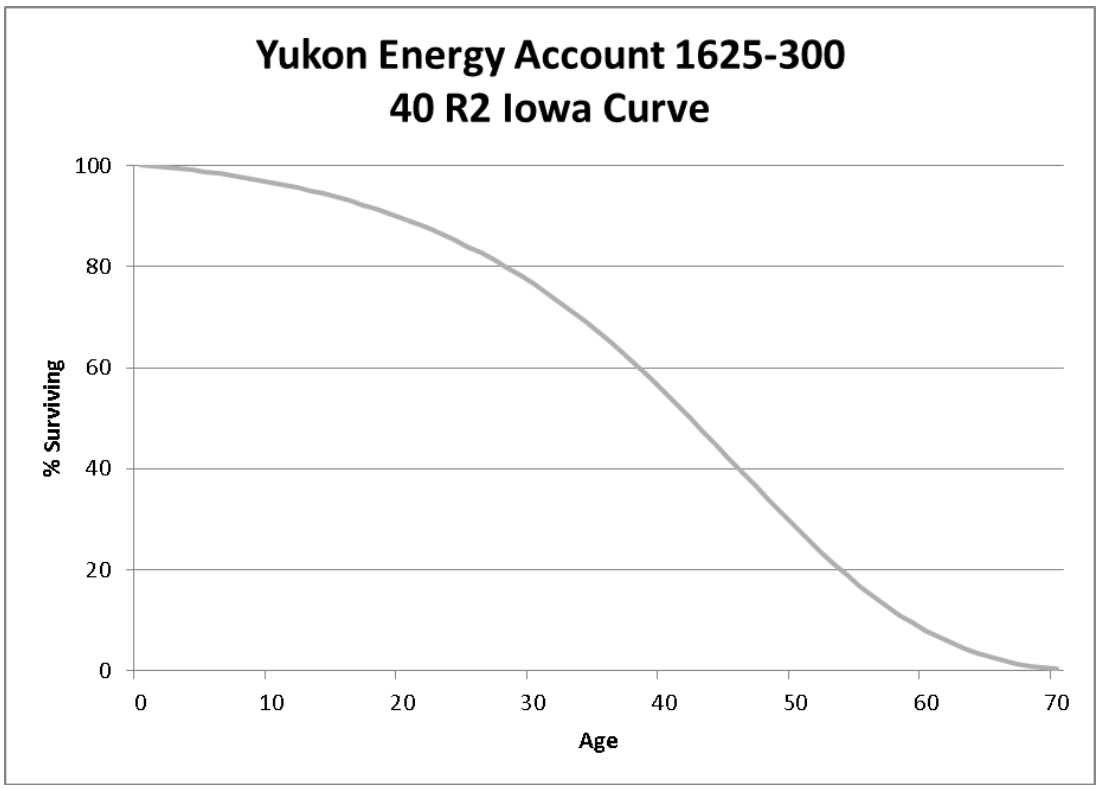
This account consists of compressed air and vacuum systems, crane rails, hoists, lab equipment, ventilating equipment, fire protection systems, and other related assets at each diesel production plant. The plant balance in this account at December 31, 2018 is $1.9 million. The approved life and curve for this account is 30 R2. There was insufficient transactional data for an actuarial life analysis. Based on the type of assets, information provided by Company personnel, this study recommends retaining the existing 30 R2 for this account. A representative graph is shown below.



DISTRIBUTION SYSTEM

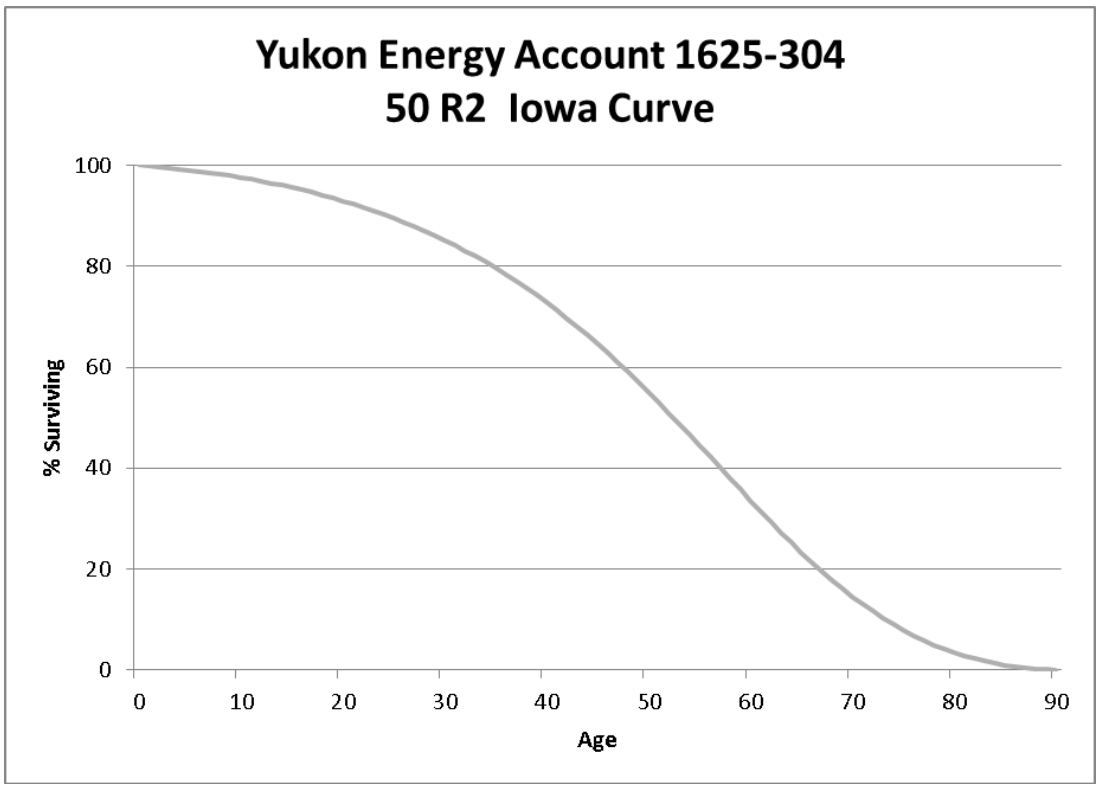
Account 1625-300 Dist. System - Poles and Fixtures 40 R2

This account consists of the installation costs of poles and fixtures used for supporting overhead distribution conductors and service wire. The plant balance in this account at December 31, 2018 is $8 million. The approved life and curve for this account is 35 R2. Discussions with operational personnel stated that right of ways are narrower for distribution, putting the poles closer to vehicles and making them more susceptible to being damaged. Additionally, permafrost puts more stress on the shorter, lower class poles. Overall, operations estimates the life of distribution poles to be 10 years less than transmission poles, which use a life of 50 years. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 40 R2 for this account. A representative graph is shown below.



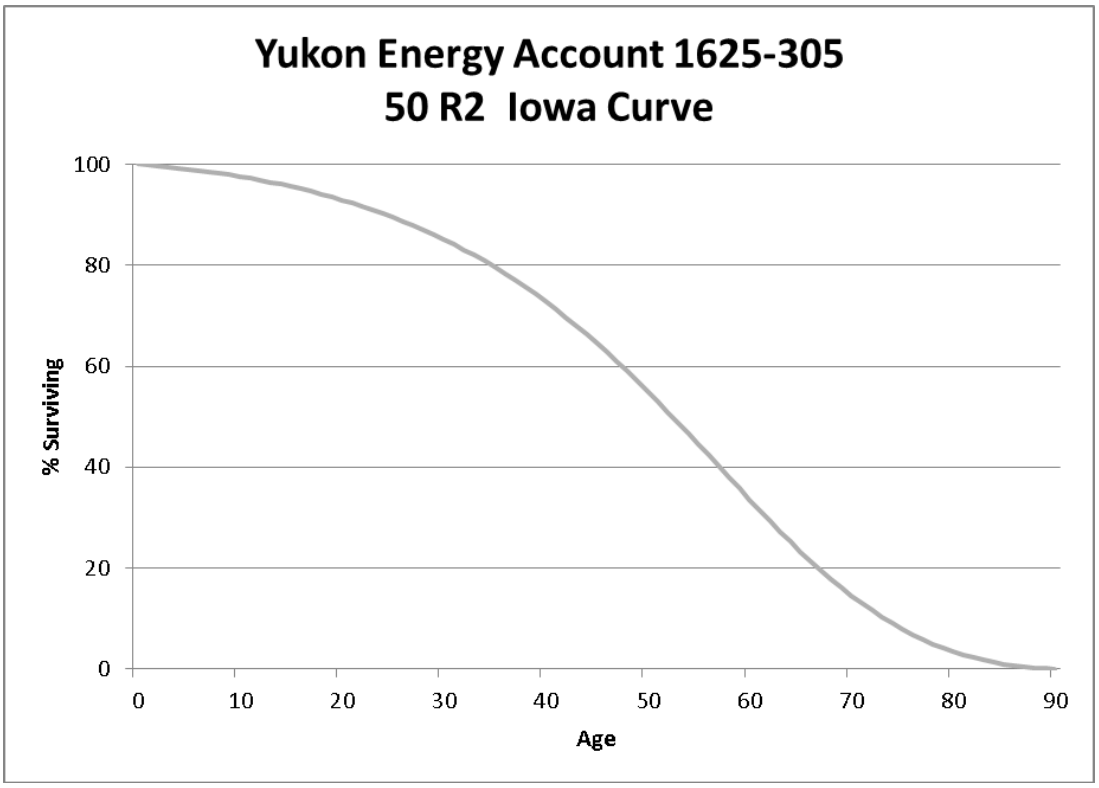
Account 1625-304 Dist. System - Brushing 50 R2

This account consists of costs associated with the brushing of the distribution system. The plant balance in this account at December 31, 2018 is $45 thousand. The approved life and curve for this account is 50 R2. The Company capitalizes the brush clearing of ROWs when installing new lines. Operations stated the existing life is reasonable and matches the life of O/H Conductor, which have a 50 year life. There was insufficient transactional data for an actuarial life analysis. Based on the information provided by Company personnel and judgment, this study recommends retention of the existing 50 R2 for this account. A representative graph is shown below.



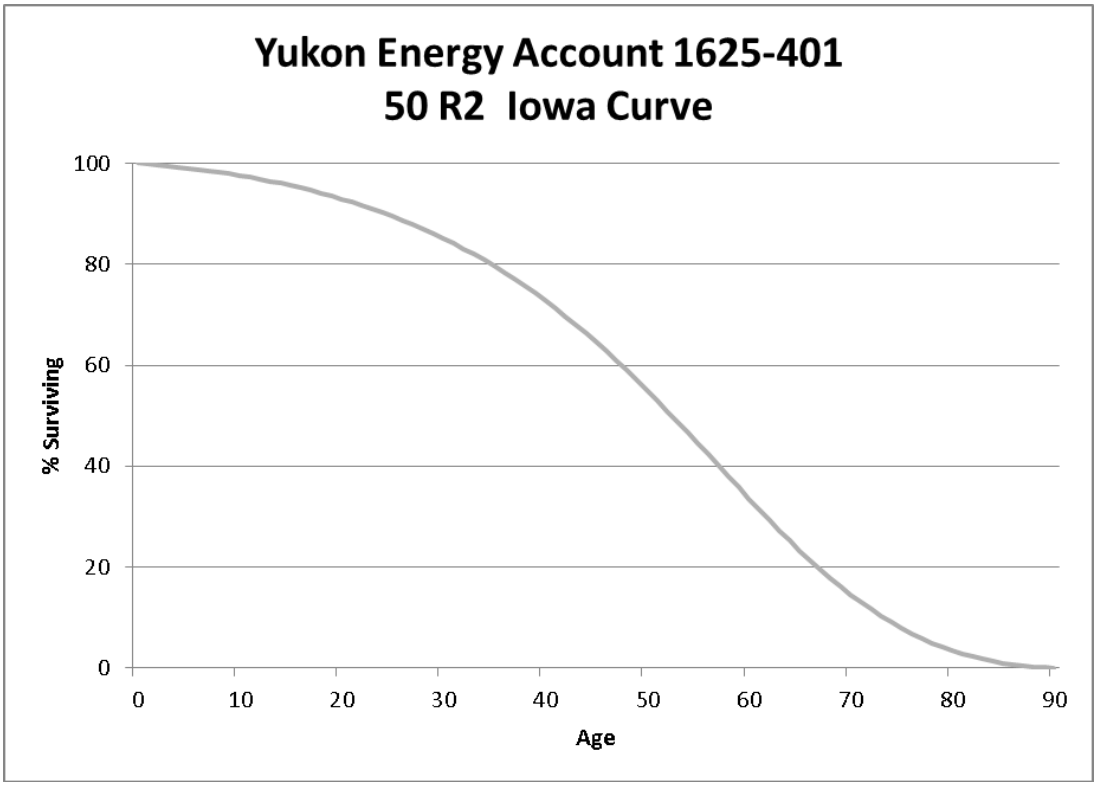
Account 1625-305 Dist. System – Survey Costs 50 R2

This account consists of costs association with land surveys and assessments related to distribution easements. The plant balance in this account at December 31, 2018 is $600 thousand. The approved life and curve for this account is 50 R3. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retention of the existing 50 year life with a slight change in the curve to an R2 for this account. A representative graph is shown below.



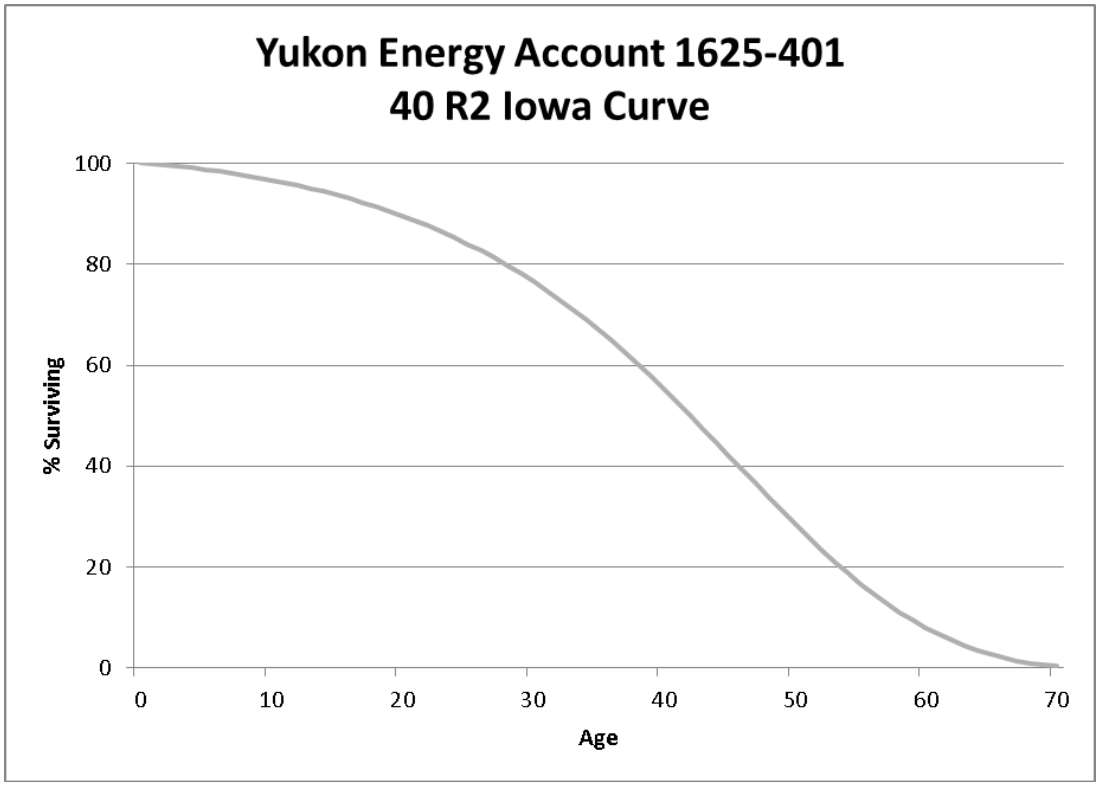
Account 1625-401 Dist. System – O/H Conductors 50 R2

This account consists of overhead conductors and other facilities associated with the distribution system. The plant balance in this account at December 31, 2018 is $75 thousand. The approved life and curve for this account is 35 R2. Discussions with operational personnel stated they would expect the life of distribution conductor to be shorter than transmission conductor. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends increasing the life to 50 years while retaining the R2 curve for this account. A representative graph is shown below.



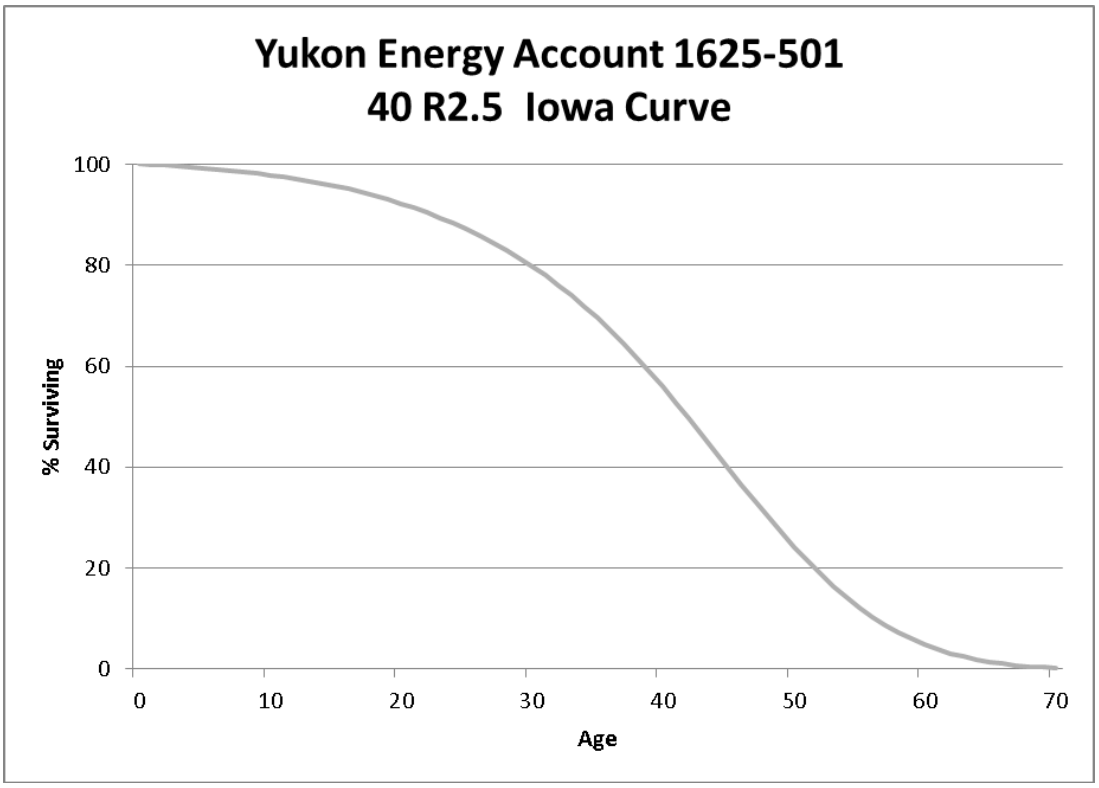
Account 1625-401 Dist. System – O/H Services 40 R2

This account consists of installation costs associated with overhead services such as transmission line installation and upgrades. The plant balance in this account at December 31, 2018 is $2.1 million. The approved life and curve for this account is 40 R2. Discussions with Company personnel indicated the majority of services are overhead. The Company is experiencing an increased number of new services and need to update aging infrastructure. Operations stated commercial services would have a shorter life than residential services. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retention of the 40 R2 life and curve for this account. A representative graph is shown below.



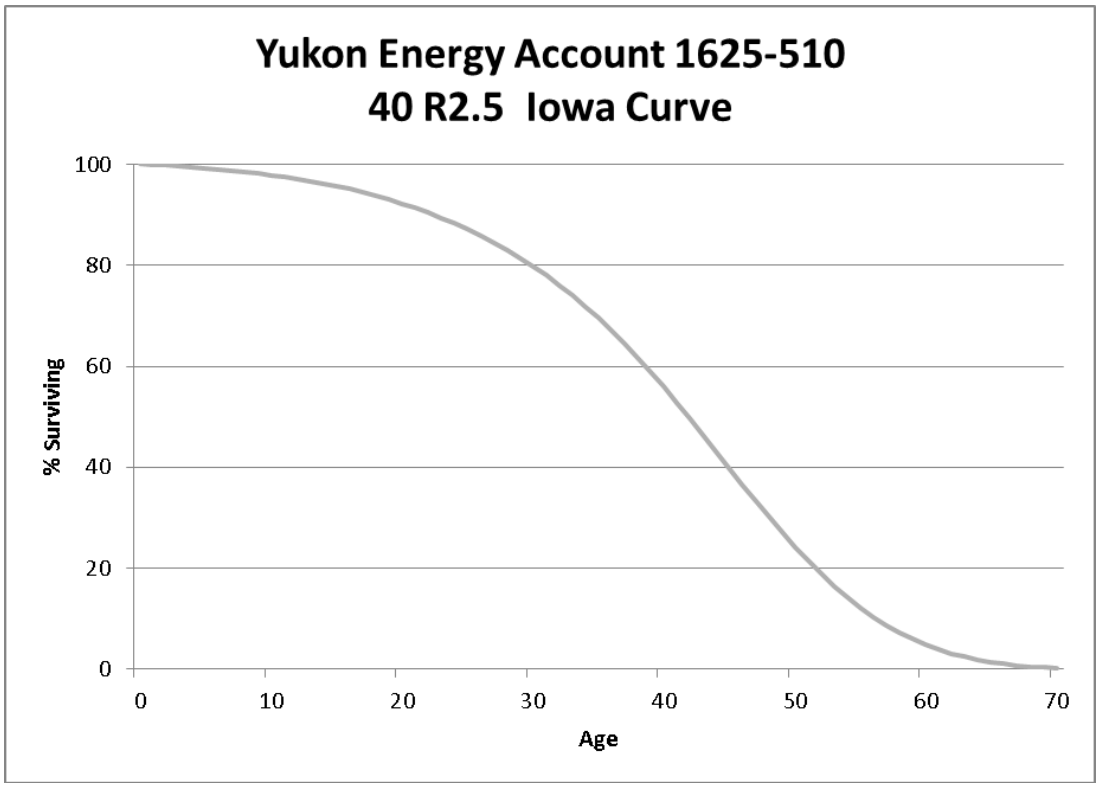
Account 1625-501 Underground Conduit 40 R2.5

This account consists of underground conduit, duct banks, vaults, manholes, insulators, and ventilating system equipment. The plant balance in this account at December 31, 2018 is $385 thousand. The approved life and curve for this account is 40 R2.5. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retention of the 40 R2.5 life and curve for this account. A representative graph is shown below.



Account 1625-510 Underground Services 40 R2.5

This account consists of underground services. The plant balance in this account at December 31, 2018 is $40 thousand. The approved life and curve for this account is 40 R2.5. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retention of the 40 R2.5 life and curve for this account. A representative graph is shown below.



Account 1625-610 Dist. System – Meters 16 SQ

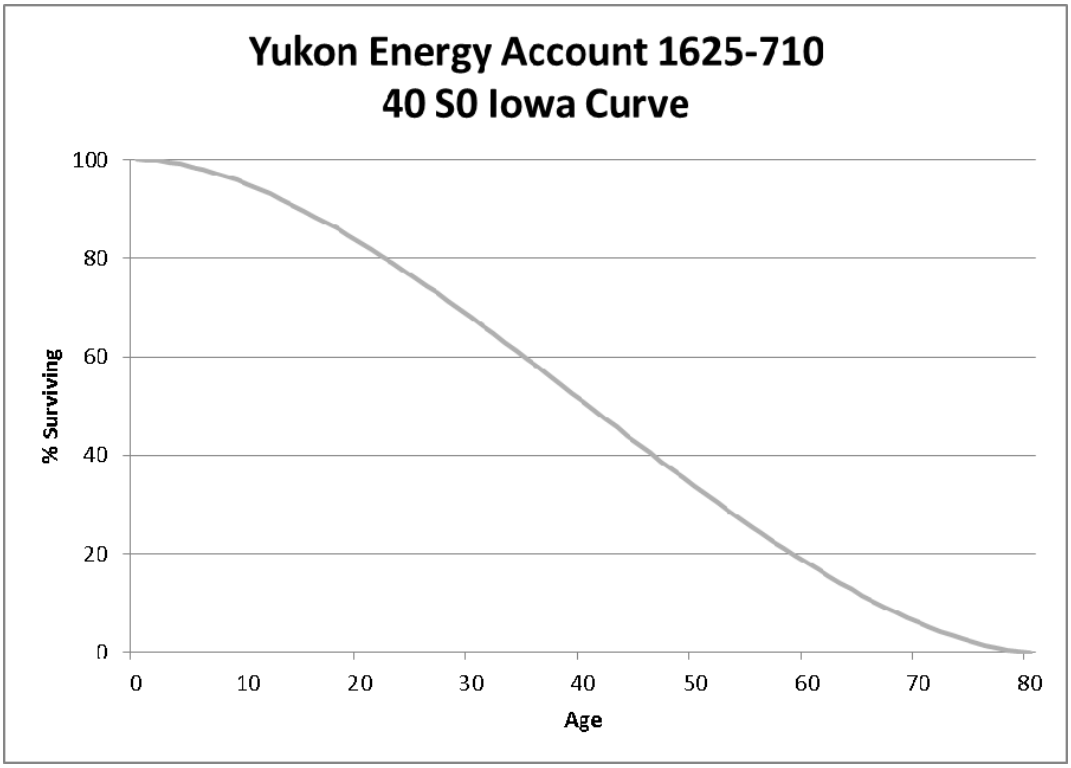
This account includes all distribution meters. The plant balance in this account at December 31, 2018 is $313 thousand. The approved life and curve for this account is 30 R2. Discussions with operations stated nearly all existing meters are digital. The Company pulls meters for testing at eight years and based on test results may use the meter up to 16 years. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 16 SQ life and curve for this account. No graph is shown for this account

Account 1625-620 Dist. System – Meter Equipment 16 SQ

This account includes the costs of metering devices and appurtenances thereto used to transform electricity so that it can be measured by meter when delivered to its users. This includes instrument transformers, meter boards, meter switches, and similar devices. The plant balance in this account at December 31, 2018 is $288 thousand. The approved life and curve for this account is 30 R2 – modeled the same as the meters in Account 1625-610. Based on type of assets, the movement of the meter life to 16 years and judgment, this study recommends continuing to parallel meters and move the life to a 16 SQ life and curve for this account. No graph is shown for this account.

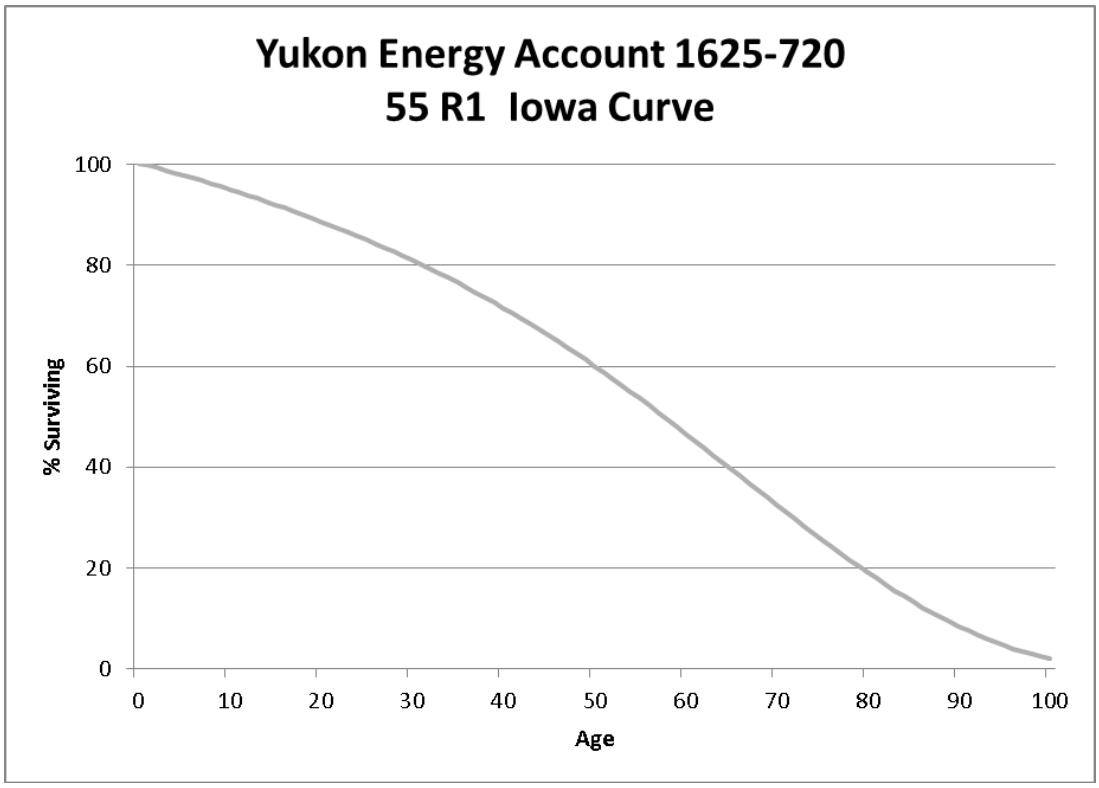
Account 1625-710 Dist. System – Substation Equipment 40 S0

This account includes all distribution substation equipment such as bus compartments, control equipment, ground rods, foundations, and conversion equipment, switching equipment, and switchboards. The plant balance in this account at December 31, 2018 is $1.3 million. The approved life and curve for this account is 40 R2. Discussions with operations indicated the Company is experiencing a shorter life due to an increased number of faults, more short-lived electronic equipment, and the move to SF6 all decreasing the lives of existing assets. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends a 40 S0 life and curve for this account. A representative graph is shown below.



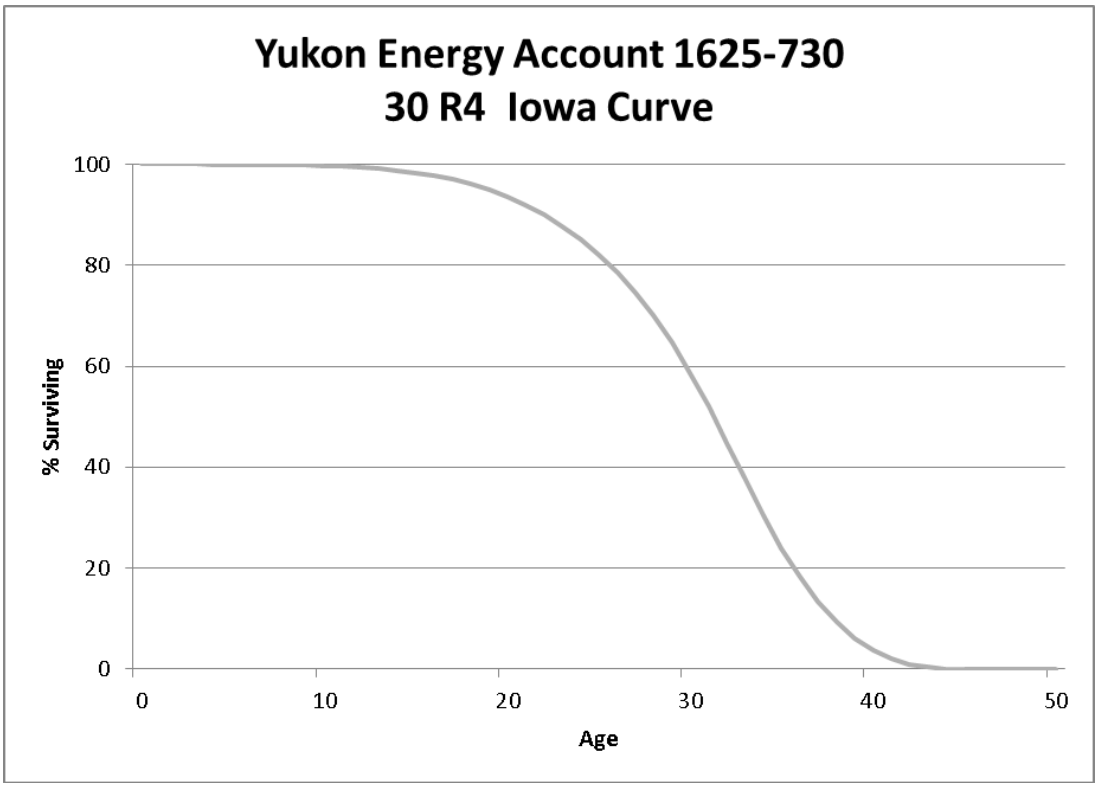
Account 1625-720 Dist. System – Substation Buildings 55 R1

This account includes the costs of buildings located at distribution substations. The plant balance in this account at December 31, 2018 is $65 thousand. The approved life and curve for this account is 55 R1. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retention of the 55 R1 life and curve for this account. A representative curve is shown below.



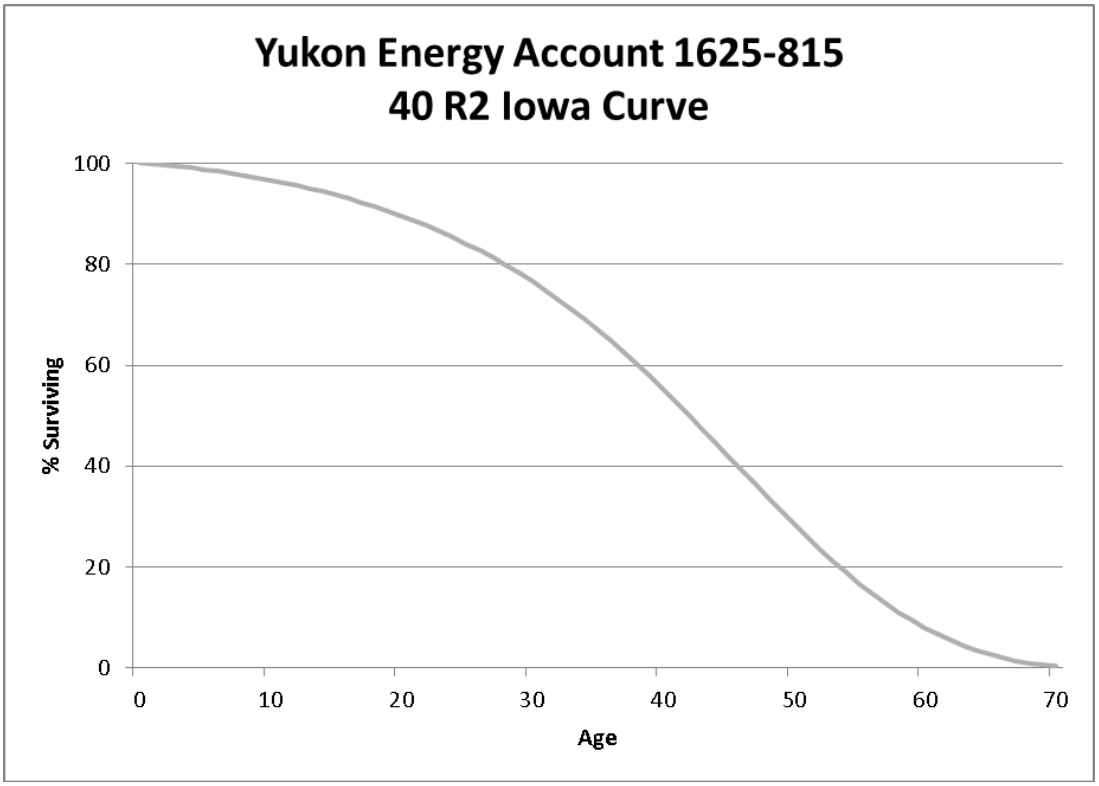
Account 1625-730 Dist. System – Substation Fences 30 R4

This account includes the costs of fences located at distribution substations. The plant balance in this account at December 31, 2018 is $100 thousand. The existing life for this account is 20 R4. The approved life for this account is 20 years. There was insufficient transactional data for an actuarial life analysis. Based on information provided by Company personnel and judgment, this study recommends moving to a 30 R4 life and curve for this account. A representative curve is shown below.



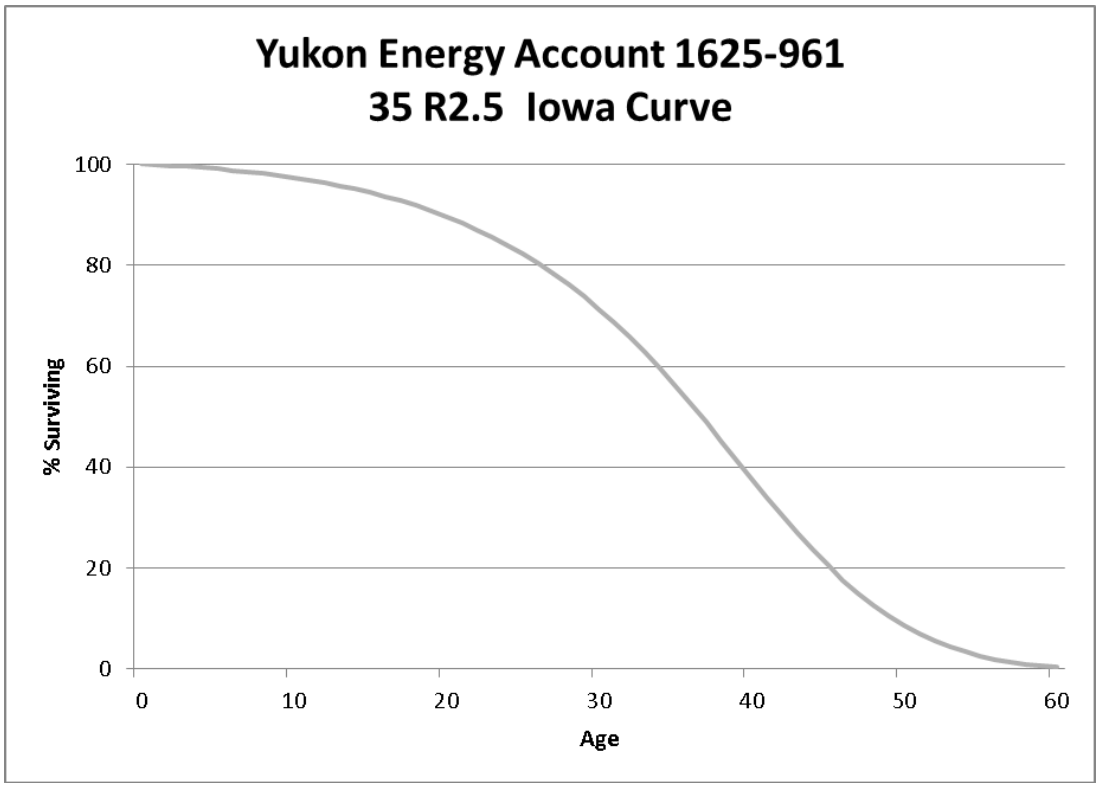
Account 1625-815 Dist. System – Street Lights 40 R2

This account includes Public Street and highway lighting or traffic, fire alarm, police and other signal systems. The plant balance in this account at December 31, 2018 is $589 thousand. The approved life and curve for this account is 40 R2. Discussions with Company personnel indicated all existing street lights are LED. The original LED's are reaching the end of their lifecycle, and the Company is experiencing an increased number of failures and replacing the original installed assets. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retention of the 40 R2 life and curve for this account. A representative graph is shown below.



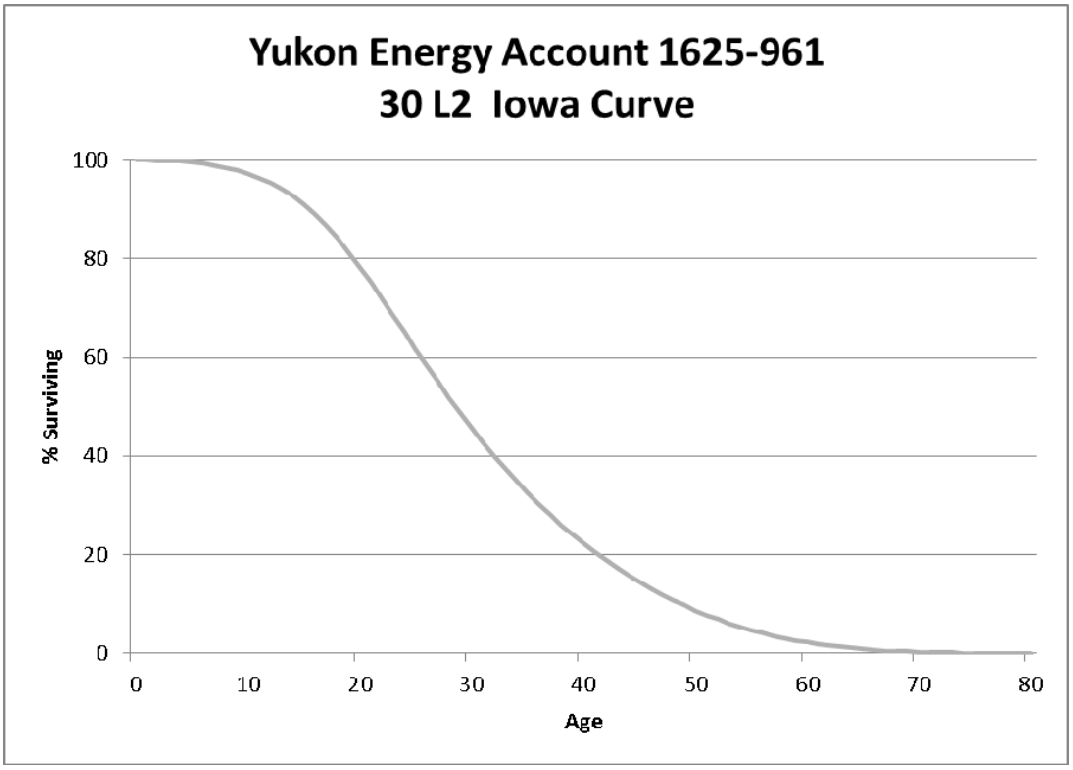
Account 1625-905 Dist. System – Line Transformers 35 R2.5

This account includes all line transformers, capacitors, lightning arrestors, and related equipment. The plant balance in this account at December 31, 2018 is $4 million. The approved life and curve for this account is 40 R2.5. Discussions with operations stated the transformers are subject to higher loading due to growth and expect the life of these assets to decrease as a result. There was insufficient transactional data for an actuarial life analysis. Based on information provided by Company personnel and judgment, this study recommends moving to a 35 R2.5 life and curve for this account. A representative graph is shown below.



Account 1625-961 Dist. System – Sentinel Lights 30 L2

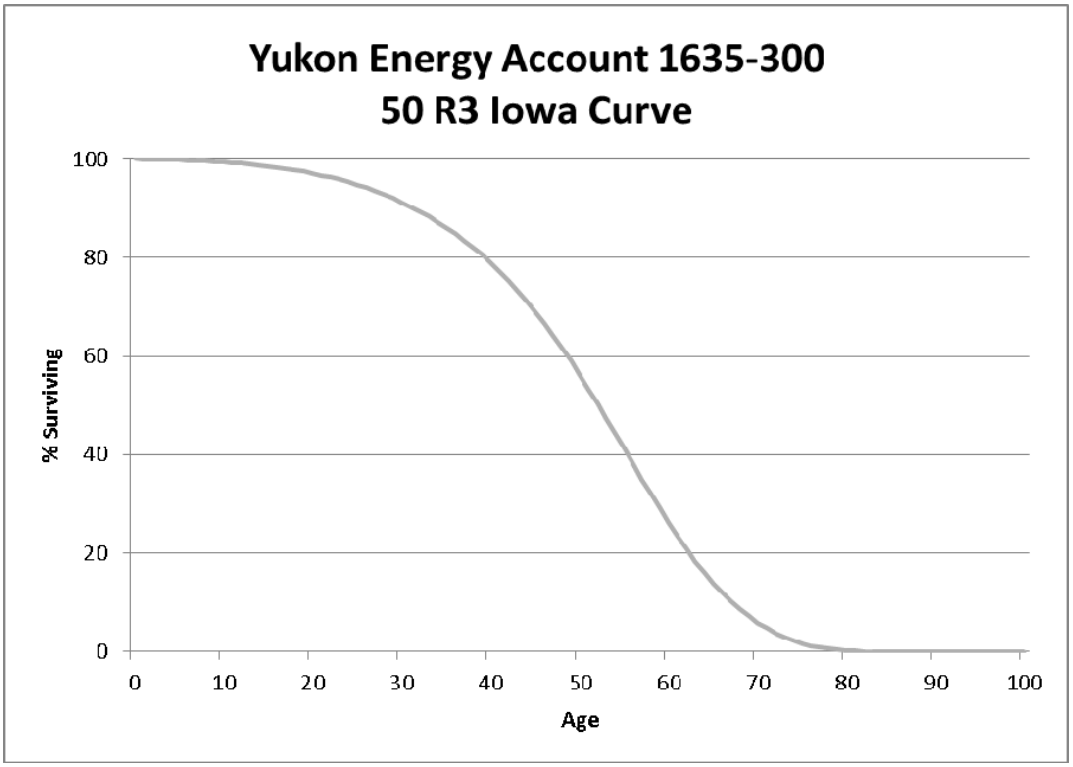
This account includes all sentinel and flood lighting excluding street lights. The plant balance in this account at December 31, 2018 is $36 thousand. The approved life and curve for this account is 30 L2. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retaining the existing 30 L2 for this account. A representative graph is shown below.



MAIN TRANSMISSION FACILITIES

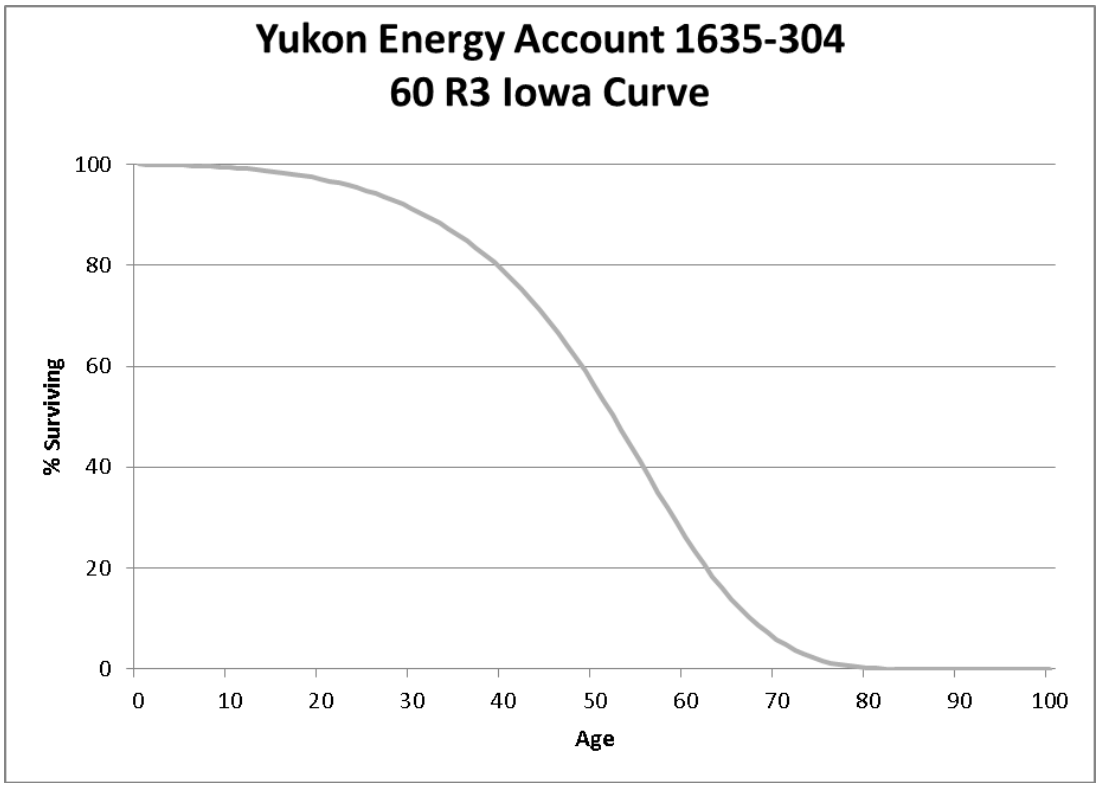
Account 1635-300 Main Trx - Poles and Fixtures 50 R3

This account consists of poles and fixtures used for transmission purposes. The plant balance in this account at December 31, 2018 is $60 million. The approved life and curve for this account is 65 R3. Discussions with Company personnel indicated the Company has a Transmission Line Refurbishment program in place and has started replacing 50 year old poles. Yukon expects this to continue in the future to address its aging infrastructure. Periodically poles are replaced without having to replace the conductor. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 50 R3 for this account. A representative curve is shown below.



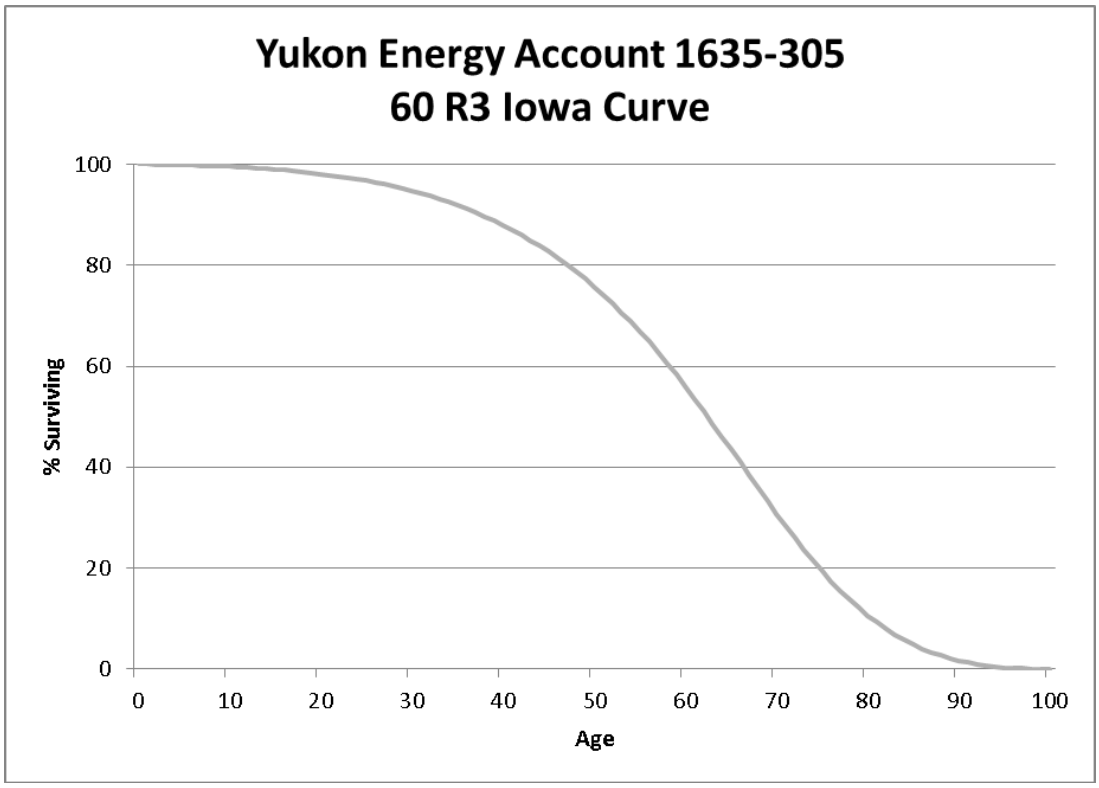
Account 1635-304 Main Trx - Brushing 60 R3

This account consists of brushing and clearing costs associated with main transmission lines and associated facilities. The plant balance in this account at December 31, 2018 is $14.1 million. The approved life and curve for this account is 50 R3. Discussions with operations indicated the life of brush clearing should mirror the life of overhead conductor, which uses a 60 year life. There was insufficient transactional data for an actuarial life analysis. Based on information provided by Company personnel and judgment, this study recommends moving to a 60 R3 for this account. A representative curve is shown below.



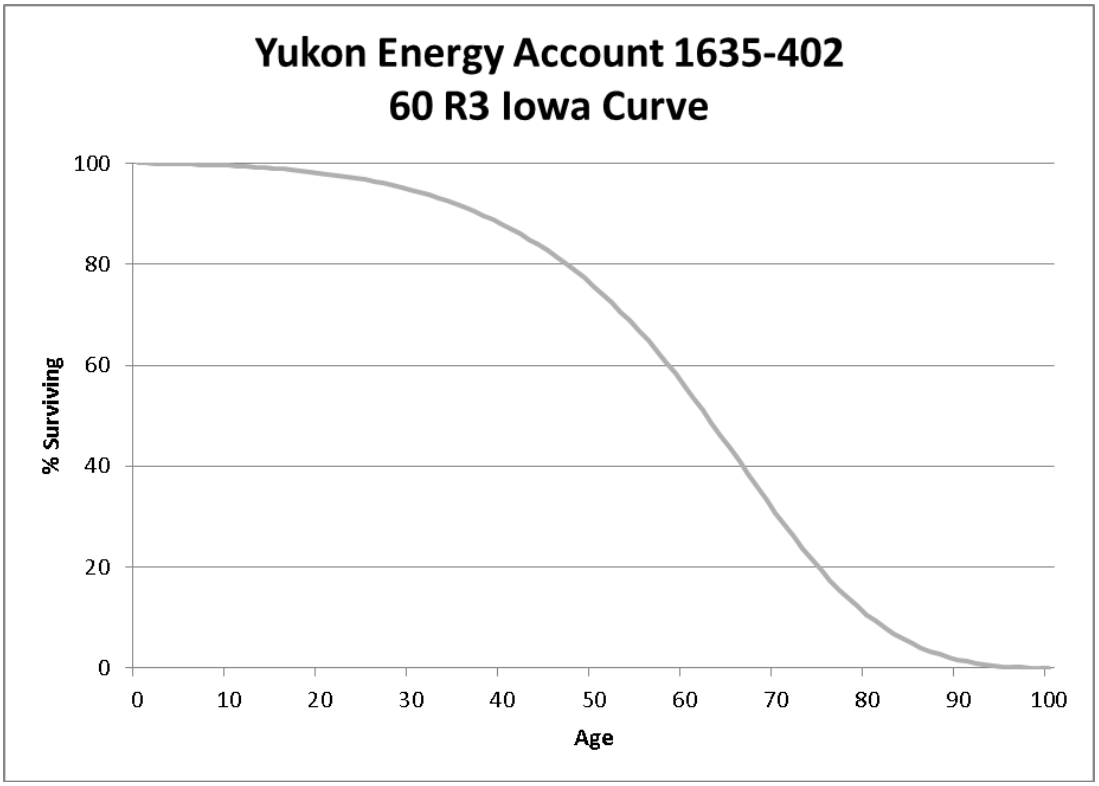
Account 1635-305 Main Trx – Survey Costs 60 R3

This account consists of land survey costs associated with the main transmission facilities. The plant balance in this account at December 31, 2018 is $3.5 million. The approved life and curve for this account is 50 R2.5. Discussions with operations stated the life of survey costs should mirror the life of overhead conductor, which uses a 60 year life. There was insufficient transactional data for an actuarial life analysis. Based on information provided by Company personnel and judgment, this study recommends moving to a 60 R3 for this account. A representative curve is shown below.



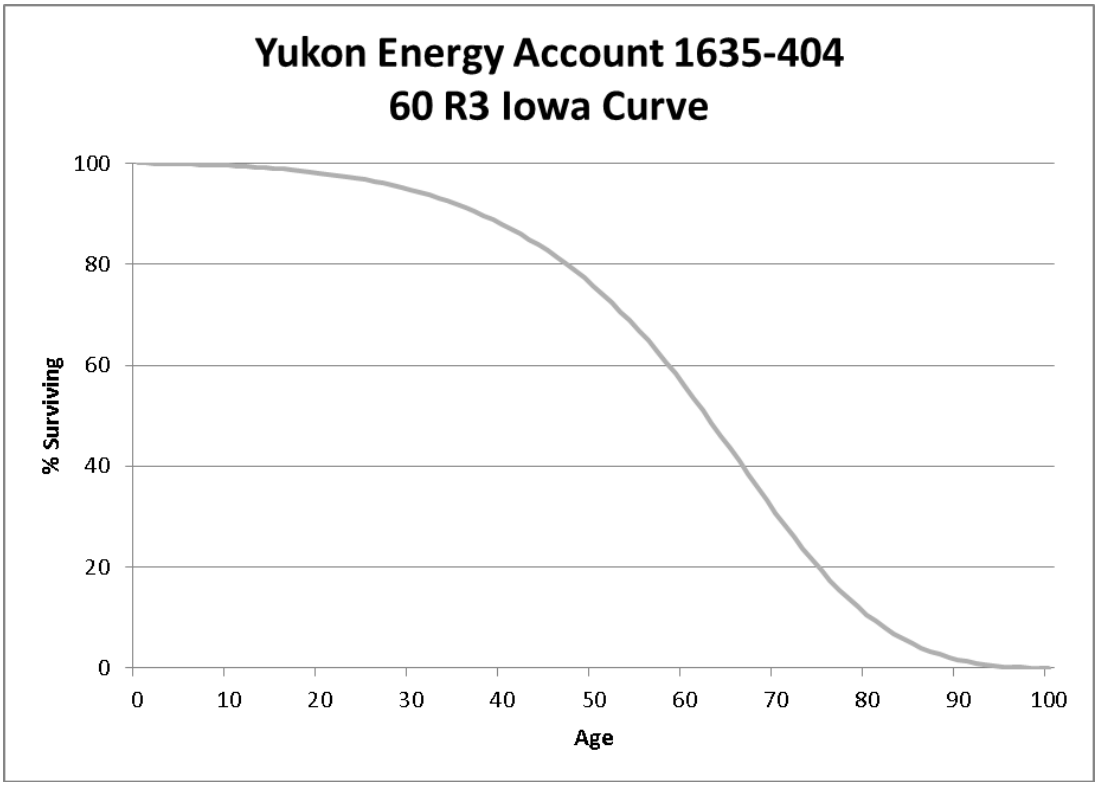
Account 1635-402 Main Trx – O/H Conductors/Poles 60 R3

This account consists of overhead conductors associated with transmission operations. The plant balance in this account at December 31, 2018 is $20.6 million. The approved life and curve for this account is 50 R3. Discussions with operational personnel estimate the life of transmission conductor to be about 10 years longer than distribution conductor, which is moving to a 50 year life. Additionally, the Company periodically replaces the poles without replacing the conductor. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 60 R3 for this account. A representative curve is shown below.



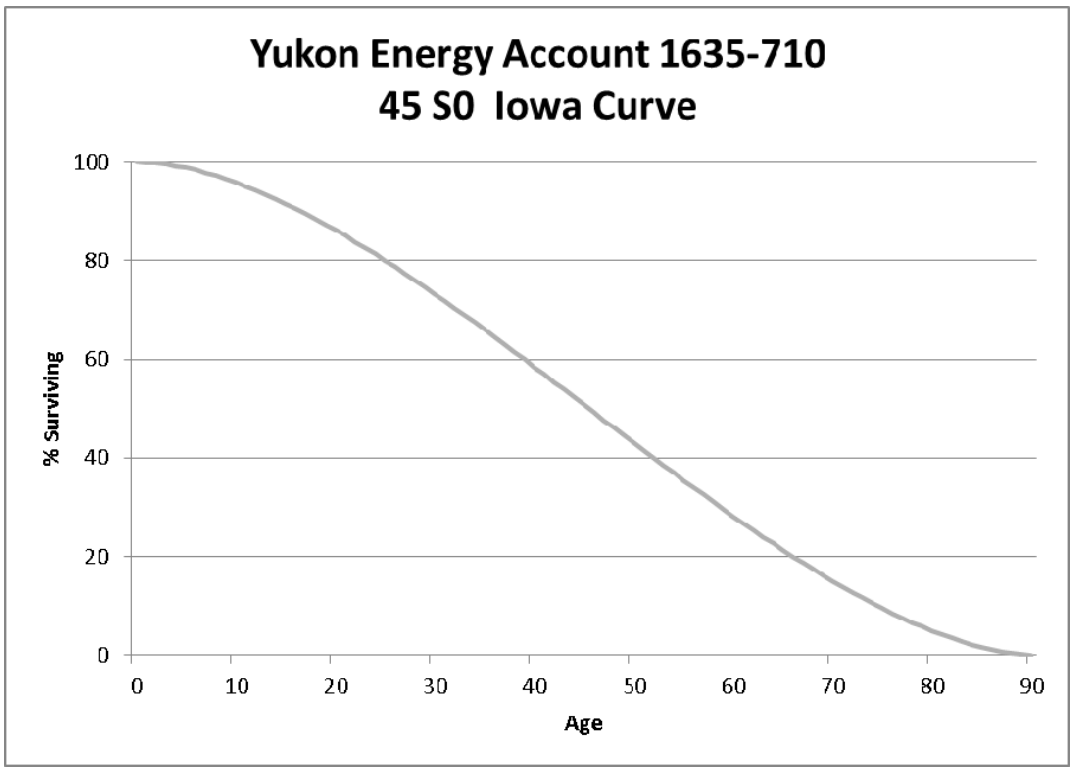
Account 1635-404 Main Trx – O/H Conductors/Towers 60 R3

This account consists of overhead conductor used in transmission operations. The plant balance in this account at December 31, 2018 is $278 thousand. The approved life and curve for this account is 50 R3. Discussions with operational personnel estimate the life of transmission conductor to be about 10 years longer than distribution conductor, which is moving to a 50 year life. Additionally, the Company periodically replaces the poles/towers without replacing the conductor. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 60 R3 for this account. A representative curve is shown below.



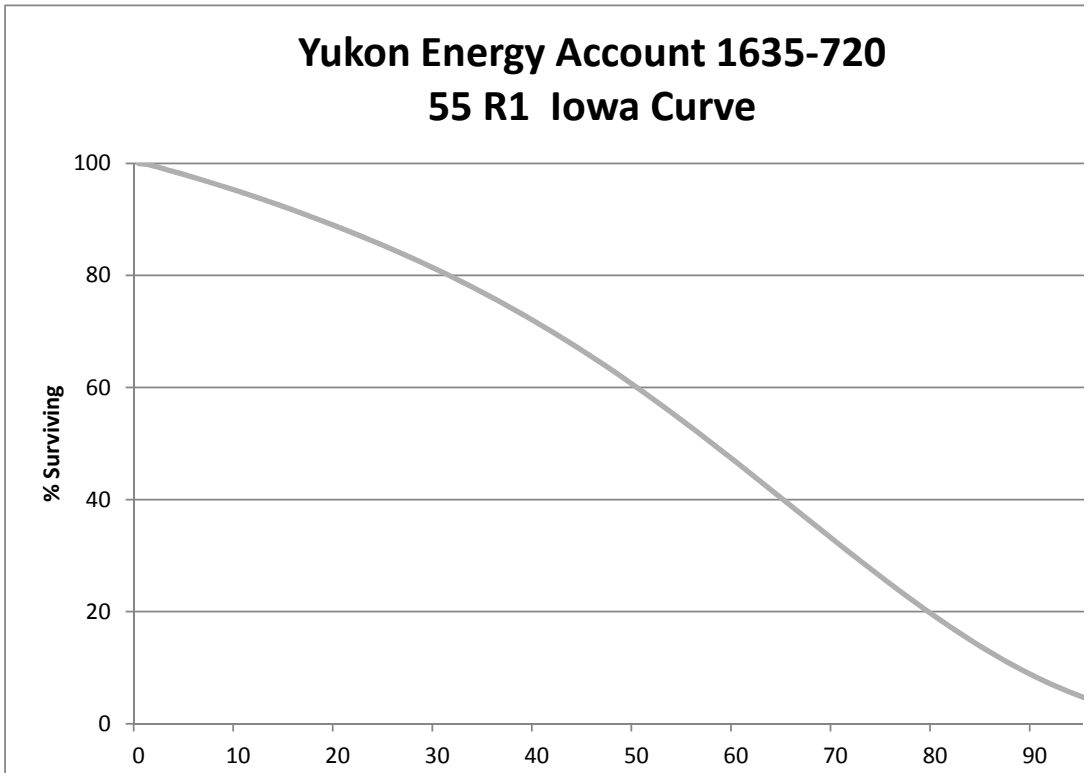
Account 1635-710 Main Trx – Substation Equipment 45 S0

This account consists of bus compartments, batteries, control equipment, transformers, breakers, and other related station equipment used in transmission operations. The plant balance in this account at December 31, 2018 is $66.6 million. The approved life and curve for this account is 54 S0. Discussions with Company personnel indicated they are experiencing a shorter life for the assets in this account due to the increasing amount of short lived electronic assets at the stations. Operations also stated that transformers typically last between 40 to 50 years; breakers have a 35 year life for OCB and 50 years for SF6. Several breakers have already been replaced in 2018 and 2019. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 45 S0 for this account. A representative curve is shown below.



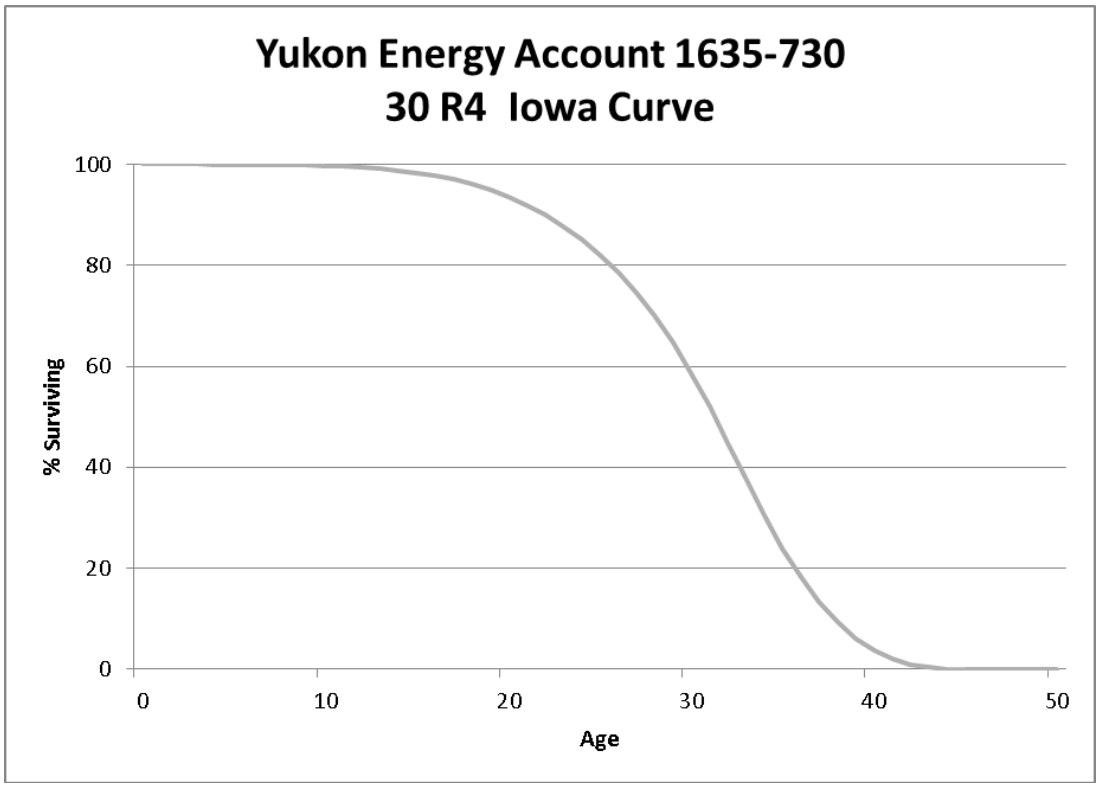
Account 1635-720 Main Trx – Substation Buildings 55 R1

This account consists of buildings at transmission substations. The plant balance in this account at December 31, 2018 is $1.5 million. The approved life and curve for this account is 55 R1. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retaining a 55 R1 for this account. A representative curve is shown below.



Account 1635-730 Main Trx – Substation Fences 30 R4

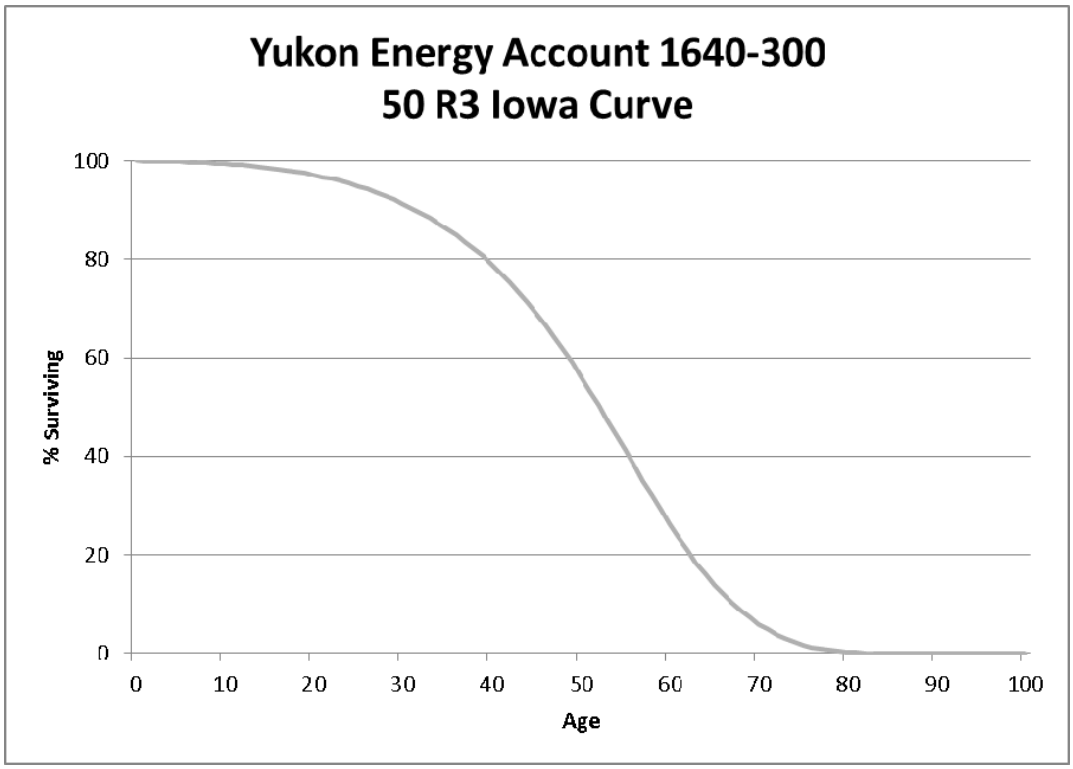
This account consists of fences located at transmission substations. The plant balance in this account at December 31, 2018 is $274 thousand. The approved life and curve for this account is 20 R4. Company personnel believe that substation fencing would last longer than 20 years. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 30 R4 for this account. A representative curve is shown below.



SUB TRANSMISSION LINES

Account 1640-300 Sub Trx – Poles & Fixtures 50 R3

This account consists of poles, fixtures, and other related assets used in transmission operations, including anchors, brackets, cross arms, braces, and foundations. The plant balance in this account at December 31, 2018 is $4.1 million. The approved life and curve for this account is 45 R3. Discussions with Company personnel indicated the Company has a Transmission Line Refurbishment program in place and has started replacing 50 year old poles. Yukon expects this program to continue in the future to address its aging infrastructure. Periodically poles are replaced without having to replace the conductor. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 50 R3 for this account. A representative curve is shown below.

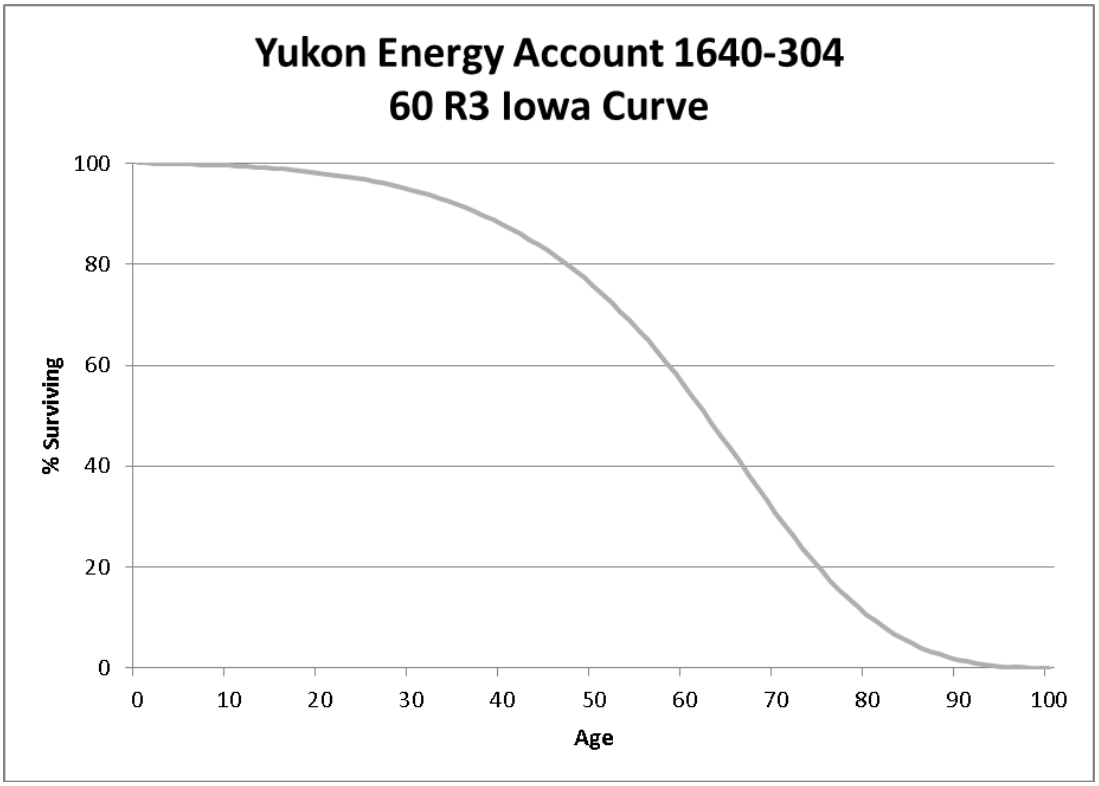


Account 1640-301 Sub Trx – Poles & Fixtures Minto Mines 12 SQ

This account consists of poles, fixtures, and other related assets used in transmission operations at Minto Mines, including anchors, brackets, cross arms, braces, and foundations. The plant balance in this account at December 31, 2018 is $2.6 million. The approved life and curve for this account is 12 SQ. Based on type of assets, information provided by Company personnel and judgment, this study recommends retention of the 12 SQ for this account. No graph is shown for this account.

Account 1640-304 Sub Trx – Brushing 60 R3

This account consists of brushing and clearing costs associated with main transmission lines and associated facilities. The plant balance in this account at December 31, 2018 is $42 thousand. The approved life and curve for this account is 50 R3. There was insufficient transactional data for an actuarial life analysis. Based on information provided by Company personnel and judgment, this study recommends moving to a 60 R3 for this account. A representative curve is shown below.



Account 1640-306 Sub Trx – Brushing Minto Mines 12 SQ

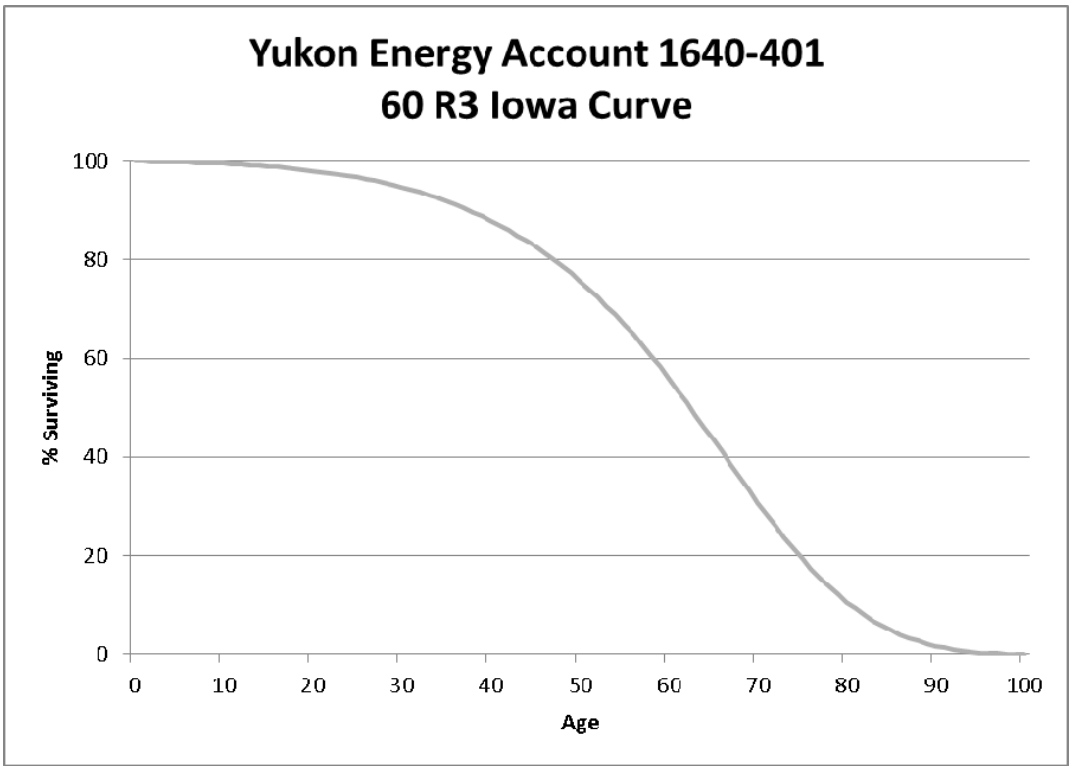
This account consists of brushing and clearing costs associated with main transmission lines at Minto Mines. The plant balance in this account at December 31, 2018 is $433 thousand. The approved life and curve for this account is 12 SQ. Based on information provided by Company personnel and judgment, this study recommends retention of the existing 12 SQ for this account. No graph is shown for this account.

Account 1640-307 Sub Trx – Survey Costs Minto Mines 12 SQ

This account consists of buildings, structures, and other related assets used in hydro production, including elevator upgrades, bridge work, and gate house improvements. The plant balance in this account at December 31, 2018 is $95 thousand. The approved life and curve for this account is 12 SQ. Based on information provided by Company personnel and judgment, this study recommends retention of the existing 12 SQ for this account. No graph is shown for this account.

Account 1640-401 Sub Trx – O/H Conductors 60 R3

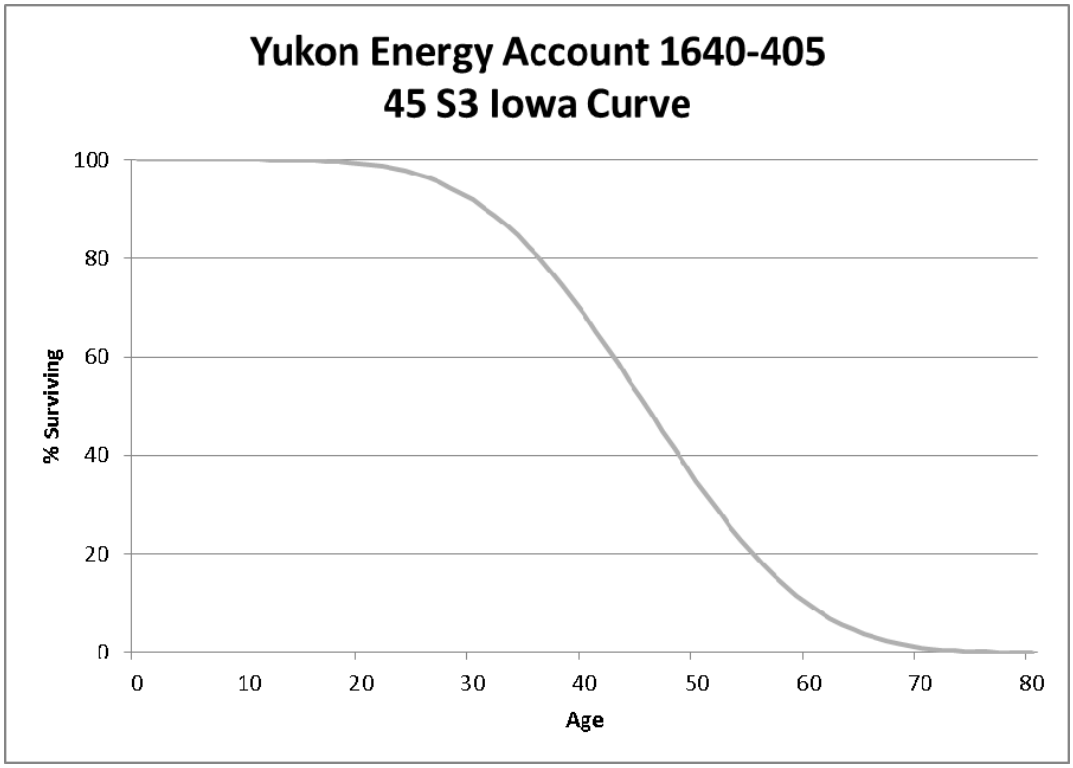
This account consists of overhead conductors and devices used in transmission operations, including armor rods, brackets, circuit breakers, switches, and other line accessories. The plant balance in this account at December 31, 2018 is $1.8 million. The approved life and curve for this account is 45 R3. Discussions with operational personnel indicated they estimate the life of transmission conductor to be about 10 years longer than distribution conductor, which is moving to a 50 year life. Additionally, the Company periodically replaces the poles without replacing the conductor. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 60 R3 for this account. A representative curve is shown below.



60

Account 1640-405 Sub Trx – Underground Conductors and Conduit 45 S3

This account consists of underground conduit and devices used in transmission operations, including ground rods and wires, concrete and paving work, and tunnels and bracing. The plant balance in this account at December 31, 2018 is $84 thousand. The approved life and curve for this account is 45 S3. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends retention of the existing 45 S3 for this account. A representative curve is shown below.

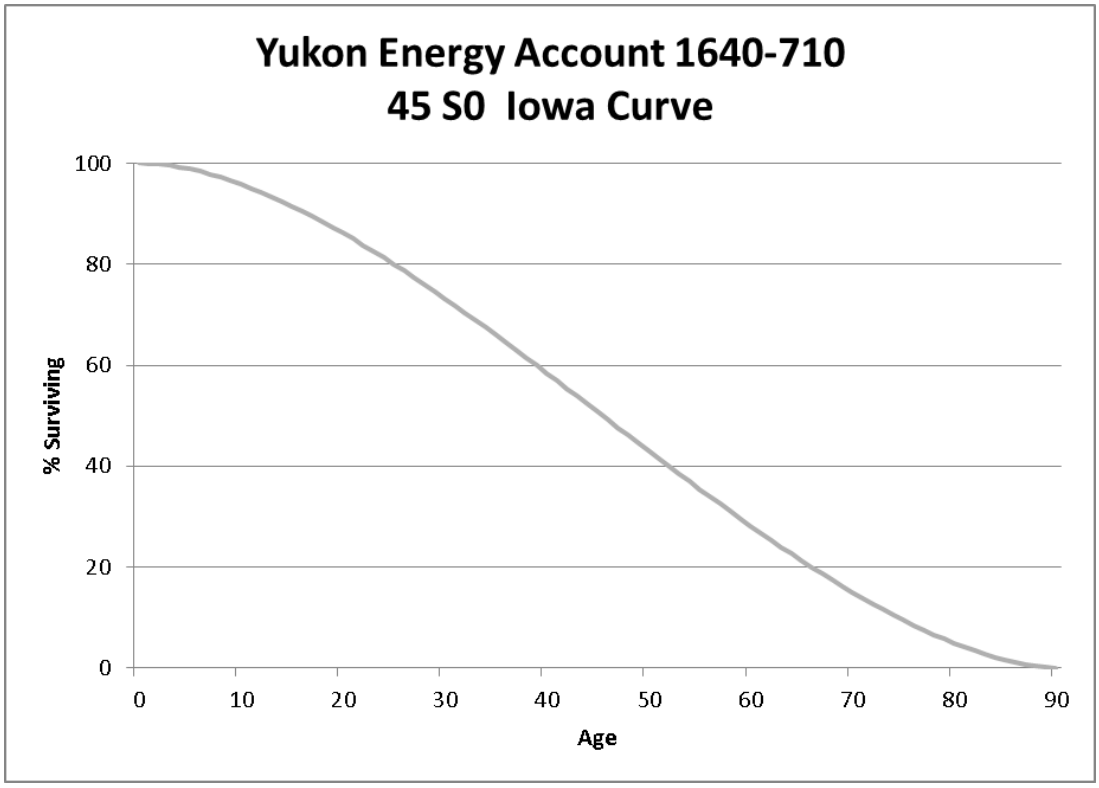


Account 1640-407 Sub Trx – Overhead Conductors Minto Mines 12 SQ

This account consists of overhead conductors and devices used in transmission operations at Minto Mines, including armor rods, brackets, circuit breakers, switches, and other line accessories. The plant balance in this account at December 31, 2018 is $921 thousand. The approved life and curve for this account is 12 SQ. Based on information provided by Company personnel and judgment, this study recommends retention of the existing 12 SQ for this account. No graph is shown for this account.

Account 1640-710 Sub Trx – Substation Equipment 45 S0

This account consists of bus compartments, batteries, control equipment, transformers, breakers, and other related station equipment used in transmission operations. The plant balance in this account at December 31, 2018 is $8 million. The approved life and curve for this account is 40 S0. There was insufficient transactional data for an actuarial life analysis. Based on type of assets, information provided by Company personnel and judgment, this study recommends moving to a 45 S0 for this account. A representative curve is shown below.



Account 1640-711 Sub Trx – Substation Equipment Minto Mines 12 SQ

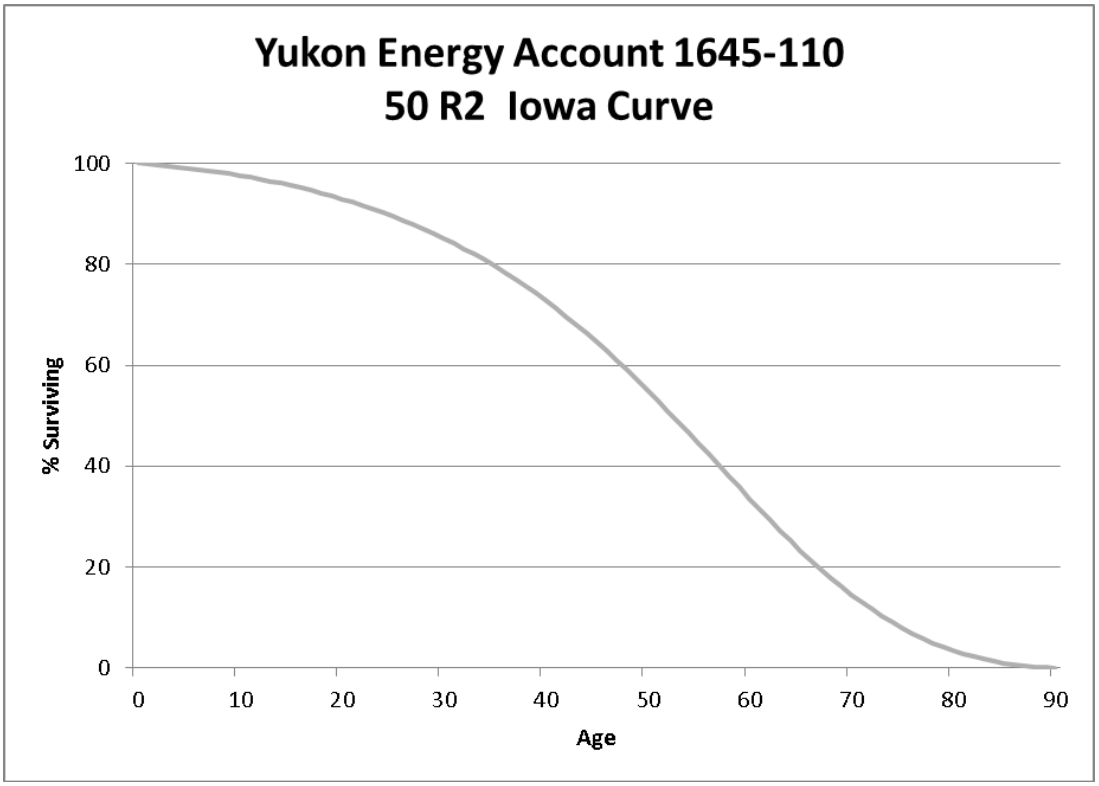
This account consists of substation equipment and upgrades at Minto Mines, including bus compartments, batteries, control equipment, transformers, breakers, and other related station equipment. The plant balance in this account at December 31, 2018 is $6.9 million. The approved life and curve for this account is 12 SQ. Based on information provided by Company personnel and judgment, this study recommends retention of the existing 12 SQ for this account. No graph is shown for this account.

BUILDINGS & OTHER EQUIPMENT

This function consists of all general office buildings, furniture, and equipment used to support overall utility service and operations.

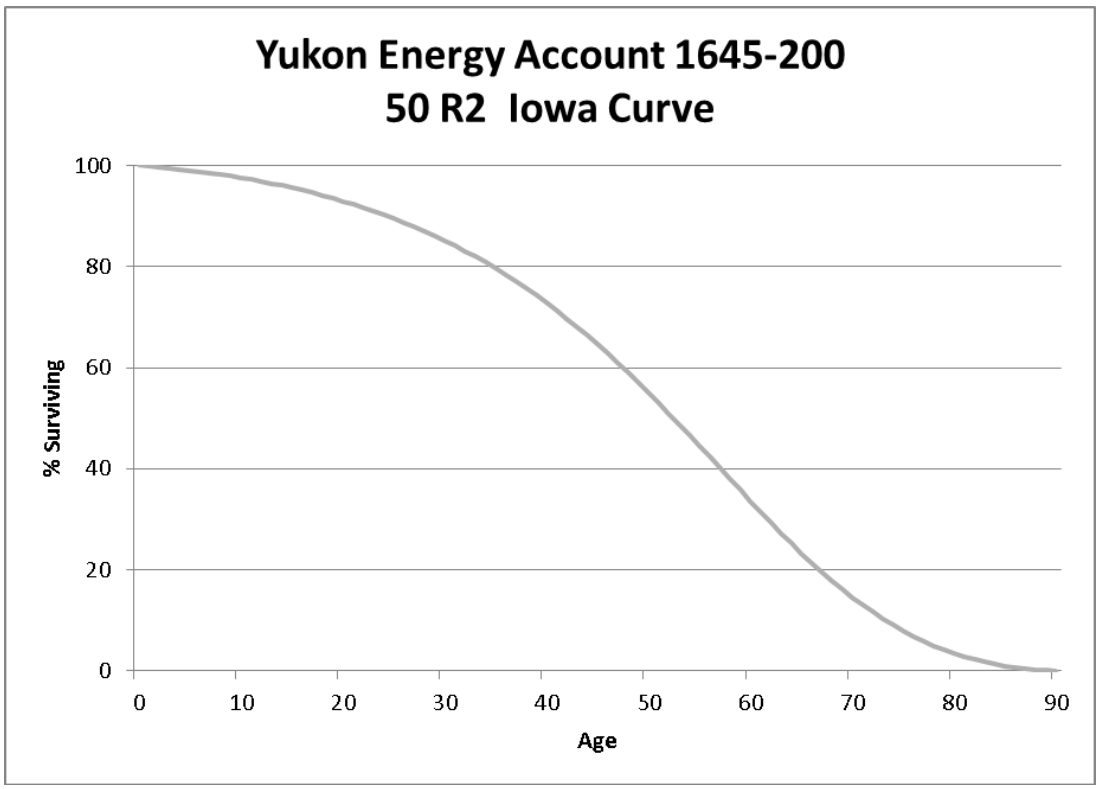
Account 1645-110 Bldg & Otr – Survey Costs Land 50 R2

This account includes the cost associated with land survey of general plant. The plant balance in this account at December 31, 2018 is $4 thousand. The approved life and curve for this account is 50 R2. There is limited activity, not enough to change from existing. This study proposes retention of 50 R2 at this time. A representative curve is shown below.



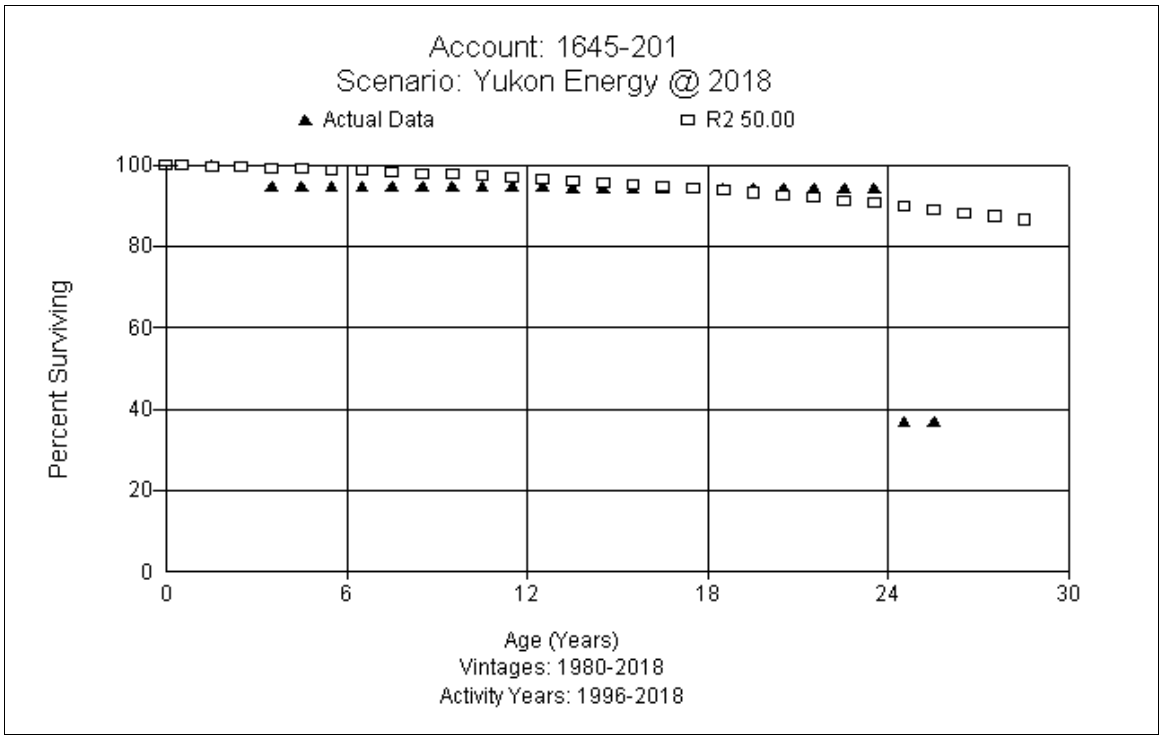
Account 1645-200 Bldg & Otr – Structures and Improvements Hydro 50 R2

This account includes the cost associated with the structures and improvements associated with a hydro facility including berms, signage, roads, boilers, and other related assets used to support general operations. The plant balance in this account will be $2.2 million, which reflects a transfer of $10.3 million from this account into account 1615-201. The approved life and curve for this account is 40 R2.5. There is no historical activity to analyze. Discussions with Company personnel indicated these structures are on the water so they would have a little shorter life for various components. However, the existing 40 years is shorter than what would be expected. The newer buildings are more technology driven and have a little less longevity than the older built structures. There was insufficient transactional data for an actuarial life analysis. Based on the type and use of assets and judgment, this study proposes moving to 50 R2 at this time. A representative curve is shown below.



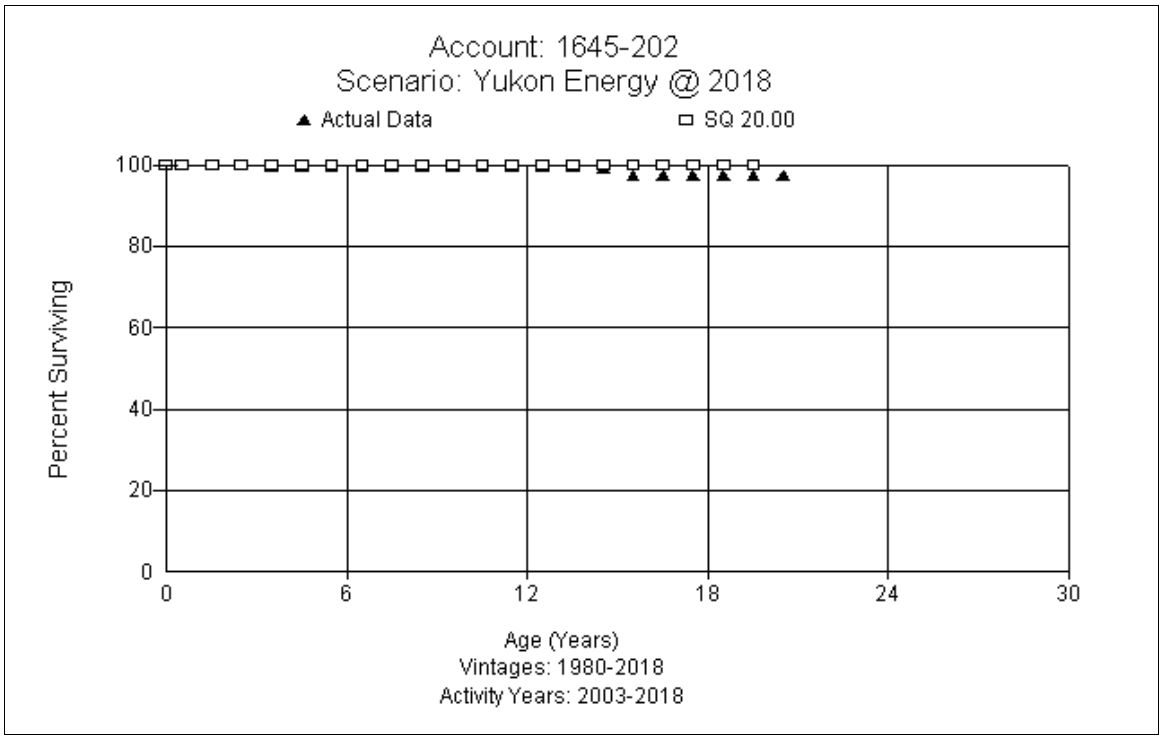
Account 1645-201 Bldg & Otr – Building and Improvements 50 R2

This account includes the cost associated with buildings and improvements that includes staff housing, warehouses, offices, fencing, building envelopes, fish hatchery, yard work, guard rails. The plant balance in this account at December 31, 2018 is $10.1 million. The approved life and curve for this account is 55 R1. There is very limited historical activity to analyze. Discussions with Company personnel indicated many of the assets in this account have shorter lives than the building. Based on the limited indications from the actuarial analysis, mix and type of assets, and judgment, this study proposes moving to 50 R2 at this time. A graph of the observed life table versus the recommended curve type is shown below.



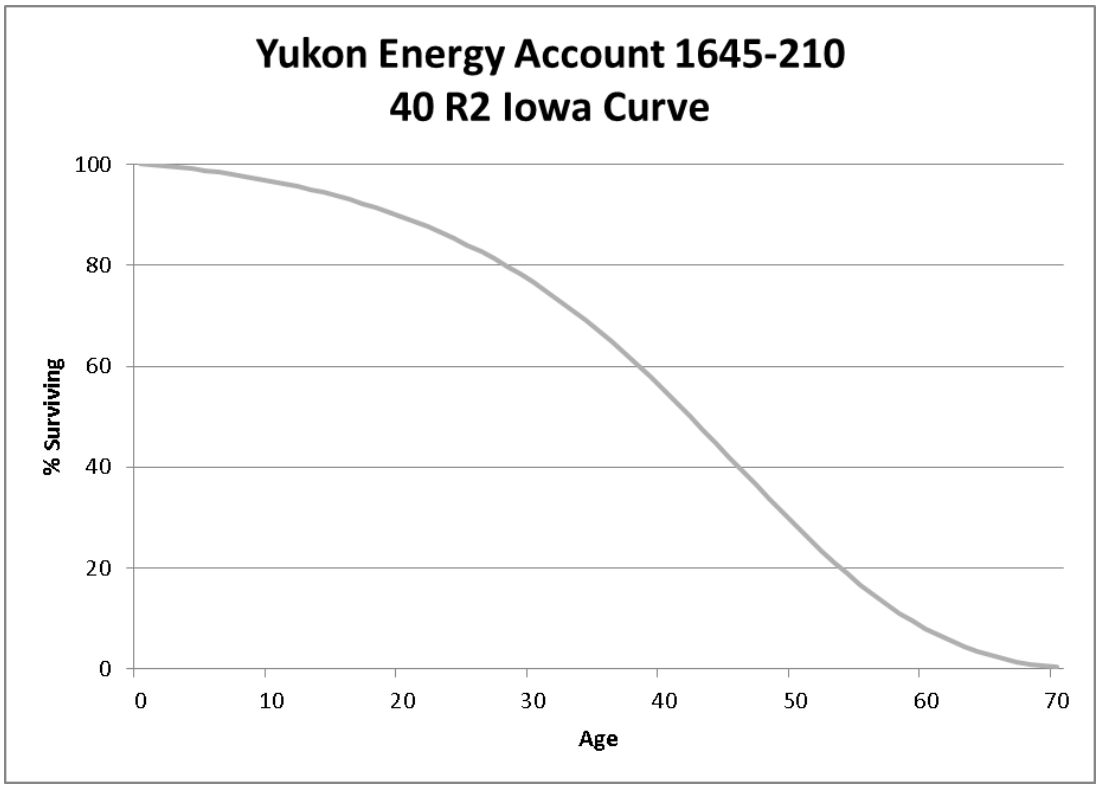
Account 1645-202 Bldg & Otr – Office Furniture & Equipment 20 SQ

This account includes the cost of office furniture and equipment owned by the utility and devoted to utility service and not permanently attached to buildings including desks, chairs, bookcases, filing cabinets, tables, and other related equipment. The plant balance in this account at December 31, 2018 is $1.7 million. The approved life and curve for this account is 20 SQ. Discussions with Company personnel indicated that when furniture is removed from a location, it is either transferred or disposed of. It is generally no reused. Based on the type and use of assets, and judgment, this study proposes retaining the existing 20 SQ at this time. A graph of the observed life table versus the recommended curve type is shown below.



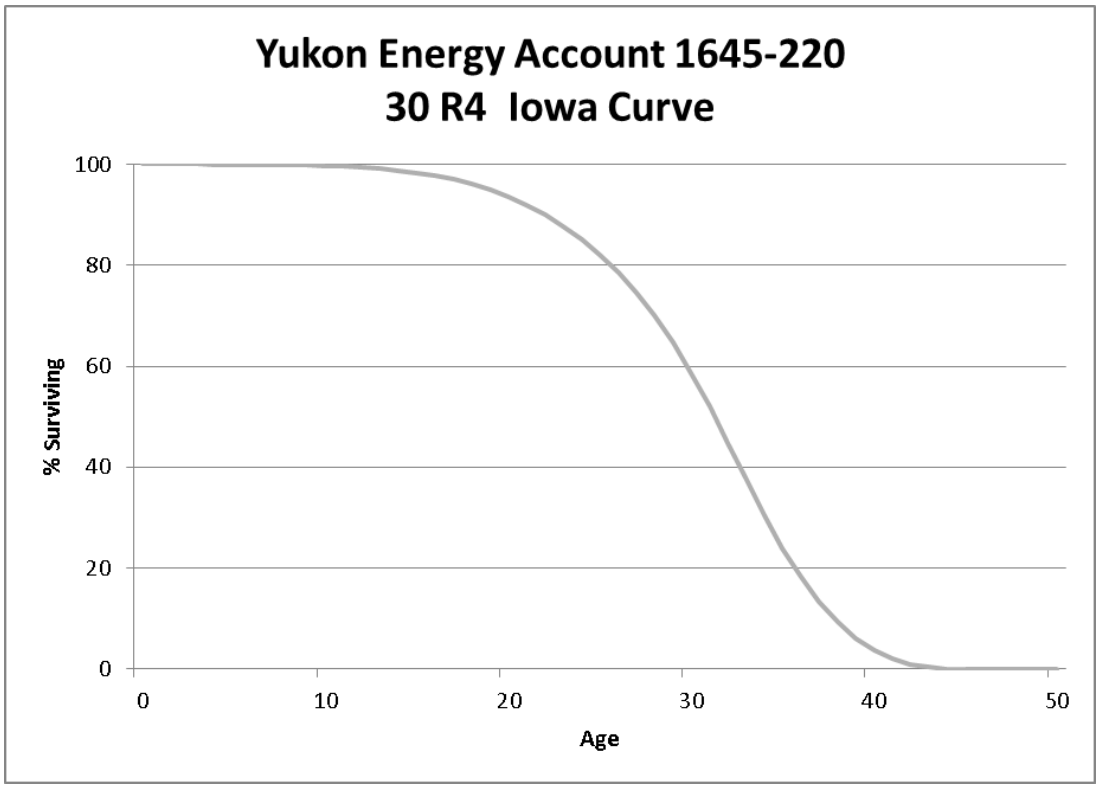
Account 1645-210 Bldg & Otr – Communication Site Towers 40 R2

This account includes the cost of communication site towers associated with general plant. The plant balance in this account at December 31, 2018 is $19 thousand. The approved life and curve for this account is 30 R2. There is no historical data to analyze. Discussions with Company personnel indicated the towers are for satellite and microwave equipment. They are designed for a 30 year life, but towers would likely have a longer life than 30 years. There was insufficient transactional data for an actuarial life analysis. Based on the type and use of assets, existing life, and judgment, this study proposes moving to 40 R2 at this time. A representative curve is shown below.



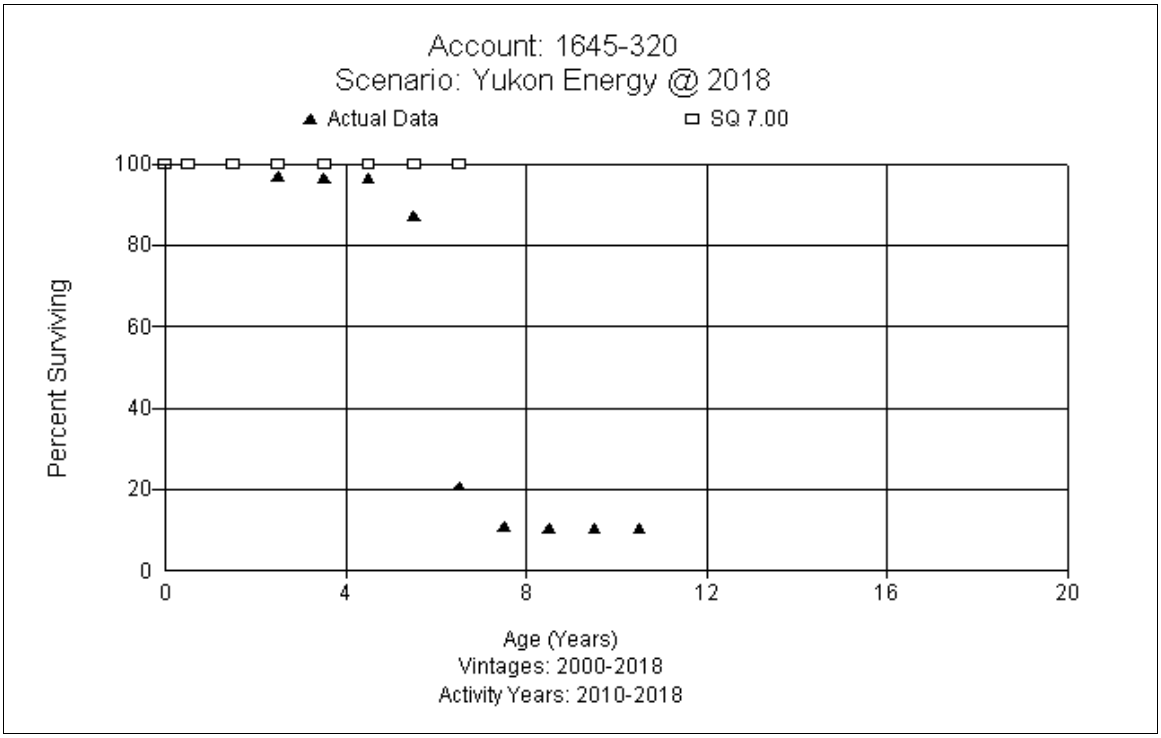
Account 1645-220 Bldg & Otr – Communication Site Fences 30 R4

This account shall include costs of communication site fences associated with general plant. The plant balance in this account at December 31, 2018 is $64 thousand. The approved life and curve for this account is 20 R4. There is no historical data to analyze. Discussions with Company personnel indicated fences should last longer than 20 years. There was insufficient transactional data for an actuarial life analysis. Based on the type of assets, existing life, Company input, and judgment, this study proposes moving to 30 R4 at this time. A representative curve is shown below.



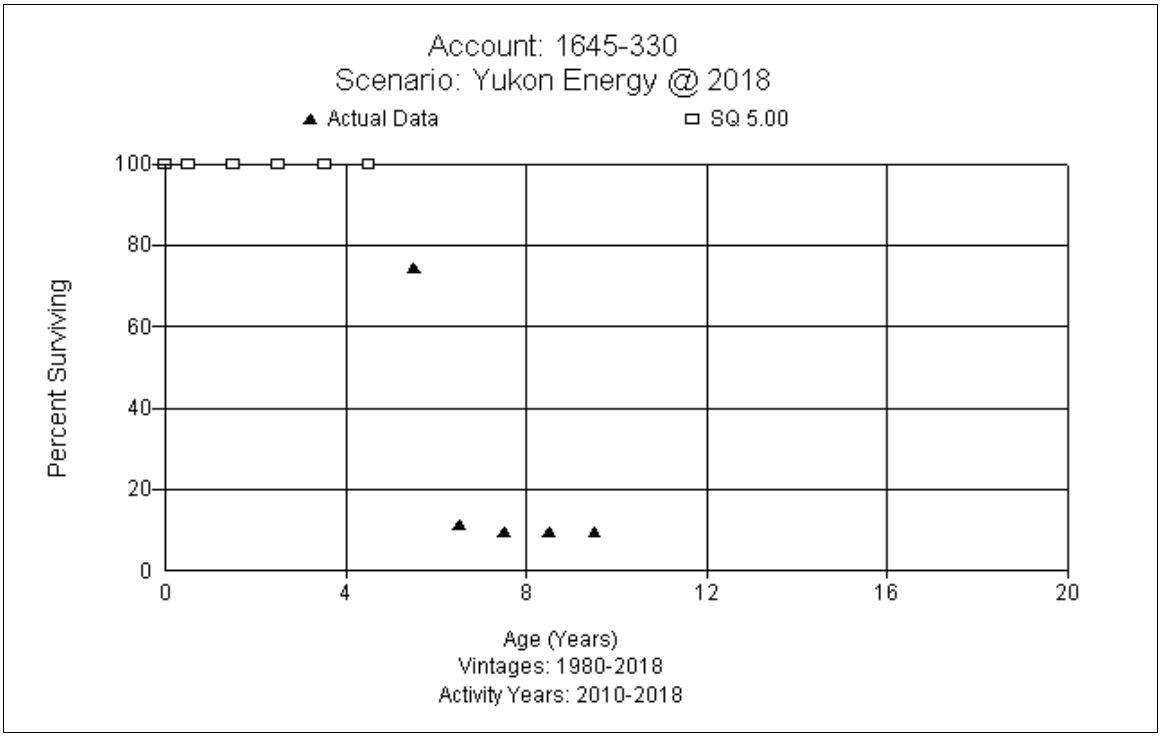
Account 1645-320 Bldg & Otr – Computer Hardware 7 SQ

This account includes the full cost of computer equipment (other than mainframe), which is owned and includes personal computers, printers, terminals, keyboards, storage devices and other related equipment. The plant balance in this account at December 31, 2018 is $1.7 million. The approved life and curve for this account is 5 SQ. Discussions with Company personnel indicated approximately 70 percent of workstations are four years old or older. They have not established a solid refresh cycle or plan yet. Company personnel expect the servers would have a longer life and believe a seven year life is reasonable for now. They expect the life to decrease as they implement and manage a plan. Based on the actuarial analysis, the type and use of assets, existing life, and judgment, this study proposes moving to 7 SQ at this time. A graph of the observed life table versus the recommended curve type is shown below.



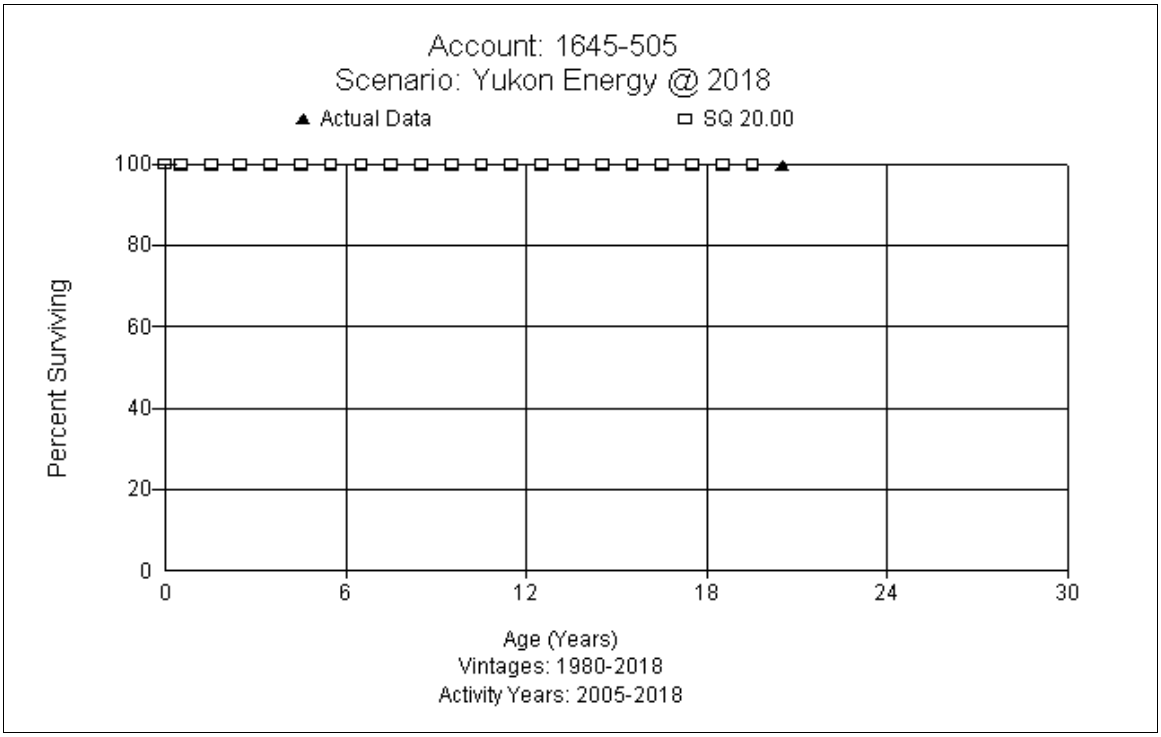
Account 1645-330 Bldg & Otr – Computer Software 5 SQ

This account includes the cost of computer software purchases, including upgrades, enhancements and maintenance. The plant balance in this account at December 31, 2018 is $304 thousand. The approved life and curve for this account is 5 SQ. Company plans to evaluate the individual software packages in the future for possible different life categorization. Based on the current analysis, type of assets, existing life, and judgment, this study proposes retention of 5 SQ at this time. A graph of the observed life table versus the recommended curve type is shown below.



Account 1645-505 Bldg & Otr – Tools and Instruments 20 SQ

This account includes the cost of tools, implements and equipment used on construction, repair work, general shops and garages including air compressors, auto repair equipment, gasoline pumps and storage tanks, hoists, machine tools, pumps, portable tools, and other related equipment. The plant balance in this account at December 31, 2018 is $1.7 million. The approved life and curve for this account is 20 SQ. Based on the current analysis, type of assets, existing life, and judgment, this study proposes retention of 20 SQ at this time. A graph of the observed life table versus the recommended curve type is shown below.

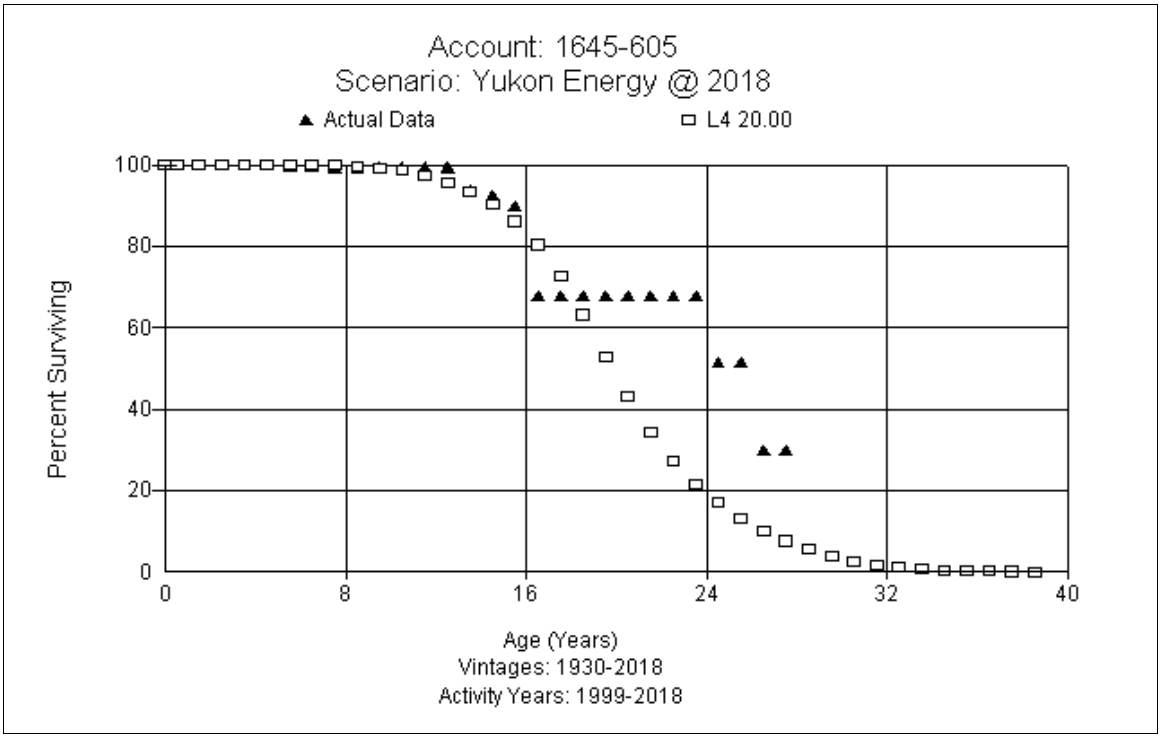


Account 1645-507 Bldg & Otr – Wind Monitoring Equipment 15 SQ

This account includes costs associated with wind monitoring equipment. This includes tall towers and ultrasonic anemometers. The plant balance in this account at December 31, 2018 is $14 thousand. The approved life and curve for this account is 20 SQ. There is no historical data to analyze. Discussions with Company personnel indicated there is one wind monitoring site, which will likely be out of this process within a year. Company believes it might be 10 years old now. Based on the type of assets, existing life, Company input, and judgment, this study proposes moving to 15 SQ at this time. No graph is shown for this account.

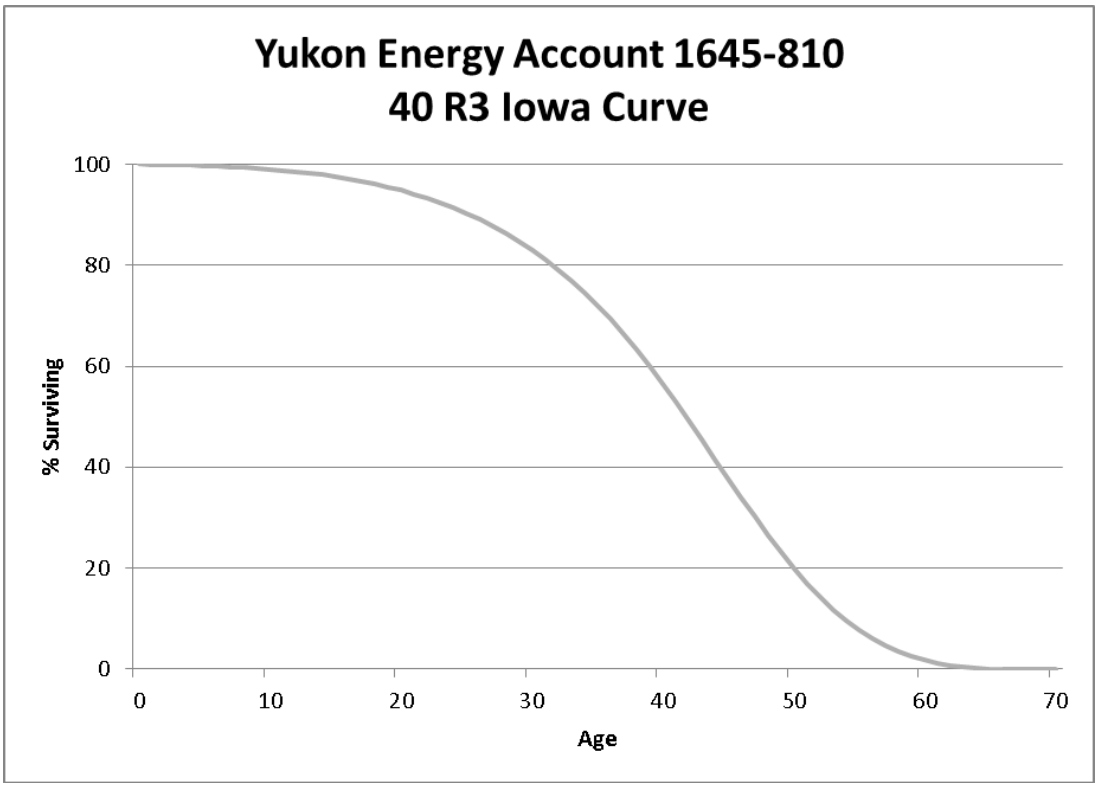
Account 1645-605 Bldg & Otr – Communication Equipment 20 L4

This account includes the installation costs of telephone, fibre optic and wireless equipment for general use in connection with utility operations and includes antennae, booths, cable, handsets, insulators, poles and fixtures, remote control equipment and line, storage batteries, switchboards, underground conduit and cable for telephone or fibre optics and other related equipment. The plant balance in this account at December 31, 2018 is $4.6 million. The approved life and curve for this account is 20 L4. Discussions with Company personnel indicated there is a variety of equipment types and varying lives. The life analysis indicates a life between 20-25 years. Based on the type and use of the equipment, Company input, life analysis indications, and judgment, this study proposes retention of 20 L4 at this time. A graph of the observed life table versus the recommended curve type is shown below.



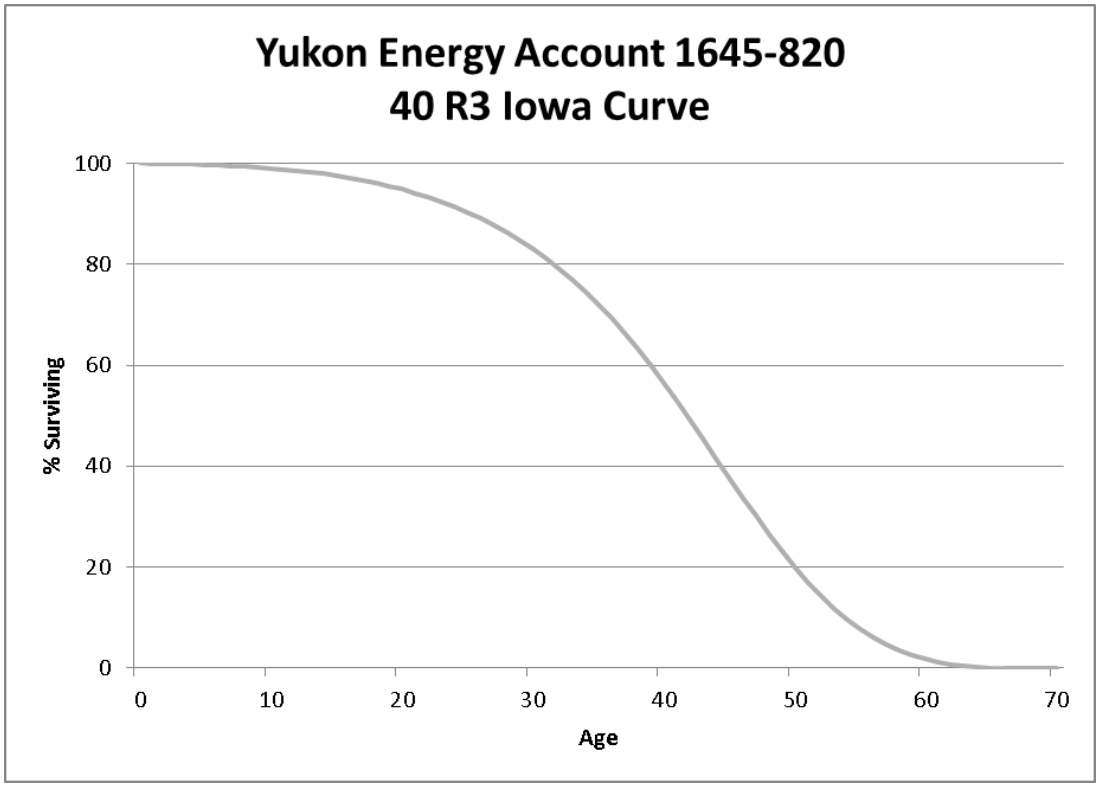
Account 1645-810 Bldg & Otr – Company Owned Houses/Land 40 R3

This account includes the costs of upgrades and maintenance associated with the land of houses owned by the company. The plant balance in this account at December 31, 2018 is $59 thousand. The approved life and curve for this account is 30 R3. Discussions with Company personnel indicated the newest house is from 2005 and the oldest is pre-1980. Company believes the existing life is too low. There is not enough historical experience for analysis. Based on the type of assets, Company input, and judgment this study proposes moving to 40 R3 for this account. A representative curve is shown below.



Account 1645-820 Bldg & Otr – Company Owned Houses/Buildings 40 R3

This account includes the cost of upgrades and maintenance associated with the buildings of houses owned by the company. The plant balance in this account at December 31, 2018 is $2.1 million. The approved life and curve for this account is 30 R3. There was insufficient transactional data for an actuarial life analysis. Based on the type of assets, Company input, and judgment, this study proposes moving to 40 R3 for this account. A representative curve is shown below.

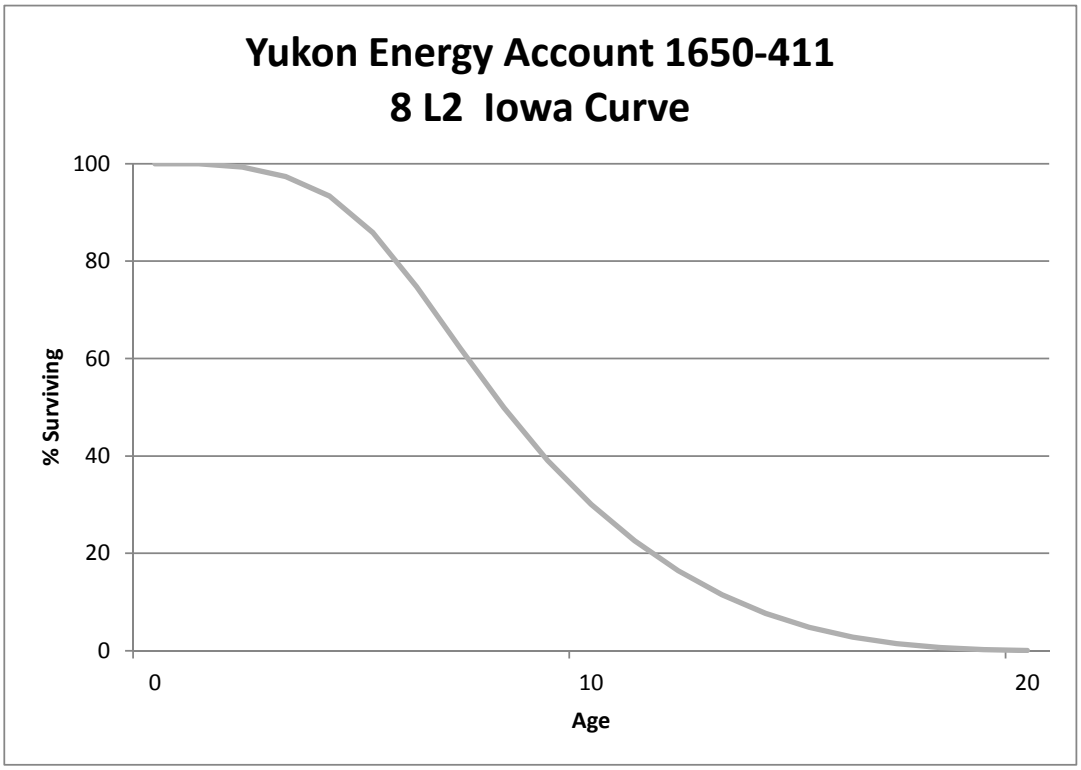


TRANSPORTATION

This function consists of all classes of cars, trucks, and other motorized utility vehicles used in general utility service.

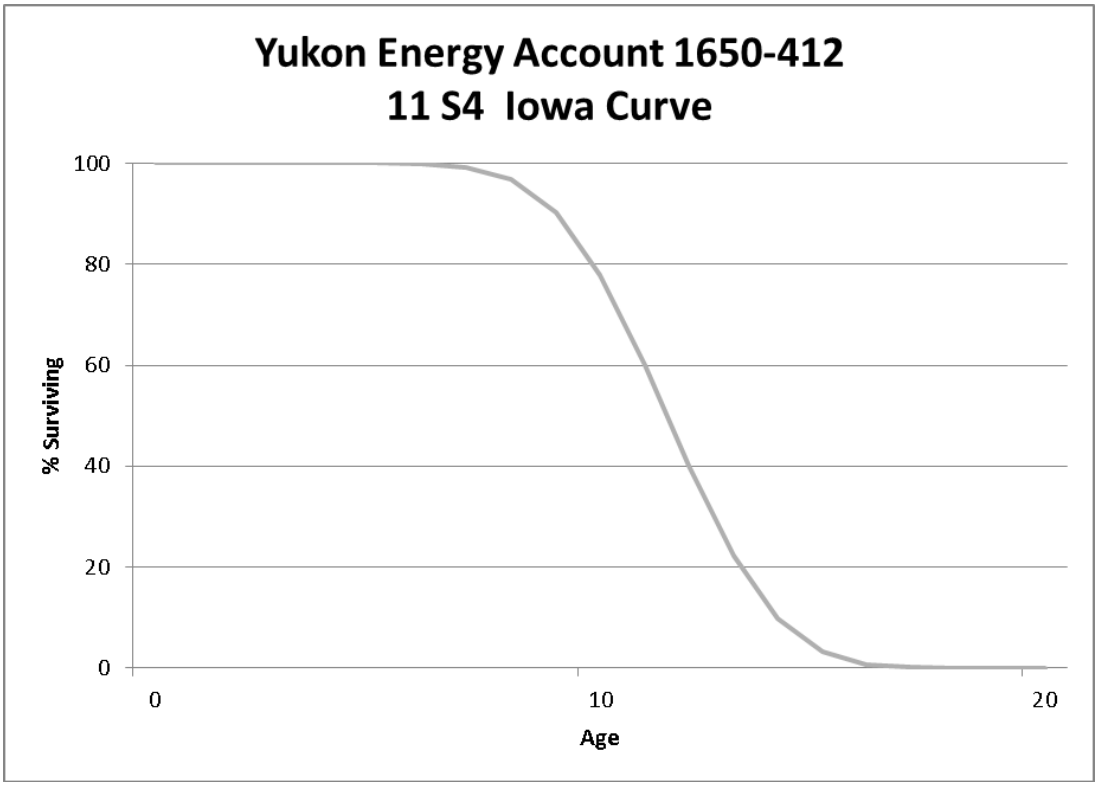
Account 1650-411 Trxptn – Utility Vehicles 8 L2

This account includes the cost of utility trailers, cargo trailers, ATVs, snowmobiles, and boats. The plant balance in this account at December 31, 2018 is $344 thousand. The approved life and curve for this account is 7 L2. Discussions with Company personnel indicated the line crews use these types of vehicles for seven years before it is retired. Company indicated that occasionally, a quad or snow mobile will move to a plant and have a longer life, but an estimated 80% of these types of assets do not. However, the life analysis indicates a longer life than existing and longer than what the Company expects, which ranges from 10 to 15 years. Giving consideration to the type and use of assets, Company input and expectations, we propose moving the average out to eight years to reflect the 20% of assets that remain longer. This study proposes 8 L2 for this account. A representative graph is shown below.



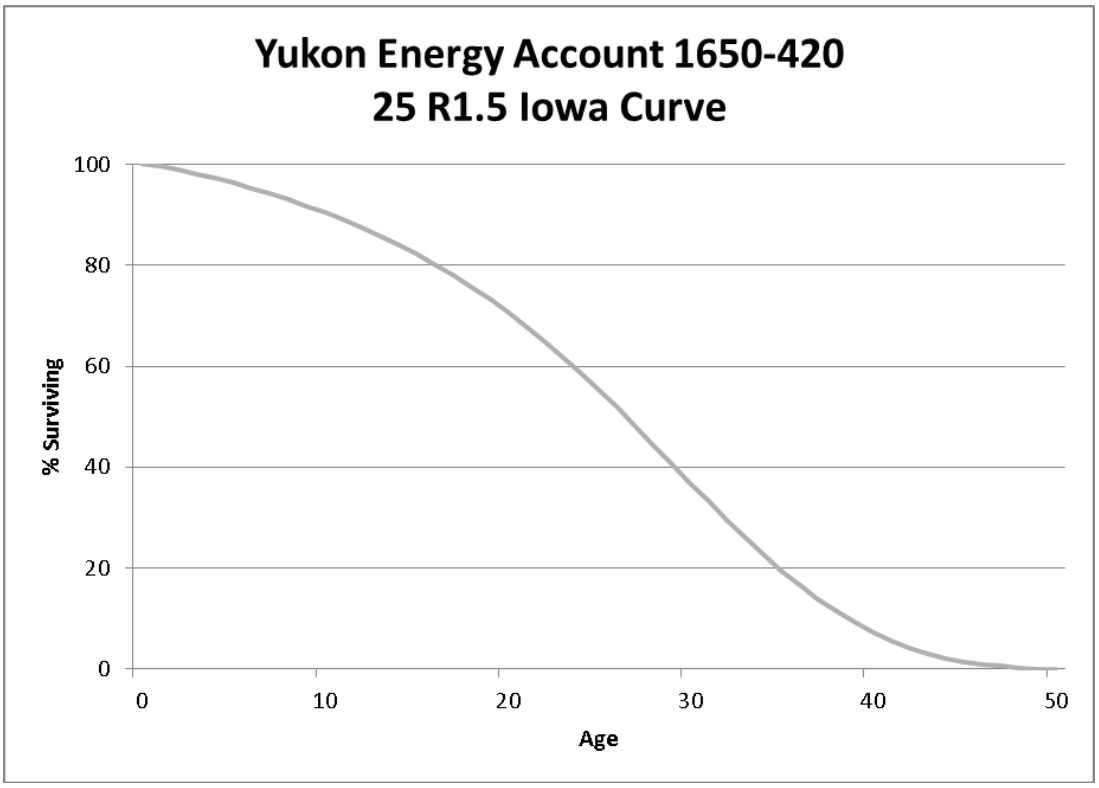
Account 1650-412 Trxptn – Sedans and Station Wagons 11 S4

This account includes the cost of vans, cars and smaller vehicles. The plant balance in this account at December 31, 2018 is $138 thousand. The approved life and curve for this account is 7 L2. Discussions with Company personnel indicated these vehicles are lasting longer than the existing seven years. Company policy is if a vehicle is 8 years or older, has 160,000 km, and has incurred maintenance costs greater than 15% in one year, they would retire. However, they have fallen behind on this schedule. The life analysis supports Company discussion that these vehicles are lasting longer and the slippage in the schedule, with a life indication of at least 12 years or more with a steeper dispersion pattern. Giving consideration to the Company policy, recent experience, expectations and judgment, this study proposes moving from 7 L2 to 11 S4 at this time. A representative graph is shown below.



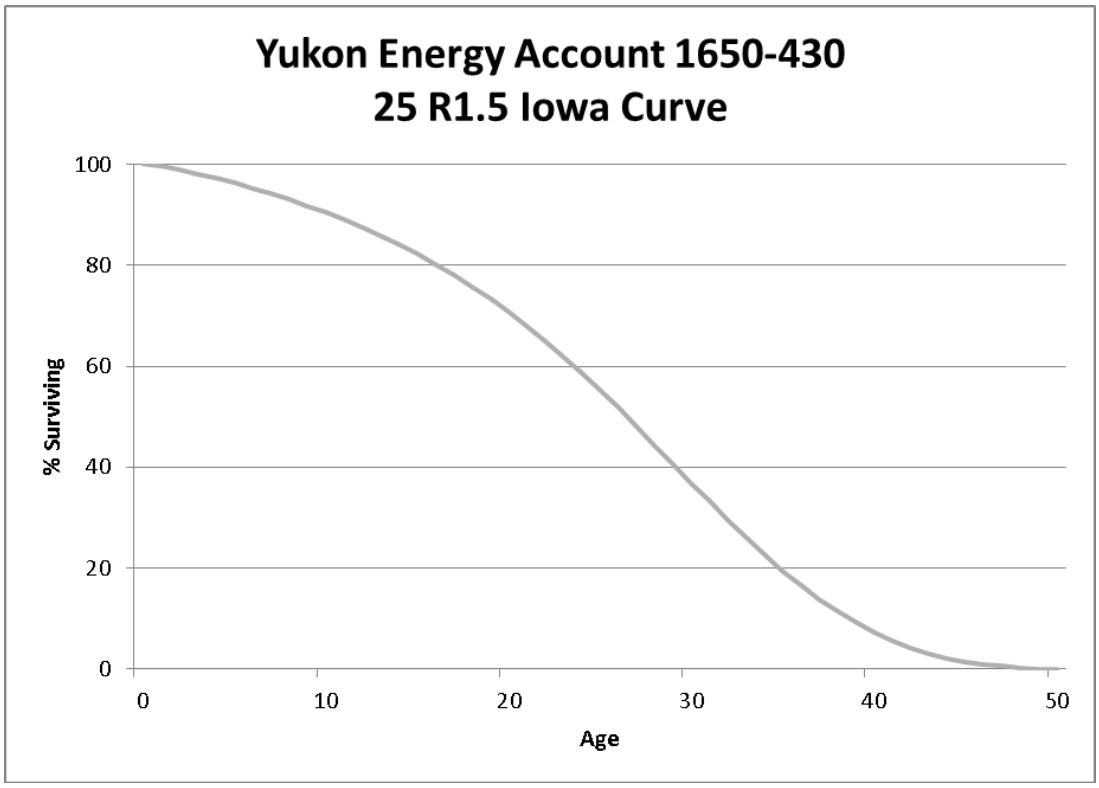
Account 1650-420 Trxptn – Trucks and Pole Trailers 25 R1.5

This account includes the cost of large trucks and pole trailers that carry less than 10,000 lbs. The plant balance in this account at December 31, 2018 is $11 thousand. The approved life and curve for this account is 25 R1.5. Discussions with Company personnel indicated the existing 25 year life is reasonable for the assets. There is no historical experience to analyze. Giving consideration to the type of assets, existing life, Company expectations, and judgment, this study proposes retention of the 25 R1.5 at this time. A representative graph is shown below.



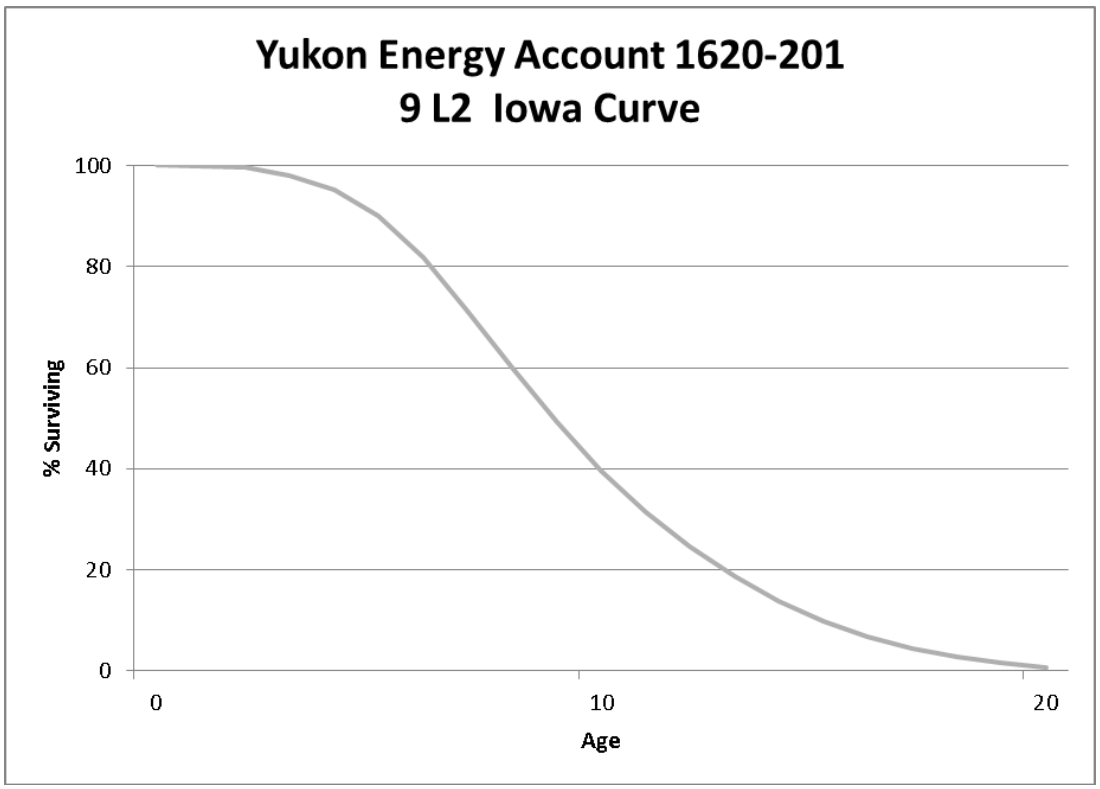
Account 1650-430 Trxptn – Pole Trailers > 10,000 lbs. 25 R1.5

This account includes the cost of pole trailers that carry greater than 10,000 lbs. The plant balance in this account at December 31, 2018 is $54 thousand. The approved life and curve for this account is 25 R1.5. Discussions with Company personnel indicated the existing 25 year life is reasonable for the assets. There is no historical experience to analyze. Giving consideration to the type of assets, existing life, Company expectations, and judgment, this study proposes retention of the 25 R1.5 at this time. A representative graph is shown below.



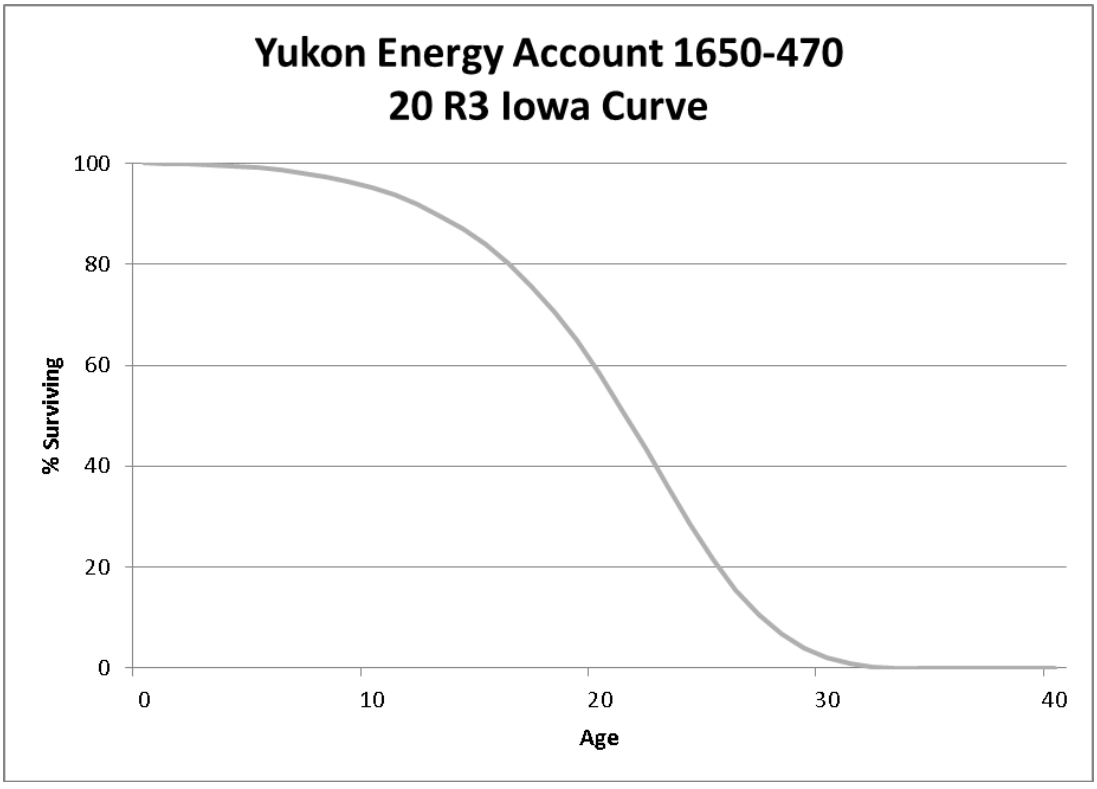
Account 1650-440 Trxptn – Trucks ¾ to 2 Tons 9 L2

This account includes the cost of trucks that are ¾ to 2 Tons used by employees to perform day to day duties. The plant balance in this account at December 31, 2018 is $2.6 million. The approved life and curve for this account is 10 R2. Discussions with Company personnel indicated that electricians would drive 90,000 and operations 70,000 in approximately 10 years. Linemen would drive 115,000 and would hit the maximum mileage in 3-4 years but there are other factors that cause the Company to retain these vehicles longer. There are equal numbers of each type of vehicle. Company expects they will be replaced by 8 years. However, the life analysis indicates a life between 10 to 11 years. Giving consideration to Company policy, recent experience, expectations and judgment, this study proposes moving from 10 R2 to 9 L2 at this time. A representative graph is shown below.



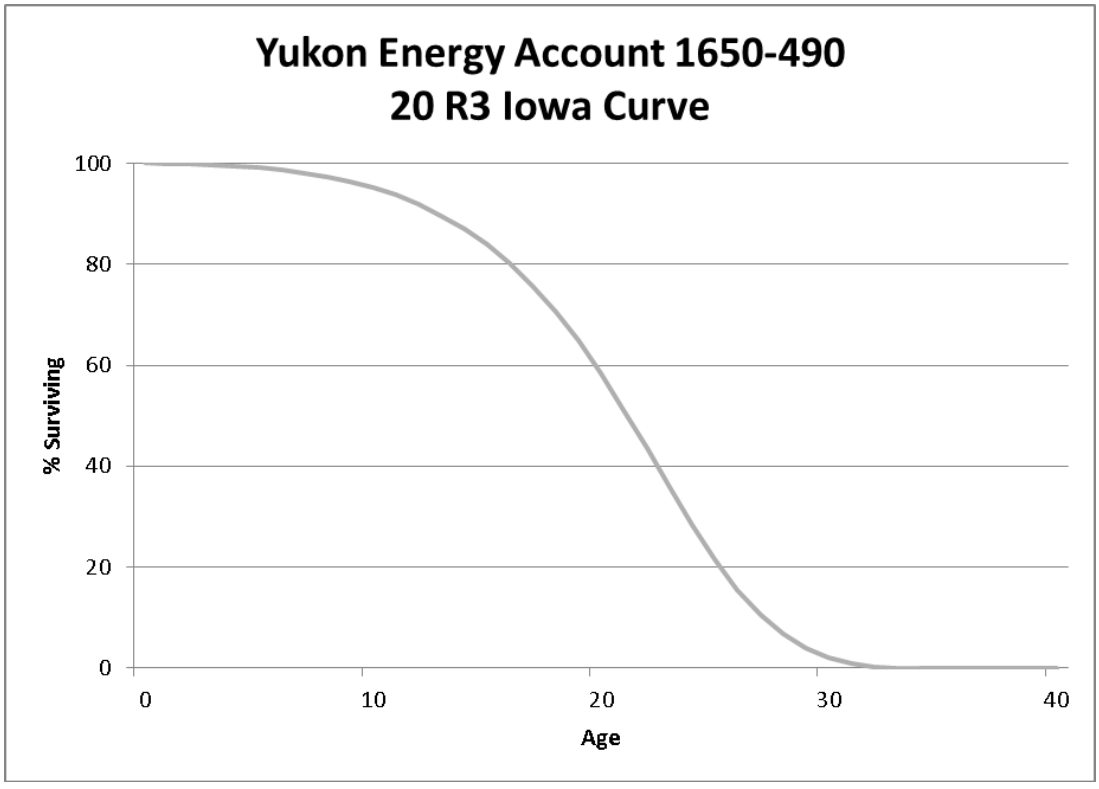
Account 1650-470 Trxptn – Trucks > 3 Tons 20 R3

This account includes the cost of trucks that are greater than 3 Tons including diggers, crane trucks, forklifts, and bucket trucks used to perform day to day duties. The plant balance in this account at December 31, 2018 is $1.5 million. The approved life and curve for this account is 20 R3. Discussions with Company personnel indicated that the approved 20 year life is reasonable. They just spent $40,000 to overhaul a 10 year old vehicle for its continued use. There is no historical experience to analyze. Giving consideration to Company input, recent overhaul, expectations and judgment, this study proposes retention of 20 R3 at this time. A representative graph is shown below.



Account 1650-490 Trxptn – Foremost 20 R3

This account includes the cost of large specialty vehicles which are usually tracked not wheeled vehicles. The plant balance in this account at December 31, 2018 is $1.0 million. The approved life for this account is 25 years. Discussions with Company personnel indicated that there is one tracked vehicle and a 2011 Kenworth truck equipped with an auger. Company personnel believe the life should match the life of the greater than 3 ton trucks of 20 years. There is no historical experience to analyze. Giving consideration to type of assets, Company input and expectations and judgment, this study proposes moving to 20 R3 at this time. A representative graph is shown below.



CRITICAL SPARES

Account 1655-750 Critical Spares – Non Depreciable

This account shall include repair and replacement parts for units that are critical to keep in working order. These parts have long lead time and/or difficult to source. These are not depreciated until they are put in service. The plant balance in this account at December 31, 2018 is $1.2 million.

LNG PLANT

Natural gas is a type of fuel, like gasoline or diesel, used to drive engines or heat buildings. After it is removed from the ground it can be refrigerated to minus 162°C; at that temperature it turns into liquid (referred to as LNG or liquefied natural gas) that takes up far less space so that it can be economically transported. It is also stored as a liquid until ready for use, at which time it is returned to a gas. As an isolated grid in one of the world's least-forgiving environments, it's crucial that we have a reliable backup system. Until recently, the Company used diesel generators during power outages, to supplement their hydro facilities in very cold weather, and during droughts.

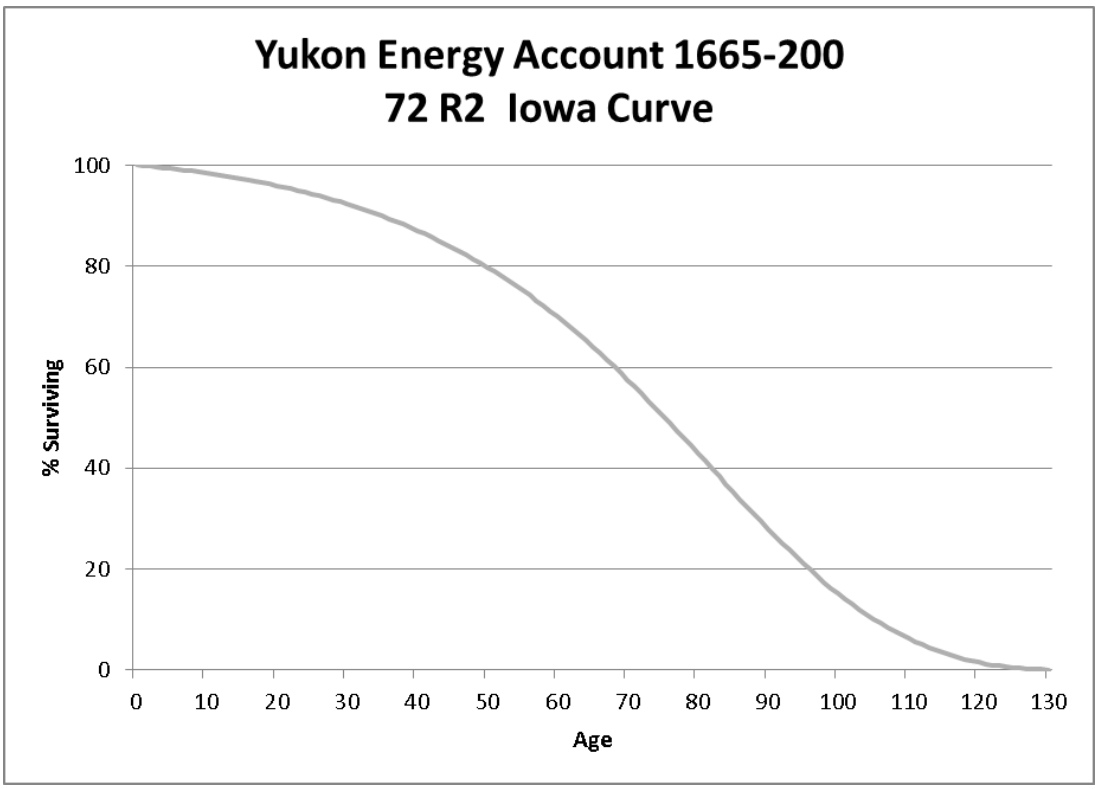
With the retirement of older backup diesel generators, Yukon Energy was mandated to provide a backup system and needed to replace the old diesel generators. Three life cycle assessments were performed by independent agencies showed that switching from diesel to natural gas would save significant amounts of money, produce fewer greenhouse gas, particulate and nitrogen oxide air emissions, and would be quieter and more efficient to operate. Three of the oldest diesels were replaced with natural gas generators.

As with diesel, Yukon Energy uses its natural gas units for emergency back-up, during years of low water at its hydro facilities, or peaking during the cold winter months. The vast majority of power the Company produces continues to be from renewable sources (in 2018 close to 94 percent of the electricity generated was from hydro). Yukon Energy's LNG facility has been operating since 2015 without incident.

This function consists of LNG facilities, of which there are three units, all with a four day full run capacity. Two of the units were placed in-service in 2015 and one unit was placed in-service in 2018. These are first run units, which have over 7,500 hours since 2015 and the 2018 unit has over 3,000 hours. The Company expects each unit will run around 4,000 hours per year.

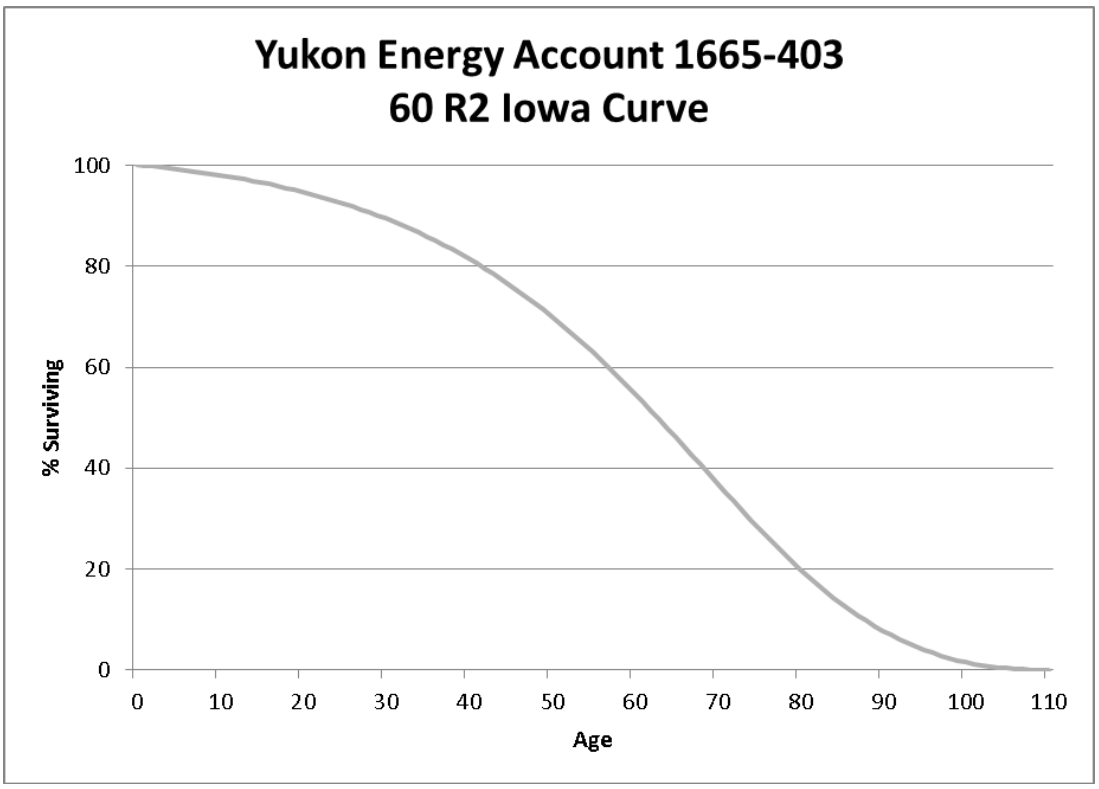
Account 1665-200 LNG Plant – Structures and Improvements 72 R2

This account includes the installed cost of all buildings and facilities including foundations, wiring, HVAC systems, plumbing, fire protection systems, paving and yard lighting and surfacing. The plant balance in this account at December 31, 2018 is $6.2 million. The approved life for this account is 72 years. The assets are new so there is limited historical data. Based on the type of assets, information provided by Company personnel, and judgment, this study recommends retaining the existing 72 years with the R2 for this account. A representative graph is provided below.



Account 1665-403 LNG Plant – Fuel Holders 60 R2

This account includes the installed cost of fuel handling and storage equipment used between the point of fuel delivery to the station and the intake pipe including boilers, pumps, produces, regenerators, tanks, and vaporizers. The plant balance in this account at December 31, 2018 is $13.2 million. The approved life for this account is 32 years. The assets are new so there is limited historical data. Discussions with Company personnel indicated the tanks are nickel, double walled with no moisture ingress. The existing fuel holder life of 32 years is considered to be low and with reasonable maintenance, a 60 year life is expected. Considering the type of assets, information provided by Company personnel and judgment, this study recommends moving the life to 60 years with the R2 for this account. A representative graph is provided below.

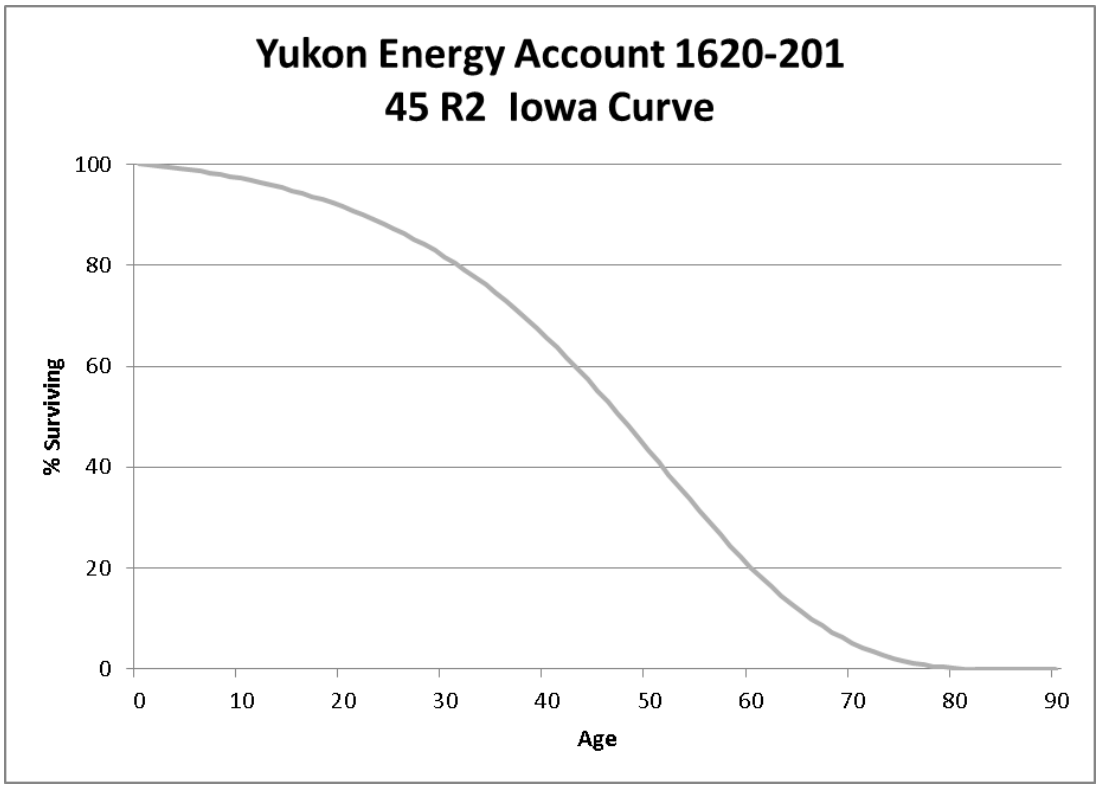


Account 1665-500 LNG Plant – Generators 40 SQ

This account includes the installed cost of other prime movers including engines, piping, air-filtering system, towers, pumps, hoists, compressors, tanks, waste heat boilers, antifluctuators and other related equipment. The plant balance in this account at December 31, 2018 is $20.9 million. The approved life for this account is 40 years. The assets are new so there is limited historical data. Discussions with Company personnel indicated the current life is still applicable for this account. Considering the type of assets, information provided by Company personnel and judgment, this study retaining the life of 40 years and using a SQ dispersion for this account. No graph is shown for this account.

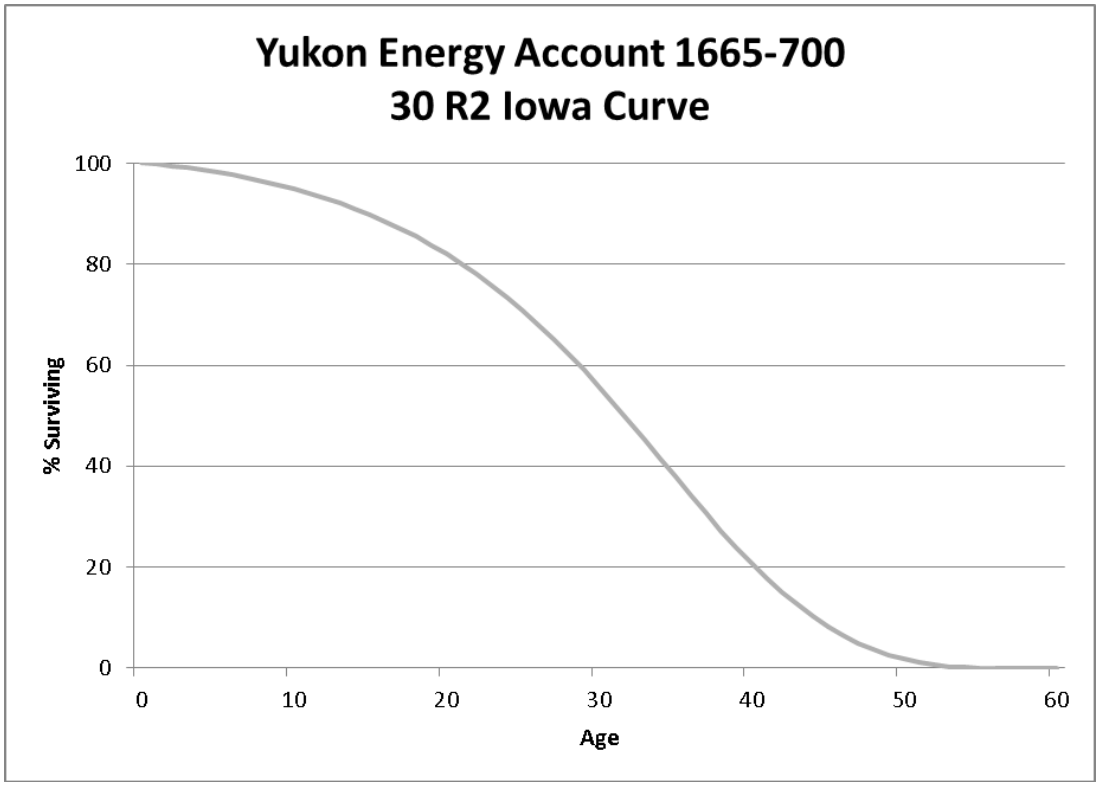
Account 1665-600 LNG Plant – Accessory Electric Equipment 45 R2

This account includes the installed cost of auxiliary generating and conversion equipment including generators, switching and station control equipment, excitation system, circuit breakers, panels, transformers, relays and other related equipment. The plant balance in this account at December 31, 2018 is $3.7 million. The approved life for this account is 45 years. The assets are new so there is limited historical data. Considering the type of assets, information provided by Company personnel and judgment, this study recommends retaining the 45 year life with the R2 curve for this account. A representative graph is provided below.



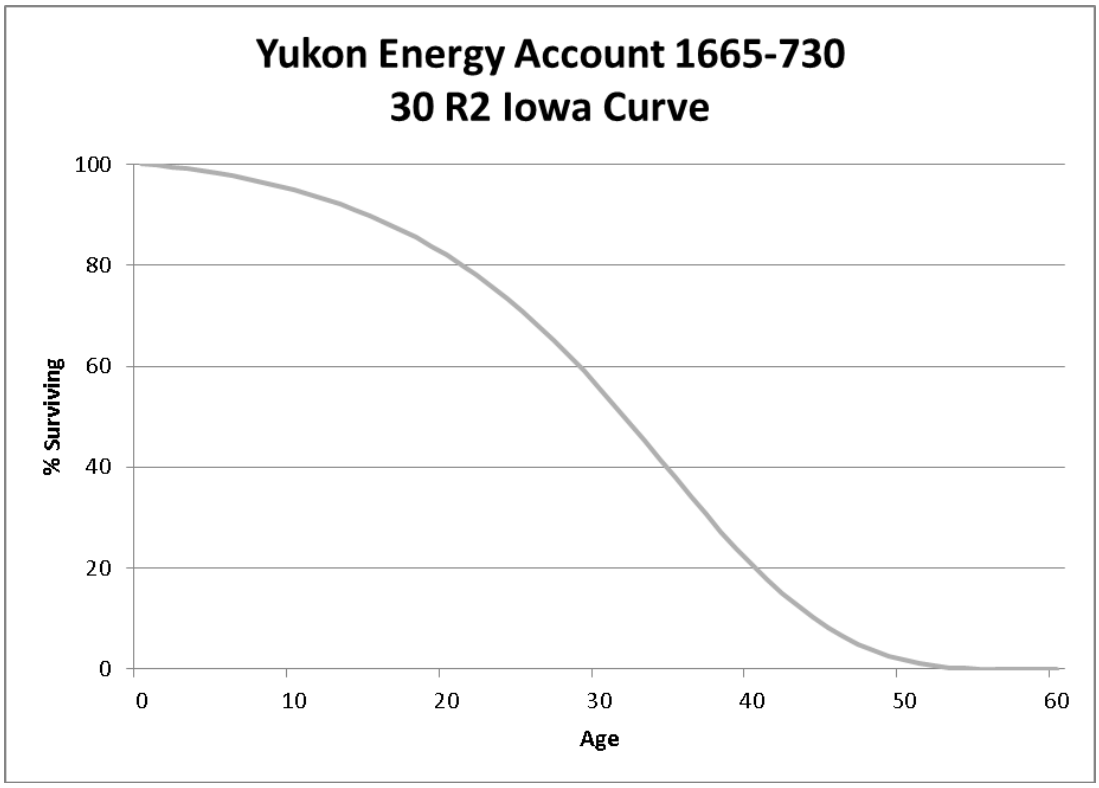
Account 1665-700 LNG Plant–Miscellaneous Power Plant Equipment 30 R2

This account includes the installed cost of compressors, exhausters, air filters, piping, refrigerating systems, fire-extinguishing and other miscellaneous equipment. The plant balance in this account at December 31, 2018 is $2.8 million. The approved life for this account is 30 years. The assets are new so there is limited historical data. Considering the type of assets, information provided by Company personnel and judgment, this study recommends retaining the 30 year life with the R2 curve for this account. A representative graph is found below.



Account 1665-730 LNG Plant – Fence 30 R2

This account includes the installed cost of fences surrounding the site which includes a corrugated metal fence that is solid and is built to prevent vapour dispersion. The plant balance in this account at December 31, 2018 is $780 thousand. The approved life for this account is 30 years. The assets are new so there is limited historical data. Considering the type of assets, information provided by Company personnel and judgment, this study recommends retaining the 30 year life with the R2 curve for this account. A representative graph is found below.



APPENDIX A

Depreciation Rate Calculations

YUKON ENERGY
COMPUTATION OF PROPOSED DEPRECIATION ACCRUAL RATE
AT DECEMBER 31, 2018

Asset Class ID	Asset Class ID Description	Plant	Accumulated Depreciation	AD Difference	Accumulated Depreciation of A/D Difference	Net Book Value	Calculated Accumulated Depreciation	Accumulated Depreciation Variance	Proposed Depreciation Rate	Proposed Depreciation Amount	Remaining Life	Depreciation True-Up Annual Provision for True Up
	Land											
1610-003	Land Hydro Production	444,912	0			444,912						
1610-004	Land Diesel Production	27,680	0			27,680						
1610-006	Land Main Trx Facilities	576,862	0	699	(199)	577,363						
1610-008	Land Distribution System	17,775	0			17,775						
1610-009	Land General Plant	547,992	0			547,992						
1610-106	Land Rights	128,780	(25,910)			102,870	(25,391)	(519)	2.00%	2,576	40.14	(13)
		1,744,002	(25,910)	699	(199)	1,718,592	(25,391)	(519)		2,576		(13)
	Hydro Plant											
1615-200	Hydro-Strctrs & Imprvmts	34,163,123	(6,803,403)	(977,149)	63,766	26,446,337	(7,308,246)	(408,540)	1.39%	474,488	56.60	(7,218)
1615-201	Hydro-Building & Imprvmnt	10,278,688	(427,340)			9,851,348	(362,324)	(65,016)	2.50%	256,967	38.59	(1,685)
1615-205 & 1615-206	Hydro-Rsrvoirs Dams & Wtrways	172,919,206	(52,689,116)	(18,131,142)	1,386,390	103,485,339	(49,449,636)	(19,984,232)	0.97%	1,678,827	73.55	(271,727)
1615-506	Hydro-Wtrwhls, Trbines & Gen's	26,339,447	(3,747,076)	(269,433)	44,824	22,367,762	(6,351,635)	2,379,950	1.67%	438,991	45.53	52,271
1615-600	Hydro-Accessory Electric Equip	26,598,355	(5,186,340)	65,942	(23,197)	21,454,761	(7,445,689)	2,302,095	2.50%	664,959	28.80	79,926
1615-601	Hydro Accessory Digital Equip	837,945	(63,362)			774,582	(62,846)	(517)	5.00%	41,897	18.50	(28)
1615-700	Hydro-Misc Power Plant Equip	11,490,781	(3,087,765)	83,244	(46,809)	8,439,452	(3,223,878)	172,549	3.33%	383,026	21.58	7,995
1615-730	Hydro- Fences	107,086	(25,967)			81,119	(29,641)	3,674	3.33%	3,570	21.70	169
	Hydro Plant Total	282,734,632	(72,030,369)	(19,228,538)	1,424,975	192,900,700	(74,233,895)	(15,600,037)		3,942,725		(140,298)
	Diesel Plant											
1620-200	Diesel-Strctrs and Imprvmts	1,562,352	(781,875)	(432,852)	106,295	453,920	(634,175)	(474,257)	1.39%	21,699	42.77	(11,087)
1620-201	Diesel-Building & Imprvmnt	466,054	(99,651)	(20,501)	3,345	349,246	(62,300)	(54,507)	1.82%	8,474	47.65	(1,144)
1620-403	Diesel-Fuel Hldrs,Prdcts&Accss	1,688,501	(954,217)	(122,114)	114,775	726,946	(589,294)	(372,262)	2.50%	42,213	26.04	(14,296)
1620-500	Diesel-Gnrtng Equip & Prime	13,841,607	(8,510,645)	(732,079)	1,052,443	5,651,327	(7,105,089)	(1,085,191)	2.50%	346,040	19.47	(55,744)
1620-501	Diesel-Gnrtng Equip & Prime Retire	1,970,549	(974,499)			996,050	(1,522,697)	548,198	NA	332,017	0.00	0
1620-508	Diesel-Minto Gnrtng Equip	243,548	(176,888)			66,660	(192,809)	15,921	8.33%	20,296	2.50	6,368
1620-600	Diesel-Acc Electric Equip	5,416,976	(1,583,903)	(478,962)	171,809	3,525,920	(1,850,307)	(40,749)	2.22%	120,377	29.63	(1,375)
1620-700	Diesel-Misc Power Plant Equip	1,867,523	(825,077)	(371,646)	240,340	911,140	(763,247)	(193,136)	3.33%	62,251	17.74	(10,888)
	Diesel Plant Total	27,057,109	(13,906,754)	(2,158,154)	1,689,007	12,681,208	(12,719,918)	(1,655,983)		953,366		(88,166)
	Distribution System											
1625-300	Dist System - Poles & Fxtrs	7,969,883	(1,905,688)	(14,629)	6,125	6,055,691	(1,614,735)	(299,457)	2.50%	199,247	31.90	(9,389)
1625-304	Dist System - Brushing	44,763	(17,835)	(3,235)	996	24,689	(26,238)	6,164	2.00%	895	20.69	298
1625-305	Dist System - Survey Costs	600,378	(168,274)	297		432,401	(112,698)	(55,279)	2.00%	12,008	40.61	(1,361)
1625-401	Dist System - O/H Cndctrs	74,570	(31,009)			43,561	(19,120)	(11,889)	2.00%	1,491	37.18	(320)
1625-410	Dist System - O/H Services	2,117,381	(847,311)	(78,539)	30,910	1,222,442	(931,877)	36,937	2.50%	52,935	22.40	1,649
1625-501	Underground Conduit	385,155	(26,519)			358,636	(22,631)	(3,888)	2.50%	9,629	37.65	(103)
1625-510	Dist System - Undrgrnd Cnduit	40,460	(7,467)	(454)	171	32,710	(6,862)	(888)	2.50%	1,012	33.22	(27)
1625-610	Dist System - Meters	312,633	(185,181)	(33,787)	18,820	112,484	(266,434)	66,286	6.25%	19,540	2.36	28,035
1625-620	Dist System - Meter Equip	288,392	(148,993)	3,308	(968)	141,739	(237,596)	90,943	6.25%	18,025	2.82	32,270
1625-710	Dist System - Sbstn EEquip	1,287,180	(512,564)	(50,938)	22,068	745,746	(473,237)	(68,197)	2.50%	32,180	25.29	(2,696)
1625-720	Dist System - Sbstn Buildings	64,798	(35,020)	(19,520)	7,988	18,246	(31,214)	(15,339)	1.82%	1,178	28.51	(538)
1625-730	Dist System- Substation Fences	100,328	(15,200)			85,128	(11,684)	(3,517)	3.33%	3,344	26.51	(133)
1625-815	Dist System - Street Lights	588,493	(206,165)	(99,674)	39,803	322,456	(181,113)	(84,924)	2.50%	14,712	27.69	(3,067)
1625-905	Dist System - Line Trxformers	4,000,082	(1,959,650)	(564,652)	249,975	1,725,756	(2,362,021)	87,694	2.86%	114,288	14.33	6,118
1625-961	Dist System - Sentinel Lights	36,443	(25,911)	(12,948)	9,589	7,173	(16,992)	(12,278)	3.33%	1,215	16.01	(767)
	Distributution System Total	17,910,940	(6,092,787)	(874,771)	385,478	11,328,860	(6,314,451)	(267,629)		481,697		49,971
	Main Transmission Facilities											
1635-300	Main Trx - Poles & Fxtrs	60,444,290	(11,208,130)	(1,367,921)	441,757	48,309,996	(12,407,344)	273,051	2.00%	1,208,886	39.74	6,872
1635-304	Main Trx - Brushing	14,082,336	(3,234,991)	48,456	(13,702)	10,882,098	(2,588,715)	(611,522)	1.67%	234,706	48.97	(12,488)
1635-305	Main Trx - Survey Costs	3,541,446	(866,916)	(61,687)	17,348	2,630,191	(759,406)	(151,849)	1.67%	59,024	47.13	(3,222)
1635-402	Main Trx - O/H Cndctrs/Poles	20,561,275	(5,081,116)	(45,903)	11,990	15,446,247	(4,166,859)	(948,169)	1.67%	342,688	47.84	(19,819)
1635-404	Main Trx - O/H Cndctrs/Towers	277,975	(110,991)	(7,067)	2,070	161,987	(136,749)	20,761	1.67%	4,633	30.48	681
1635-710	Main Trx - Sbstn Equip	66,600,655	(14,772,921)	(633,579)	246,252	51,440,407	(13,394,976)	(1,765,271)	2.22%	1,480,015	35.95	(49,104)
1635-720	Main Trx - Sbstn Buildings	1,536,213	(216,619)	(2,223)	480	1,317,851	(156,704)	(61,659)	1.82%	27,931	49.39	(1,248)
1635-730	Main Trx - Sbstn Fences	274,477	(92,674)	769	(605)	181,968	(63,234)	(29,275)	3.33%	9,149	23.09	(1,268)
	Main Transmission Facilities Total	167,318,667	(35,584,356)	(2,069,155)	705,591	130,370,747	(33,673,988)	(3,273,933)		3,367,031	322.59	(79,597)

YUKON ENERGY
COMPUTATION OF PROPOSED DEPRECIATION ACCRUAL RATE
AT DECEMBER 31, 2018

Asset Class ID	Asset Class ID Description	Plant	Accumulated Depreciation	AD Difference	Accumulated Depreciation of A/D Difference	Net Book Value	Calculated Accumulated Depreciation	Accumulated Depreciation Variance	Proposed Depreciation Rate	Proposed Depreciation Amount	Remaining Life	Depreciation True-Up Annual Provision for True Up
	Sub Transmission Lines											
1640-300	Sub Trx - Poles & Fxtrs	4,092,701	(2,281,354)	(780,721)	281,918	1,312,545	(2,059,673)	(720,483)	2.00%	81,854	24.84	(29,008)
1640-301	Sub Trx - Poles & Fxtrs Mnt Mn	2,646,132	(2,223,467)			422,665	(2,205,110)	(18,357)	8.33%	220,511	2.00	(9,179)
1640-304	Sub Trx - Brushing	41,597	(834)			40,763	(1,023)	189	1.67%	693	58.52	3
1640-306	Sub Trx - Brushing Mnt Mn	432,533	(363,453)			69,080	(360,444)	(3,009)	8.33%	36,044	2.00	(1,504)
1640-307	Sub Trx - Survey Costs Mnt Mn	95,136	(79,940)			15,196	(79,280)	(660)	8.33%	7,928	2.00	(330)
1640-401	Sub Trx - O/H Cndctrs	1,840,369	(564,991)	(112,184)	41,214	1,204,408	(490,758)	(145,203)	1.67%	30,673	44.00	(3,300)
1640-405	Sub Trx - Undrgrnd Cndctrs/Cnd	83,873	(47,669)	(194)	121	36,130	(57,555)	9,813	2.22%	1,864	14.12	695
1640-407	Sub Trx - O/H Cndctrs Mnt Mn	920,693	(773,631)			147,062	(767,244)	(6,387)	8.33%	76,724	2.00	(3,194)
1640-710	Sub Trx - Sbstn EEquip	8,013,609	(756,527)			7,257,082	(557,208)	(199,319)	2.22%	178,080	41.87	(4,760)
1640-711	Sub Trx - Sbstn Equips Mnt Mn	6,948,253	(5,781,101)			1,167,153	(5,790,211)	9,111	8.33%	579,021	2.00	4,555
	Sub Transmission Lines Total	25,114,895	(12,872,966)	(893,099)	323,253	11,672,083	(12,368,507)	(1,074,306)		1,213,393		(46,022)
	Buildings & Other Equipment											
1645-110	Bldg&Otr - Survey Costs Land	4,321	(1,950)	(601)	193	1,963	(2,837)	479	2.00%	86	17.18	28
1645-200	Bldg&Otr-Strctrs/Imprvmnt Hyd	2,243,942	(333,448)	(3,049)	1,122	1,908,567	(251,936)	(83,440)	2.00%	44,879	44.39	(1,880)
1645-201	Bldg&Otr - Building & Imprvmnt	10,102,549	(3,653,478)	(946,961)	232,163	5,734,274	(3,535,922)	(832,354)	2.00%	202,051	32.50	(25,611)
1645-202	Bldg&Otr-Office Frntr & Equip	1,736,569	(1,267,513)	(130,011)	120,096	459,141	(1,272,514)	(4,914)	5.00%	86,828	5.34	(919)
1645-210	Bldg&Otr - Comm Site Towers	19,297	(11,471)	(1,115)	557	7,268	(7,109)	(4,920)	2.50%	482	25.26	(195)
1645-220	Bldg&Otr - Comm Site Fences	64,126	(30,756)	326	(241)	33,456	(19,994)	(10,676)	3.33%	2,138	20.65	(517)
1645-320	Bldg&Otr - Computer Hardware	1,715,886	(1,022,714)	70,421	(70,023)	693,569	(982,253)	(40,064)	14.29%	245,127	2.99	(13,386)
1645-330	Bldg&Otr - Computer Software	304,004	(132,784)	(7,872)	7,872	171,220	(148,885)	16,101	20.00%	60,801	2.55	6,311
1645-505	Bldg&Otr - Tools & Instruments	1,654,638	(904,640)	(168,321)	140,874	722,551	(889,892)	(42,195)	5.00%	82,732	9.24	(4,565)
1645-507	Bldg&Otr - Wind Mntrng Equip	14,283	(11,022)		1,332	4,592	(12,854)	3,164	6.67%	952	1.50	2,109
1645-605	Bldg&Otr - Comm Equip	4,583,047	(2,453,712)	(53,911)	52,353	2,127,778	(2,365,191)	(90,078)	5.00%	229,152	9.68	(9,307)
1645-810	Bldg&Otr - Houses/Land	59,031	(22,410)	7,862	(4,433)	40,050	(14,986)	(3,996)	2.50%	1,476	29.85	(134)
1645-820	Bldg&Otr - Houses/Buildings	2,051,769	(1,430,615)	365,433	(190,775)	795,812	(777,167)	(478,790)	2.50%	51,294	24.85	(19,268)
	Total Building	24,553,463	(11,276,513)	(867,799)	291,091	12,700,242	(10,281,540)	(1,571,682)		1,007,998		(67,334)
	Transportation											
1650-411	Trxptn - Utility Vehicles	344,073	(193,559)	12,716	(12,716)	150,514	(173,164)	(20,395)	12.50%	43,009	3.97	(5,132)
1650-412	Trxptn - Sedans & Stn Wagons	137,764	(90,423)	6,160	(6,160)	47,340	(78,421)	(12,003)	9.09%	12,524	4.74	(2,533)
1650-420	Trxptn - Trucks & Pole Trailer	11,000	(2,686)			8,314	(2,724)	37	4.00%	440	18.81	2
1650-430	Trxptn -Pole Trailer>10,000lbs	53,711	(18,374)	(748)	445	35,033	(17,243)	(1,434)	4.00%	2,148	16.97	(84)
1650-440	Trxptn - Trucks 3/4 to 2 Ton	2,644,537	(1,015,122)	(17,178)	17,178	1,629,415	(1,106,240)	91,118	11.11%	293,837	5.24	17,405
1650-470	Trxptn - Trucks > 3Tons	1,459,849	(401,649)	(12,391)	9,860	1,055,670	(453,561)	49,382	5.00%	72,992	13.79	3,582
1650-490	Trxptn - Foremost	1,003,858	(352,963)			650,895	(422,764)	69,801	5.00%	50,193	11.58	6,029
	Total Transporation	5,654,791	(2,074,777)	(11,441)	8,608	3,577,181	(2,254,117)	176,507		475,144		19,268
	Critical Spares											
1655-750	Critical Spares	1,170,184	0			1,170,184						
	LNG Plant											
1665-200	Structures and Improverments	6,184,735	(301,000)			5,883,735	(270,787)	(30,213)	1.39%	85,899	68.85	(439)
1665-403	Fuel Holders	13,200,669	(1,445,518)			11,755,151	(692,600)	(752,919)	1.67%	220,011	56.85	(13,243)
1665-500	LNG Generator	20,880,293	(1,157,153)			19,723,140	(1,233,591)	76,437	2.50%	522,007	37.64	2,031
1665-600	Accessory Electric Equipment	3,655,939	(282,214)			3,373,725	(253,176)	(29,038)	2.22%	81,243	41.88	(693)
1665-700	Miscellanours Power Plant Equi	2,828,210	(321,574)			2,506,636	(287,467)	(34,106)	3.33%	94,274	26.95	(1,266)
1665-730	LNG Fence	779,651	(91,066)			688,585	(81,109)	(9,957)	3.33%	25,988	26.88	(370)
	Total LNG	47,529,497	(3,598,525)	0	0	43,930,972	(2,818,729)	(779,796)		1,029,423		(13,981)
	Total Yukon	600,788,180	(157,462,958)	(26,102,258)	4,827,804	422,050,768	(154,690,534)	(24,047,378)		12,473,354		(366,170)

Note: The following accounts were excluded from the depreciation study:
1615-504
1620-504
Asset 7060 removed from asset group 1615-506
Asset 8856 transferred from asset group 1645-200 to 1615-201

APPENDIX B

Depreciation Expense Comparison

YUKON ENERGY
COMPARISON OF CURRENT AND PROPOSED DEPRECIATION RATES
AT DECEMBER 31, 2018

			Existing		Proposed				
Asset Class ID	**Asset Class ID Description**	**Plant**	**Rate**	**Amount**	**Rate**	**Amount**	**Annual True-Up**	**Total Accrual**	**Difference**
		$	%	$	%	$	$	$	$
	Land								
1610-003	Land Hydro Production	444,912		0.00	0.00%		0	0	0
1610-004	Land Diesel Production	27,680		0.00	0.00%		0		0
1610-006	Land Main Trx Facilities	576,862		0.00	0.00%		0	0	0
1610-008	Land Distribution System	17,775		0.00	0.00%		0	0	0
1610-009	Land General Plant	547,992		0.00	0.00%		0	0	0
1610-106	Land Rights	128,780	2.00%	2,576	2.00%	2,576	(13)	2,563	(13)
	Land Total	1,744,002		2,576	2.00%	2,576	(13)	2,563	(13)
	Hydro Plant								
1615-200	Hydro-Strctrs & Imprvmts	34,163,123	1.39%	474,488	1.39%	474,488	(7,218)	467,270	(7,218)
1615-201	Hydro-Building & Imprvmnt	10,278,688	2.50%	256,967	2.50%	256,967	(1,685)	255,282	(1,685)
1615-205 & 1615-206	Hydro-Rsrvoirs Dams & Wtrways	172,919,206	0.97%	1,678,827	0.97%	1,678,827	(271,727)	1,407,100	(271,727)
1615-506	Hydro-Wtrwhls, Trbines & Gen's	26,339,447	1.18%	309,876	1.67%	438,991	52,271	491,261	181,386
1615-600	Hydro-Accessory Electric Equip	26,598,355	2.22%	591,075	2.50%	664,959	79,926	744,885	153,810
1615-601	Hydro Accessory Digital Equip	837,945	5.00%	41,897	5.00%	41,897	(28)	41,869	(28)
1615-700	Hydro-Misc Power Plant Equip	11,490,781	3.33%	383,026	3.33%	383,026	7,995	391,021	7,995
1615-730	Hydro- Fences	107,086	3.33%	3,570	3.33%	3,570	169	3,739	169
	Hydro Plant Total	282,734,632		3,739,725		3,942,725	(140,298)	3,802,427	62,701
	Diesel Plant								
1620-200	Diesel-Strctrs and Imprvmts	1,562,352	1.39%	21,699	1.39%	21,699	(11,087)	10,612	(11,087)
1620-201	Diesel-Building & Imprvmnt	466,054	1.82%	8,474	1.82%	8,474	(1,144)	7,330	(1,144)
1620-403	Diesel-Fuel Hldrs,Prdcts&Accss	1,688,501	4.00%	67,540	2.50%	42,213	(14,296)	27,917	(39,623)
1620-500	Diesel-Gnrtng Equip & Prime	13,841,607	2.50%	346,040	2.50%	346,040	(55,744)	290,296	(55,744)
1620-501	Diesel-Gnrtng Equip & Prime Retire 2021	1,970,549	NA	332,017	NA	332,017	0	332,017	0
1620-508	Diesel-Minto Gnrtng Equip	243,548	8.33%	20,296	8.33%	20,296	6,368	26,664	6,368
1620-600	Diesel-Acc Electric Equip	5,416,976	2.22%	120,377	2.22%	120,377	(1,375)	119,002	(1,375)
1620-700	Diesel-Misc Power Plant Equip	1,867,523	3.33%	62,251	3.33%	62,251	(10,888)	51,363	(10,888)
	Diesel Plant Total	27,057,109		978,694		953,366	(88,166)	865,201	(113,493)
	Distribution System								
1625-300	Dist System - Poles & Fxtrs	7,969,883	2.86%	227,711	2.50%	199,247	(9,389)	189,858	(37,852)
1625-304	Dist System - Brushing	44,763	2.00%	895	2.00%	895	298	1,193	298
1625-305	Dist System - Survey Costs	600,378	2.00%	12,008	2.00%	12,008	(1,361)	10,647	(1,361)
1625-401	Dist System - O/H Cndctrs	74,570	2.86%	2,131	2.00%	1,491	(320)	1,172	(959)
1625-410	Dist System - O/H Services	2,117,381	2.50%	52,935	2.50%	52,935	1,649	54,584	1,649
1625-501	Underground Conduit	385,155	2.50%	9,629	2.50%	9,629	(103)	9,526	(103)
1625-510	Dist System - Undrgrnd Cnduit	40,460	2.50%	1,012	2.50%	1,012	(27)	985	(27)
1625-610	Dist System - Meters	312,633	3.33%	10,421	6.25%	19,540	28,035	47,575	37,154
1625-620	Dist System - Meter Equip	288,392	3.33%	9,613	6.25%	18,025	32,270	50,295	40,681
1625-710	Dist System - Sbstn EEquip	1,287,180	2.50%	32,180	2.50%	32,180	(2,696)	29,483	(2,696)
1625-720	Dist System - Sbstn Buildings	64,798	1.82%	1,178	1.82%	1,178	(538)	640	(538)
1625-730	Dist System- Substation Fences	100,328	5.00%	5,016	3.33%	3,344	(133)	3,212	(1,805)
1625-815	Dist System - Street Lights	588,493	2.50%	14,712	2.50%	14,712	(3,067)	11,645	(3,067)
1625-905	Dist System - Line Trxformers	4,000,082	2.50%	100,002	2.86%	114,288	6,118	120,407	20,404
1625-961	Dist System - Sentinel Lights	36,443	3.33%	1,215	3.33%	1,215	(767)	448	(767)
	Distributution System Total	17,910,940		480,657		481,697	49,971	531,668	51,012
	Main Transmission Facilities								
1635-300	Main Trx - Poles & Fxtrs	60,444,290	1.54%	929,912	2.00%	1,208,886	6,872	1,215,757	285,845
1635-304	Main Trx - Brushing	14,082,336	2.00%	281,647	1.67%	234,706	(12,488)	222,218	(59,429)
1635-305	Main Trx - Survey Costs	3,541,446	2.00%	70,829	1.67%	59,024	(3,222)	55,802	(15,026)
1635-402	Main Trx - O/H Cndctrs/Poles	20,561,275	2.00%	411,226	1.67%	342,688	(19,819)	322,869	(88,357)
1635-404	Main Trx - O/H Cndctrs/Towers	277,975	2.00%	5,560	1.67%	4,633	681	5,314	(246)
1635-710	Main Trx - Sbstn Equip	66,600,655	1.85%	1,233,345	2.22%	1,480,015	(49,104)	1,430,910	197,565
1635-720	Main Trx - Sbstn Buildings	1,536,213	1.82%	27,931	1.82%	27,931	(1,248)	26,683	(1,248)
1635-730	Main Trx - Sbstn Fences	274,477	5.00%	13,724	3.33%	9,149	(1,268)	7,881	(5,843)
	Main Transmission Facilities Total	167,318,667		2,974,173		3,367,031	(79,597)	3,287,435	313,261
	Sub Transmission Lines								

YUKON ENERGY
COMPARISON OF CURRENT AND PROPOSED DEPRECIATION RATES
AT DECEMBER 31, 2018

			Existing		Proposed				
Asset Class ID	**Asset Class ID Description**	**Plant**	**Rate**	**Amount**	**Rate**	**Amount**	**Annual True-Up**	**Total Accrual**	**Difference**
1640-300	Sub Trx - Poles & Fxtrs	4,092,701	2.22%	90,949	2.00%	81,854	(29,008)	52,846	(38,103)
1640-301	Sub Trx - Poles & Fxtrs Mnt Mn	2,646,132	8.33%	220,511	8.33%	220,511	(9,179)	211,332	(9,179)
1640-304	Sub Trx - Brushing	41,597	2.00%	832	1.67%	693	3	697	(135)
1640-306	Sub Trx - Brushing Mnt Mn	432,533	8.33%	36,044	8.33%	36,044	(1,504)	34,540	(1,504)
1640-307	Sub Trx - Survey Costs Mnt Mn	95,136	8.33%	7,928	8.33%	7,928	(330)	7,598	(330)
1640-401	Sub Trx - O/H Cndctrs	1,840,369	2.22%	40,897	1.67%	30,673	(3,300)	27,373	(13,524)
1640-405	Sub Trx - Undrgrnd Cndctrs/Cnd	83,873	2.22%	1,864	2.22%	1,864	695	2,559	695
1640-407	Sub Trx - O/H Cndctrs Mnt Mn	920,693	8.33%	76,724	8.33%	76,724	(3,194)	73,531	(3,194)
1640-710	Sub Trx - Sbstn EEquip	8,013,609	2.50%	200,340	2.22%	178,080	(4,760)	173,320	(27,020)
1640-711	Sub Trx - Sbstn Equips Mnt Mn	6,948,253	8.33%	579,021	8.33%	579,021	4,555	583,576	4,555
	Sub Transmission Lines Total	25,114,895		1,255,111		1,213,393	(46,022)	1,167,371	(87,739)
	Buildings & Other Equipment								
1645-110	Bldg&Otr - Survey Costs Land	4,321	2.00%	86	2.00%	86	28	114	28
1645-200	Bldg&Otr-Strctrs/Imprvmnt Hyd	12,522,631	2.50%	313,066	2.00%	250,453	(1,880)	248,573	(64,493)
1645-201	Bldg&Otr - Building & Imprvmnt	10,102,549	1.82%	183,683	2.00%	202,051	(25,611)	176,440	(7,243)
1645-202	Bldg&Otr-Office Frntr & Equip	1,736,569	5.00%	86,828	5.00%	86,828	(919)	85,909	(919)
1645-210	Bldg&Otr - Comm Site Towers	19,297	3.33%	643	2.50%	482	(195)	288	(356)
1645-220	Bldg&Otr - Comm Site Fences	64,126	5.00%	3,206	3.33%	2,138	(517)	1,620	(1,586)
1645-320	Bldg&Otr - Computer Hardware	1,715,886	20.00%	343,177	14.29%	245,127	(13,386)	231,740	(111,437)
1645-330	Bldg&Otr - Computer Software	304,004	20.00%	60,801	20.00%	60,801	6,311	67,112	6,311
1645-505	Bldg&Otr - Tools & Instruments	1,654,638	5.00%	82,732	5.00%	82,732	(4,565)	78,167	(4,565)
1645-507	Bldg&Otr - Wind Mntrng Equip	14,283	5.00%	714	6.67%	952	2,109	3,061	2,347
1645-605	Bldg&Otr - Comm Equip	4,583,047	5.00%	229,152	5.00%	229,152	(9,307)	219,845	(9,307)
1645-810	Bldg&Otr - Houses/Land	59,031	3.33%	1,968	2.50%	1,476	(134)	1,342	(626)
1645-820	Bldg&Otr - Houses/Buildings	2,051,769	3.33%	68,392	2.50%	51,294	(19,268)	32,026	(36,366)
	Total Building	34,832,152		1,374,449		1,213,572	(67,334)	1,146,238	(228,211)
	Transportation								
1650-411	Trxptn - Utility Vehicles	344,073	14.29%	49,153	12.50%	43,009	(5,132)	37,877	(11,277)
1650-412	Trxptn - Sedans & Stn Wagons	137,764	14.29%	19,681	9.09%	12,524	(2,533)	9,991	(9,690)
1650-420	Trxptn - Trucks & Pole Trailer	11,000	3.23%	1,571	4.00%	440	2	442	(1,129)
1650-430	Trxptn -Pole Trailer>10,000lbs	53,711	4.00%	1,733	4.00%	2,148	(84)	2,064	331
1650-440	Trxptn - Trucks 3/4 to 2 Ton	2,644,537	10.00%	264,454	11.11%	293,837	17,405	311,242	46,789
1650-470	Trxptn - Trucks > 3Tons	1,459,849	5.00%	72,992	5.00%	72,992	3,582	76,574	3,582
1650-490	Trxptn - Foremost	1,003,858	4.00%	40,154	5.00%	50,193	6,029	56,222	16,068
	Total Transporation	5,654,791		449,738		475,144	19,268	494,412	44,674
	Critical Spares								
1655-750	Critical Spares	1,170,184		0	0.00%	0	0	0	0
	LNG Plant								
1665-200	Structures and Improverments	6,184,735	1.39%	85,899	1.39%	85,899	(439)	85,460	(439)
1665-403	Fuel Holders	13,200,669	3.13%	412,521	1.67%	220,011	(13,243)	206,768	(205,753)
1665-500	LNG Generator	20,880,293	2.50%	522,007	2.50%	522,007	2,031	524,038	2,031
1665-600	Accessory Electric Equipment	3,655,939	2.22%	81,243	2.22%	81,243	(693)	80,550	(693)
1665-700	Miscellanours Power Plant Equi	2,828,210	3.33%	94,274	3.33%	94,274	(1,266)	93,008	(1,266)
1665-730	LNG Fence	779,651	3.33%	25,988	3.33%	25,988	(370)	25,618	(370)
	Total LNG	47,529,497		1,221,932		1,029,423	(13,981)	1,015,442	(206,490)
	Total Yukon	611,066,869		12,477,055		12,678,927	(366,170)	12,312,757	(164,299)

Note: The following accounts were excluded from the depreciation study:
1615-504 Hydro Assets Overhaul
1620-504 Diesel Assets Overhaul
1620-504 Diesel Assets Overhaul
Asset 7060 removed from asset group 1615-506
Asset 8856 transferred from asset group 1645-200 to 1615-201

APPENDIX C

Depreciation Parameter Comparison

YUKON ENERGY
COMPARISON OF LIFE PARAMETERS
AT DECEMBER 31, 2018

			Existing		Proposed		Difference
Asset Class ID	Old Function	Asset Class ID Description	Life	Iowa Curve	Life	Iowa Curve	Life
		Land					
1610-003	140002	Land Hydro Production	NA	NA	NA	NA	
1610-004	140002	Land Diesel Production	NA	NA	NA	NA	
1610-006	140002	Land Main Trx Facilities	NA	NA	NA	NA	
1610-008	140002	Land Distribution System	NA	NA	NA	NA	
1610-009	140002	Land General Plant	NA	NA	NA	NA	
1610-106	140002	Land Rights	50	R2.5	50	R2.5	0
		Hydro					
1615-200	140003	Hydro-Strctrs & Imprvmts	72	R2	72	R2	0
1615-201	140003	Hydro-Building & Imprvmnt	40	R2.5	40	R2.5	0
1615-205	140003	Hydro-Rsrvoirs Dams & Wtrways	103	R3	103	R3	0
1615-206	140003	Hydro, Dams wtwys Twin Assets	103	R3	103	R3	0
1615-506	140003	Hydro-Wtrwhls, Trbines & Gen's	85	R3	60	R3	-25
1615-600	140003	Hydro-Accessory Electric Equip	45	R3	40	R2.5	-5
1615-601	140003	Hydro Accessory Digital Equip	20	SQ	20	SQ	0
1615-700	140003	Hydro-Misc Power Plant Equip	30	R2	30	R2	0
1615-730	140003	Hydro- Fences	30	R2	30	R2	0
		Diesel					
1620-200	140004	Diesel-Strctrs and Imprvmts	72	R2	72	R2	0
1620-201	140004	Diesel-Building & Imprvmnt	55	R1	55	R1	0
1620-403	140004	Diesel-Fuel Hldrs,Prdcts&Accss	25	R2	40	R2	15
1620-500	140004	Diesel-Gnrtng Equip & Prime	40	R2	40	R2	0
1620-501	140004	Diesel-Gnrtng Equip & Prime Retire 2021	11	SQ	11	SQ	0
1620-508	140004	Diesel-Minto Gnrtng Equip	12	SQ	12	SQ	0
1620-600	140004	Diesel-Acc Electric Equip	45	R3	45	R3	0
1620-700	140004	Diesel-Misc Power Plant Equip	30	R2	30	R2	0
		Distribution					
1625-300	140008	Dist System - Poles & Fxtrs	35	R2	40	R2	5
1625-304	140008	Dist System - Brushing	50	R2	50	R2	0
1625-305	140008	Dist System - Survey Costs	50	R3	50	R2	0
1625-401	140008	Dist System - O/H Cndctrs	35	R2	50	R2	15
1625-410	140008	Dist System - O/H Services	40	R2	40	R2	0
1625-501	140008	Underground Conduit	40	R2.5	40	R2.5	0
1625-510	140008	Dist System - Undrgrnd Cnduit	40	R2.5	40	R2.5	0
1625-610	140008	Dist System - Meters	30	R2	16	SQ	-14
1625-620	140008	Dist System - Meter Equip	30	R2	16	SQ	-14
1625-710	140008	Dist System - Sbstn EEquip	40	R2	40	S0	0
1625-720	140008	Dist System - Sbstn Buildings	55	R1	55	R1	0
1625-730	140008	Dist System- Substation Fences	20	SQ	30	R4	10
1625-815	140008	Dist System - Street Lights	40	R2	40	R2	0
1625-905	140008	Dist System - Line Trxformers	40	R2.5	35	R2.5	-5
1625-961	140008	Dist System - Sentinel Lights	30	L2	30	L2	0
		Main Transmission					
1635-300	140006	Main Trx - Poles & Fxtrs	65	R3	50	R3	-15
1635-304	140006	Main Trx - Brushing	50	R3	60	R3	10
1635-305	140006	Main Trx - Survey Costs	50	R2.5	60	R3	10
1635-402	140006	Main Trx - O/H Cndctrs/Poles	50	R3	60	R3	10
1635-404	140006	Main Trx - O/H Cndctrs/Towers	50	R3	60	R3	10
1635-710	140006	Main Trx - Sbstn Equip	54	S0	45	S0	-9
1635-720	140006	Main Trx - Sbstn Buildings	55	R1	55	R1	0
1635-730	140006	Main Trx - Sbstn Fences	20	R4	30	R4	10

YUKON ENERGY
COMPARISON OF LIFE PARAMETERS
AT DECEMBER 31, 2018

			Existing		Proposed		Difference
Asset Class ID	Old Function	Asset Class ID Description	Life	Iowa Curve	Life	Iowa Curve	Life
		Sub Transmission					
1640-300	140007	Sub Trx - Poles & Fxtrs	45	R3	50	R3	5
1640-301	140007	Sub Trx - Poles & Fxtrs Mnt Mn	12		12	SQ	0
1640-304	140007	Sub Trx - Brushing	50		60	R3	10
1640-306	140007	Sub Trx - Brushing Mnt Mn	12		12	SQ	0
1640-307	140007	Sub Trx - Survey Costs Mnt Mn	12		12	SQ	0
1640-401	140007	Sub Trx - O/H Cndctrs	45	R3	60	R3	15
1640-405	140007	Sub Trx - Undrgrnd Cndctrs/Cnd	45	S3	45	S3	0
1640-407	140007	Sub Trx - O/H Cndctrs Mnt Mn	12		12	SQ	0
1640-710	140007	Sub Trx - Sbstn EEquip	40		45	S0	5
1640-711	140007	Sub Trx - Sbstn Equips Mnt Mn	12		12	SQ	0
		Buildings & Other Equipment					
1645-110	140009	Bldg&Otr - Survey Costs Land	50	R2	50	R2	0
1645-200	140009	Bldg&Otr-Strctrs/Imprvmnt Hyd	40	R2.5	50	R2	10
1645-201	140009	Bldg&Otr - Building & Imprvmnt	55	R1	50	R2	-5
1645-202	140009	Bldg&Otr-Office Frntr & Equip	20	SQ	20	SQ	0
1645-210	140009	Bldg&Otr - Comm Site Towers	30	R2	40	R2	10
1645-220	140009	Bldg&Otr - Comm Site Fences	20	R4	30	R4	10
1645-320	140009	Bldg&Otr - Computer Hardware	5	SQ	7	SQ	2
1645-330	140009	Bldg&Otr - Computer Software	5	SQ	5	SQ	0
1645-505	140009	Bldg&Otr - Tools & Instruments	20	SQ	20	SQ	0
1645-507	140009	Bldg&Otr - Wind Mntrng Equip	20	SQ	15	SQ	-5
1645-605	140009	Bldg&Otr - Comm Equip	20	L4	20	L4	0
1645-810	140009	Bldg&Otr - Houses/Land	30	R3	40	R3	10
1645-820	140009	Bldg&Otr - Houses/Buildings	30	R3	40	R3	10
		Transportation					
1650-411	140014	Trxptn - Utility Vehicles	7	L2	8	L2	1
1650-412	140014	Trxptn - Sedans & Stn Wagons	7	L2	11	S4	4
1650-420	140014	Trxptn - Trucks & Pole Trailer	31	R1.5	25	R1.5	-6
1650-430	140014	Trxptn -Pole Trailer>10,000lbs	25	R1.5	25	R1.5	0
1650-440	140014	Trxptn - Trucks 3/4 to 2 Ton	10	R2	9	L2	-1
1650-470	140014	Trxptn - Trucks > 3Tons	20	R3	20	R3	0
1650-490	140014	Trxptn - Foremost	25		20	R3	-5
		Critical Spares					
1655-750		Critical Spares	NA		NA	NA	NA
		LNG					
1665-200		Structures and Improverments	72		72	R2	0
1665-403		Fuel Holders	32		60	R2	28
1665-500		LNG Generator	40		40	SQ	0
1665-600		Accessory Electric Equipment	45		45	R2	0
1665-700		Miscellanours Power Plant Equi	30		30	R2	0
1665-730		LNG Fence	30		30	R2	0

Generation Asset Components

Minutes ASL IFRS Compliant
Wednesday May 30th 2019
Consultant: Dane Watson
Asset & Operations: Darryl Martin, Sheri Huminuk, Amanda Sanburn, Alanda Penner
Generation Line Staff: Kathy Allard, Rejan Sayak, Eric See-Toh

The line went away and added lives to each of their asset components and included a proposed asset class which consists of many new classes.

Another meeting will be required to discuss the categorization of equipment and the lives assigned to the equipment

Dams, Dykes & Weirs W1*A 125 Years

- It was discussed that concrete dams and dykes have a similar life to embankment dams and dykes with a 125 year life or infinite life. Subsequent to the meeting the line split dams and dykes into three categories:
    - Concrete (125)
    - Embankment (80)
    - Timber (40)
- It was discussed that a refurbishment key is required for dam and dykes to capture costs of capital work completed to ensure asset reaches it's expected end of life
    - Grouting programs
    - Anchor replacements
    - Rip rap
    - Aggregate Additions
- Subsequent to the meeting the line thought it may be useful to have a refurbishment key by structure type as this capital work lasts different lives depending on the composition of the dam/dyke *(see excel spreadsheet) and would be for capital work such as anchoring and adding aggregate as well as a Sustainment key for capital work that has a shorter life than the refurbishment key and would include work such as grouting and rip rap.
- Refurbishment Key Recommendation
    - Concrete Dam/Dyke Refurbishment 75 years (this needs to be reviewed as the life of the dam is only 125)
    - Embankment Dam/Dyke Refurbishment 40 years
    - Timber Dam/Dyke Refurbishment 30 Years
- Sustainment Key Recommendation (such as Grouting Programs
    - Concrete Dam/Dyke Sustainment 30 Years
    - Embankment Dam/Dyke Sustainment 20 Years
    - Timber Dam/Dyke Sustainment 10 Years
- Weirs have a different life than dams and dykes and also have a different failure rate therefore, it was recommended to split our weirs. Weirs have a life of approximately 50 years.
- The line subsequently is recommending to move the area improvements of the forebay and tailrace to Roads, Parking Lots and Grounds
- The line has also recommended capitalizing lighting to Support Buildings for Sustainment as it has a much shorter life. To be discussed further

- Dams and Dyke instrumentation has a different life than the actual dam and it is dependent on what type of instrumentation it is (digital/analog/mechanical) - recommendation is to move all instrumentation out of the Dam Key and in to either
    - Digital Instrumentation (25 Year Life)
    - Analog Instrumentation (50 Year Life)
    - Mechanical Instrumentation (100 Year Life - should this be 125?)

Powerhouse W1*B 125 Years

- It was discussed that the powerhouse substructure, intake structure and other miscellaneous concrete has the same life as the dam and dykes and is built to the same high standard and quality
- However, the superstructure is not integral to the dams and therefore, is not built to the same standards and has a shorter life (recommended 80 year) similar to that of support buildings

Powerhouse Renovations W1*C 40 Years

- Renovation key still required but need to discuss in more detail
- Currently the life is 40 years but line is no recommending 20 (Support Building Additions for Sustainment)

Spillway W1*D 80 Years

- If the spillway was broken into multiple components than the life of the spillway would be similar to the life of a concrete dam. See below for recommended split on spillway - to be discussed

W1*D	**80**	Spillway	**Spillway and intake Gate Hoist Hydraulic Components**	70	Pressure systems
			Spillway and Intake Gate Hoist Mechanical Components	80	Mechanical Auxilary Systems
			Spillway Digital Manufacturer's Instrumentation	25	Digital Instrument, Control and Protection
			Spillway Manufacturer's Electrical High Voltage	70	Electrical Power Distribution Systems High Voltage
			Spillway Manufacturer's Electrical Low Voltage	40	Electrical Power Distribution Systems Low Voltage
			Spillway Manufacturer's Instrumentation Analog	50	Analog Instrument, Control and Protection
			Spillway Manufacturer's Instrumentation Mechanical	100	Mechanical Instrument, Control and Protection
			Spillway Substructure	125	Concrete Dams, Dykes, Spillway, Powerhouse
			Spillway Super Structure	80	Support Building and Super Structures

Water Control Systems W1*E 65 Years

- The main water control system has an 80 year life and consists of:
    - Bulkheads, embedments, gains, gates, stop logs and trash logs
- The gate hoists have a different life depending on if it is hydraulic (70 years) or mechanical (80 years)
    - Mechanics of hydraulic system might only last 40 years
- Capitalize instrumentation and control into its own component as it has a different life than the water control support
    - Analog
    - Digital
    - Mechanical

- Capitalize Additions to the water control system to a sustainment key which would include:
    - Finishings
    - Rollers
    - Seals
    - Sills
- The gain and gate heating system is more similar in life to the electrical power system (low voltage) and should be capitalized with these like life assets (40 years)

Roads, Parking Lots, Drainage & Physical Security W1*F 50 Years

- Physical security and cyber security have different lives from area improvements to roads, parking lots and grounds.
    - Physical security (fences, outdoor lighting, signage) 50 year life
    - Cyber security (hardware and software) 15 year life
    - Roads, parking lots and grounds 80 year life
        - Should this not be the same as the site itself - 125 years?

Turbines & Generators W1*G 60 Years

- Discussed splitting out Turbines from Generators
- Subsequently the line identified the following possible components which they can speak to in July - see attached document

- **Turbine Components**
    - Turbine Runner Variable Blade & Hub (35 Years)
    - Turbine Runner Stationary Blade & Hub (100 Years)
    - Turbine Control Ring Additions for Sustainment (Bushings / Linkages) (50 Years)
- **Generator Components**
    - Generator Frame (100 Years)
    - Generator Core (75 Years
    - Generator Windings (45 Years)
- **Turbine & Generator Components**
    - Turbine & Generator Structural & Embedments (100 Years)
        - Bearing Hoist
        - Discharge Ring
        - Draft Tube Liner
        - Head Cover
        - Shafts
        - Stay Ring
        - Stay Vanes
        - Thrust Guide Bearing
        - Turbine Control Ring
        - Upper and Lower Brackets

- Digital Instrument, Control & Protection (25 Years)
- Analog Instrument Control & Protection (50 Years)
- Mechanical Instrument Control & Protection (100)
- Mechanical Auxiliary Systems (80 Years)
- Electrical Power Distribution Systems Low Voltage (40 Years)

Governors & Excitation System W1*H 50 Years

- Discussed separating out the governor pressure pumping system the line has indicated a life of 70 years
- Discussed splitting the Governor System (controls) between analog, digital and mechanical. Again the line has recommended moving all controls into one depreciation key
  - Digital (25 Years)
  - Analog (50 Years)
  - Mechanical (100 Years)
- The line is also recommending moving Excitation System to Electrical Power Distribution Systems High Voltage with a life of 70 years

A/C Electrical Power System excluding AC Switchyard W1*P 55 Years

- Discussed splitting digital and analog equipment
  - Digital (25 Years) - Digital Current Transformers and Potential Transformers
  - Analog (50 Years) - Analog Current Transformers and Potential Transformers
- The line is recommending splitting the electrical equipment into low voltage and high voltage as their lives are different - to be discussed. We would need a retirement strategy that would support the capitalization of these costs and the retirement of these costs.
- The line is also recommending that cable trays should be part of the support buildings which is consistent with stations.

Instrument and Control - DC Electrical System W1*Q 25 Years

- Disused splitting the equipment into digital, analog and mechanical as their lives are very different
  - Digital (25 Years)
  - Analog (50 Years)
  - Mechanical (100 Years)
- The line has also recommended moving low voltage electrical power equipment such as Fuses, breakers, inverters, UPS, DC Panels to a new component Electrical Power Distribution Systems Low Voltage. They have put batteries into this category but based on discussion batteries and chargers have a shorter than 40 year life and should be consistent with the other asset classes.

Auxiliary Station Processes W1*R 50 Years

- Again discussed moving all instrumentation and control to its own components based on digital, analog, or mechanical
    - Digital (25 Years)
    - Analog (50 Years)
    - Mechanical (100 Years)
- The line has identified 2 new components:
    - Pressure System (70 years) and includes Compressed air, fire suppression, water supply, retention system, hydraulic systems etc.
    - Mechanical Auxiliary System (80 years) includes heating and ventilating, mechanical cranes and hoists, sewage and water systems, steam generators, general piping etc.
        - The line put fire protection in this bucket and we discussed that it only lasts approximately 30 years - follow up

Support Buildings W1*V 65/80 Years

- Discussed splitting this component into 2
    - Mechanical Auxiliary Systems
    - Support Buildings and Super Structures
- The line has not commented on the difference in life between these two
- Majority of the asset retirements book to this key are related to renovations (interior) and roofing and mechanical systems such as HVAC. Might want to consider splitting the substructure from the superstructure

Support Building Renovations W1*W 20 Years

- This needs to be discussed in more detail

Did not discuss:

- License Renewals W1*L
- Operational Employment Fund W1*Y
- Community Development Costs W1*Z

Hydraulic Generation Asset Components Meeting #2

Minutes ASL IFRS Compliant
Wednesday July 18th, 2019
Consultant: Dane Watson
Asset & Operations: Sheri Huminuk, Michelle Hooper, Barbara Harvey, Alanda Penner
Generation Line Staff: Kathy Allard, Rejan Sayak, Eric See-Toh

W1*A Dams, Dykes, & Weirs 125 Years

- Consider splitting this key between structure type: Concrete, Embankment, Timber
- Ensure the controls are not capitalized to this category but capitalized to Electronic Equipment
    - Analog/Digital/Mechanical
- Concrete resurfacing is sometimes required and should consider a new "sustainment key" - 30 year life
- Anchoring – this is not done at every location but should be capitalized as an addition with no retirement as it provides additional support and is an addition to the structure

New Key for Dams, Dyke's Weirs Sustainment – life needs to be determined

- Grouting Programs
- Resurfacing Programs

W1*B Powerhouse 125 Years

- There was discussion of combining powerhouse concrete with all concrete
- Finance recommends keeping powerhouse separate as it is it's own and distinguishable asset
- There was discussion of splitting the administrative portion of the powerhouse from the actual powerhouse but this might not be material enough or administratively possible

W1*C Powerhouse Renovations 40 Years

- Might make sense to create multiple renovation keys
    - Short life 20 years
    - Mid life 40 years
    - Longer life reno 80 years

W1*D Spillway 80 Years

- Discussed splitting the sub structure from the superstructure
- The line was initially thinking of combining all concrete into one key but administratively this would be difficult for future retirements. Finance again recommends keeping spillway separate.
- This will need to be reviewed in more detail to see if it is material enough to split substructure from superstructure

W1*E Water Control System 65 Years

- Controls should be in Electronic Equipment (Analog/Digital/Mechanical)
- No need to split Pressure System as it is not material enough
- Might be necessary to create a "sustainment key" for work that is done at approximately half life such as finishing's, rollers, seals, sills, etc.
- Gain and Gate Heating is more like electrical apparatus rather than water control

W1*F Road, Trails, Bridges 80 Years

- Consider splitting this into two keys one for assets that last approximately 50 years and are related to physical security and safety and one that is longer life specifically the roads and parking areas.
- Physical Security and Safety such as:
    - Fences
    - Gates
    - Lighting
- Might also be necessary to create a key for re-surfacing as this is usually done mid life in some areas

W1*G Turbines & Generators

- Considering splitting the key into multiple keys
    - Turbines and Generators Structural Embedment 100 year life
    - Turbine Fixed Blade – 100 year life
    - Turbine Variable Blade – 35 year life
    - Generator Frames – 100 year life
    - Generator Core – 75 year life
    - Generator Windings - 45 year life

W1*H Governors & Excitation Systems

- Line is recommending moving excitation system to Electronic Equipment based on:
    - Analog/Digital/Mechanical

W1*P AC Electrical 55 Years

- The line is recommending the following keys:
- CT's & PT's be moved to digital/analog potential new key
- Dry TF's be combined with low voltage equipment
- Oil filled TF's be combined with high voltage equipment
- Low voltage equipment be split such as breakers, disconnects, switches, panels etc – 40 year life
- High voltage equipment similar equipment to low voltage just more complex – 70 year life

W1*Q Instrumentation and Control

- 3 distinct categories to this group
    - Analog – 50 years
    - Digital – 25 years
    - Mechanical – 100 years
- In addition, we may want to put batteries and chargers in their own category as well – 20 year life

W1*R Auxiliary Station Processes 50 Years

- Many different systems in this key with varying lives. Based on the lines recommended comments they have suggested splitting this key into a mechanical key (80 years) and a pressure key (70 years). Based on a previous meeting the following lives were discussed:
    - Domestic Water Systems – some have a 20 year life
    - Fire Protection Systems – 35-40 years
    - Compressed Air Systems – 20-25 years
    - Oil and Fuel Systems – 40 years
- We need to review our retirements to determine what our actual lives are

W1*V Support Building and Support Building Renovations W1*W

- Should follow the other operating groups for consistency

IFRS Compliant ASL Depreciation Study

Manitoba Hydro Proposed Generation Components:

This document combines meeting minutes from May/July 2019 with additional information provide by Generation Line Management

July 29, 2020 Sheri Huminuk, Michelle Hooper, Amanda Sanburn, Kathy Allard, Rejan Sayak

Aug 6, 2020 Dane, Sheri & Michelle review & comments in blue text

Dams Dykes & Weirs (11A /W1*A)**

Propose the following:

- Split Dams, Dykes & Weirs account into:
    - Concrete Dams, Dykes, & Substructures - 125 years
        - Includes spillway & powerhouse substructures – below ground water retaining
    - Embankment Dams & Dykes – 80 years
    - Timber Dams & Dykes – 40 years
    - Weirs – 50 years
        - Note: Confirmed that life expectancy of a Weir is approximately 50 not 75
- Introduce Refurbishment components:
    - Concrete Dams & Dykes Refurbishment – 75 years
    - Embankment Dams & Dykes Refurbishment – 40 years
    - Timber Dams & Dykes Refurbishment – 30 years
    - Weirs Refurbishment – 25 years
- Introduce Sustainment components (Amortization Method):
    - Concrete Dams & Dykes Additions for Sustainment – 30 years
    - Embankment Dams & Dykes Additions for Sustainment – 20 years
    - Timber Dams & Dykes Additions for Sustainment – 10 years
    - Weirs Additions for Sustainment – 10 years
- Reallocate & combine area improvements (forebay & tailrace) with Roads, Grounds & Site Security (11**F)
- Reallocate & combine shoreline protection with Roads, Grounds & Site Security (11**F) as these costs are not related to the Dams/Dykes/Weirs. Note: Majority of cost is to purchase land that is in the risk of flooding and therefore has no value as land hence fits better with grounds.

Questions/Comments/Action items:

- What type of work will fall into the “refurbishment” component and will there be retirements. Anchoring identified as a refurbishment but would be an addition only with no retirement at time of install. If we don’t have anything expected to require retirement could leave in the original account and allow the terminal date to take care of the shorter life expectancy.

- MHydro to analyze additions to determine what type of activity would fall into each category – may need to revisit the 3 way split if we are unable to identify costs for "refurbishment".
- If we keep the "refurbishment" accounts, may have to revisit life expectancy when determine nature & timing of adds to these accounts.

Powerhouse (11B / W1*B) & Powerhouse Renovations (11**C / W1*C)**

Propose the following split:

- Split powerhouse superstructure & substructure (below ground water retaining components - intake, tailrace, service bay etc.) and reallocate to other generation components (Powerhouse accounts to be eliminated)
  - Reallocate & combine powerhouse substructure (below ground water retaining structures) with Concrete Dams (11**A - 125 Years)
  - Reallocate & combine powerhouse superstructure to Buildings (11**X/W)
    - Includes entire Thermal Powerhouse as there are no water retaining structures

Questions/Comments/Action items:

- Dane is comfortable with this approach

Spillway (11D / W1*D)**

Propose the following:

- Split into spillway substructure and spillway superstructure and reallocate into other Generation components (Spillway account to be eliminated)
  - Reallocate & combine spillway substructure with Concrete Dams, Dykes & Substructures
  - Reallocate & combine spillway superstructure with Buildings and Superstructures

Questions/Comments/Action items:

- Not sure that it makes sense to combine the substructures with the main concrete dams account. We have replaced some spillways well before 125 years of life, so not sure it makes sense to lump this in with the 125 year account. From cursory review of assets there have been some deck refurbishment and some spillway anchoring.
- Also not sure we have ever done spillway superstructure work independently from a full spillway replacement
- Don't think we should abandon this account – may still make sense to introduce refurb and/or sustainment – need to review activity to determine what makes sense

Water Control Systems (11E / W1*E)**

Propose the following split:

- Water Control Support – 80 years
- Water Control Additions for Sustainment – 40 years
- Reallocate & combine hoist mechanical components with Mechanical Auxiliary Systems (see 11**R)
- Reallocate & combine hoist hydraulic components with Pressure Systems (see 11**R)

Questions/Comments/Action items:

- Dane ok with the proposed sub-componentization

Roads, Parking Lots, Drainage & Physical Security (11 F / W1*F)**

The minutes suggesting splitting physical security from area improvements however, the physical security represents fencing and generally has the same life of area improvements.

Propose the following:

- Rename account to "Roads, Grounds & Site Security" to better reflect the contained assets after reallocation of area improvements and shoreline protection costs from 11**A
- Review account contents and reallocate any building related physical security assets to building accounts (eg. card access, windows, doors)

Questions/Comments/Action items:

- Confirming that physical security in this context does not include electronics, just fences, gates, & floating barriers – i.e. booms

Turbines & Generators (11G / W1*G)**

Propose the following split:

- Turbines and Generators Structural & Embedments 100 year life
- Turbines - Fixed Blade – 100 year life
- Turbines - Variable Blade – 35 year life
- Turbine Additions for Sustainment – 50 Years
    - Eg. Bushings / Linkages/Control Ring/Bearings/Servo Motor
- Generator Frames & Core – 75 Years
- Generator Windings - 45 year life

Note: Industry comparatives – generally a shorter life for these components however MH has stringent maintenance programs

Questions/Comments/Action items:

- Confirmed that controls are not in this account – they are with instrumentation & control

- Does it make sense that the structural component for T&G is less than the 125 for concrete dams? Unless there is a need & history for rebuild of structures & embedments may make sense to set life to match concrete dams
- Do the two turbine accounts include the entire turbine or just the blade, if just the blade, where is the shaft and other main components? Should these be named "Variable Blade Turbines" & "Fixed-Blade Turbines"
- Where does re-runnering work fall?

Governors & Excitation Systems (11H / W1*H)**

Propose the following:

- Split governors & excitation and reallocate to other generation components (Governors & Excitation account to be eliminated)
- Reallocate & combine the governor pressure pumping system with Pressure Systems (see 11**R)
- Reallocate & combine governors with applicable Instrumentation, Control & Protection components (see 11**Q)
- Reallocate & combine excitation systems with Electrical Power Systems High Voltage (see 11**P)

Questions/Comments/Action items:

- Proposed split for governors makes sense
- Why are we proposing to combine excitation systems with Electrical Power High Voltage? It may make more sense to group these with Generators and have a "Generator Excitation Systems"

A/C Electrical Power Systems (11P / W1*P)**

Propose the following split:

- Generating Station Electrical Systems – High Voltage – 70 years
- Generating Station Electrical Systems – Low Voltage – 40 years

Questions/Comments/Action items:

- Dane ok with this break down, but need a definition that clearly defines high vs low.
- May make sense to split out the step-up transformers into a separate class due to high materiality

Instrumentation Control & DC Systems (11Q / W1*Q)**

Propose the following split:

- Mechanical Instrumentation, Control & Protection – 100 years

- Analog Instrumentation, Control & Protection - 50 years
- Digital Instrumentation, Control & Protection - 25 years
- Backup Power Systems (batteries, chargers, inverters, fuses, UPS) – 20 years

Questions/Comments/Action items:

- Dane agrees this break down makes sense

Auxiliary Station Processes (11R / W1*R)**

Propose the following split:

- Mechanical Auxiliary Systems – 80 years
- Pressure Systems – 70 years

Questions/Comments/Action items:

- The split in concept makes sense but need to understand the rationale behind 80 vs 70 years

Support Buildings (11X / W1*V) & Support Building Renovations (11**W/W1*W)**
Propose rename accounts to "Buildings & Superstructures" with the following split. Accounts will contain all site buildings including powerhouse & spillway superstructures (above ground portion that does not retain water):

- Buildings & Superstructures – Long (80 years?)
- Buildings & Superstructures Refurbishment – Medium (40 years?)
- Buildings & Superstructures Sustainment – Short (20 years? – Amortization Method)

Note: Life expectancy & component labeling (i.e. Long/Refurbishment/Sustainment) should be reviewed for consistency with sub-componentization of administrative buildings.

Questions/Comments/Action items:

- Agreed to park the buildings section until sub-components for admin/general plant buildings have been finalized and then apply to Generation buildings - may need to have a separate large concrete building category that may have a longer life than the "long" for general facilities

Thermal – some additional components not present in Hydraulic:

- **Steam Generation** – only have at Selkirk and have announced publicly that will be decommissioning, so likely makes sense to remove Selkirk GS entirely from scope.
- **Combustion Turbines** @ Brandon GS – Can this be left as a single component or do we need to sub-componentize?
- **Combustion Turbine Overhaul** @ Brandon GS (no $ as these have not yet hit first overhaul)

- For Brandon CT, the existing T&G account likely contains generators only and no turbines needed when we have a CT.
- For CT also may have some different types of auxiliary equipment that would need different treatment than for hydraulic GS's – need to review nature of equipment before can make any conclusion.
- Is there a separate handbook for Thermal?

Diesel Generation:

- We have four small remote communities served by diesel – off grid communities
- Also need handbook for Diesel to review

Next steps

- We can & should proceed with work to sub-componentize Hydraulic assets – some adjustment may be necessary as we work through the process.
- Need to provide asset handbook info for Thermal & Diesel for Dane to consider separately

Diesel Generation Asset Components

Minutes ASL IFRS Compliant
Wednesday July 19th, 2019
Consultant: Dane Watson
Asset & Operations: Sheri Huminuk, Michelle Hooper
Diesel Generation Line Staff: Craig Lamothe

Diesel Buildings W15B 25 Year Life

- All sites have original buildings which are approaching the 25 – 30 year life which would indicate that this life needs to be extended as we do not have any intentions of full building replacements
- It was discussed that we should consider splitting out the building replacements into the renovation key such as roofs so that the future replacement would be in a shorter life key and not impact the life of the building
- This approach needs to be discussed in a little more detail and applied consistently across the asset classes

Diesel Building Renovations W15C 15 Year Life (Amortization)

- We have incurred minor building renovations on the building to date
- This life does not quite make sense in conjunction with the life of the building – we should have at least a 40 year life on the building if we intend to do renovations that will last 15 years

Diesel Engines & Generators Overhauls W15M 4 Year Life (Amortization)

- This key is no longer used once the overhaul threshold was set at $2M as diesel overhauls do not meet the minimum threshold
- We did not further discuss this asset component as the costs capitalized to date were immaterial

Diesel Engines & Generators W15N 22 Year Life

- Engines and generators are replaced together, and life seems reasonable

Diesel Accessory Station Equipment W15Q 20 Year Life

- This depreciation key captures everything else at the site that does not specifically fall into one of the other specific asset components
    - This asset component needs to be reviewed for to determine what has been capitalized to this account and what breakdown should be applied for Shorter lived assets versus longer lived asset
    - Fire & Control systems have shorter life
    - Heat recovery systems ~ 15 years

  - Bus, cable, transformers, breakers ~ 40 years
  - Manitoba Hydro to review equipment in this component

Diesel Fuel Storage & Handling W15T 25 Year Life

- There is a 2-year supply of fuel on hand due to the risk of winter roads not freezing
- Equipment is in good shape at all sites
- Account includes tanks, piping & pumps, dykes & dyke liners

Transmission Asset Components

Minutes ASL IFRS Compliant
Wednesday May 29th, 2019
Consultant: Dane Watson
Asset & Operations: Darryl Martin, Sheri Huminuk, Amanda Sanburn, Alanda Penner
Transmission Line Staff: John Kell, Roberta Radons

Transmission Metal Towers W20G 85 Years

- There is no difference between the types of tower structures (tubular, self-supporting or guyed steel)
- Changes are driven by capacity not by life
- Approximately 20% of the structure is foundation
- We have not incurred foundation issues other than on Bipole I and II but this was site specific due to the area and not due to material or installation. This issue is not reflective of the transmission towers in the rest of the system
- Climate change may affect the life of structures but no changes to date
- Hard Fall Arrest (ladders, cages) have the same life as the rest of the towers
- Lighting has a shorter life but is immaterial in comparison to the structures themselves - replacement would be completed on operating

Transmission Poles and Fixtures W20J 55 Years

- Majority of the poles are wood with very few laminate poles
- Crossarms/spar arms/extension arms have a life of 40 years (max) due to water getting into the wood causing them to deteriorate and rot faster than the poles
- In 90's starting to install laminate crossarms when wood crossarms were replaced
    - Roberta Radons will confirm life of laminate cross arms
- Potentially we may see a difference in life of pole due to old growth poles vs new growth poles and differing cell structure of wood
    - Not enough data right now to support this statement

Transmission Ground Line Treating W20K 10 Years

- Currently our Ground Line Treatment Program follows the Integrated Pole Maintenance Program (IPM) which currently runs on a 12 year cycle per Scott Simons
    - Need to discuss if life needs to be changed from 10 to 12

Transmission Overhead Conductor and Attachments W20L 80 Years

- Discussed how insulators and insulator strings have a shorter life than conductor. They are probably closer to the life of poles and fixtures but are installed with the conductor. Insulators are generally replaced with other capital work and not on their own. As a result of this insulators are capitalized as an indirect cost to whatever other capital work is completed. Retirements wouldn't be booked at this point and would only be posted when conductor is replaced. The value of insulators is immaterial to the value of the conductor.
- Spacer dampers are replaced every 15 years and should be moved into a new depreciation key

    - This could be on an amortization method as they are continually changed
- Switches (3 way switches to tap off customer) these have a life of 35-45 years significantly different than the conductor
- Safety also has a different life than the conductor but is generally replaced as maintenance

Transmission Underground Cables & Devices W20M 45 Years

- This should be modelled around Distribution lives
    - Distribution U/G conductor has a life of 60 years for Primary cable and 44 years for Secondary cable
- In discussion with Allan Desserre we install XLPE transmission cable
- There is $18.7M in U/G cable and 8 locations where we have it installed

Transmission Roads, Trails and Bridges W20F 50 Years

- See list of assets - See Appendix A attached
- We should only have a list of assets that we maintain otherwise the cost should be an indirect charge to what we are installing such as tower (List of assets to be reviewed)
- Clean up of assets is required

Did Not Discuss

- W20Z Transmission Development Fund
- W21Z BiPole III Community Development Costs

Appendix A List of Transmission Roads, Trails & Bridges Assets

Asset	Sub	Capitalized on	Description	Acquis.val.	Accum.dep	Book val.
335258	4	05/31/2012	Transmission Roads, Trails & Bridges	452,903.09	-79,360.84	373,542.25
335258	5	12/31/2014	ADD D602F Access Bridge	65,951.72	-7,498.19	58,453.53
Location TLA1 Dorsey- Riel - Forbes (D603M and M602F)				**518,854.81**	**-86,859.03**	**431,995.78**
335268	4	03/31/1966	T/L KT 1&2 R.T.& B.:Grass River Bridge	80,566.54	-95,987.11	-15,420.57
335268	5	03/31/1969	T/L KT 1&2 R.T.& B.:WO 19794	8,807.13	-9,917.71	-1,110.58
335268	6	03/31/1979	T/L KT 1&2 R.T.& B.: WO 31039	25,571.04	-23,231.75	2,339.29
Location TLB100 Kelsey - Thompson (KT1 & KT2)				**114,944.71**	**-129,136.57**	**-14,191.86**
335300	4	03/31/2006	T/L KN36 RTB: Orig T-Line Construction	19,443.59	-6,004.65	13,438.94
Location TLB106 Kelsey - Kettle (KN36)				**19,443.59**	**-6,004.65**	**13,438.94**
335356	4	03/31/1998	T/L KN38 - R.T&B - Kelsey - Wasagamack	443,709.46	-207,684.87	236,024.59
335356	5	03/31/1998	T/L KN38 - R.T&B - Kelsey - Wasagamack	62,861.60	-29,401.89	33,459.71
335356	6	03/31/1999	T/L KN38 - R.T&B - Kelsey - Wasagamack	538,658.39	-241,224.62	297,433.77
335356	7	03/31/1999	T/L KN38 - R.T&B - Kelsey - Wasagamack	740,896.63	-331,779.95	409,116.68
335356	8	03/31/1999	T/L KN38 - R.T&B - Kelsey - Wasagamack	257,732.75	-115,335.32	142,397.43
335356	9	03/31/1999	T/L KN38 - R.T&B - Kelsey - Wasagamack	46,825.42	-20,953.25	25,872.17
335356	10	03/26/2016	ADD 30 HG61_552 Access Road	42,887.94	-3,729.84	39,158.10
Location TLB200 Kelsey - Wasagamack (KN38)				**2,133,572.19**	**-950,109.74**	**1,183,462.45**
335364	4	06/30/2018	C28R_190,191 str - Permanent Road	1,325,625.91	-50,085.75	1,275,540.16
Location TLC100 Cornwallis - Reston (C28R)				**1,325,625.91**	**-50,085.75**	**1,275,540.16**
335460	4	12/31/2018	G8P Access and Approaches	86,993.61	-2,370.58	84,623.03
Location TLC107 Grand Rapids - Ponton (G8P)				**86,993.61**	**-2,370.58**	**84,623.03**
335532	4	11/30/2014	ADD Build Culverts on ROW F10M_49	16,039.50	-1,862.38	14,177.12
Location TLC112A Overflowing River - Minitonas (F10M)				**16,039.50**	**-1,862.38**	**14,177.12**
335628	4	03/31/2008	T/L K21W/K22W RTB: T/L Re-Rate to 100C	450,971.22	-127,640.99	323,330.23
335628	5	04/30/2015	ADD Rennie River Bridge	33,633.93	-3,585.00	30,048.93
Location TLC122 Whiteshell - Kenora (K21W &K22W)				**484,605.15**	**-131,225.99**	**353,379.16**
335660	4	04/30/2015	P18H Access Road	16,152.98	-1,731.31	14,421.67
Location TLC127 Ponton - Herblet Lake (P18H)				**16,152.98**	**-1,731.31**	**14,421.67**
335748	4	12/31/2014	ADD Access Bridge - Sprague	137,219.04	-15,594.03	121,625.01

Location TLC135A Ridgeway - Little Fork U.S. (R50M)				**137,219.04**	**-15,594.03**	**121,625.01**
335796	4	03/31/1993	T/L R29H RT&B: Orig T-Line Construction	128,983.42	-76,018.81	52,964.61
Location TLC146 Virden - Reston (R29H)				**128,983.42**	**-76,018.81**	**52,964.61**
335844	4	03/31/2007	T/L S65R RTB: Orig T-Line Construction	236,590.29	-70,468.42	166,121.87
335844	5	03/31/2007	T/L S65R RTB: Orig T-Line Construction	9,193.08	-2,728.09	6,464.99
335844	6	03/31/2007	T/L S65R RTB: Orig T-Line Construction	18,473.72	-5,502.54	12,971.18
Location TLC205 Rosser - Silver (S65R)				**264,257.09**	**-78,699.05**	**185,558.04**
335860	4	03/31/2001	T/L D54C RTB: Orig T-Line Construction	162,963.84	-69,077.54	93,886.30
335860	5	03/31/2003	T/L D54C RTB: Orig T-Line Construction	18,104.55	-6,903.52	11,201.03
Location TLC207 Dorsey - Neepawa - Cornwallis (D54C)				**181,068.39**	**-75,981.06**	**105,087.33**
335884	4	07/31/2011	Transmission Roads, Trails & Bridges	1,525,792.40	-295,806.35	1,229,986.05
Location TLC211 Herblet-Ralls (H75P)				**1,525,792.40**	**-295,806.35**	**1,229,986.05**
335900	4	06/22/2012	Transmission Roads, Trails & Bridges	1,149,056.25	-195,000.97	954,055.28
Location TLC213 Wusk SS-Herblet Lk (W73H & W74H)				**1,149,056.25**	**-195,000.97**	**954,055.28**
337201	4	03/31/1923	TLD 124 - R-T&B - Seven Sisters - Transcona 2,5,6	4,981.56	-6,363.55	-1,381.99
337201	5	03/31/1930	TLD 124 - R-T&B - Seven Sisters - Transcona 2,5,6	7,539.35	-8,978.62	-1,439.27
Location TLD124 Seven Sisters - Transcona (ST2,ST5,ST6)				**12,520.91**	**-15,342.17**	**-2,821.26**
337217	4	03/31/1949	TLD125 - R.T. & B. - Whiteshell - Transcona	391.3	-485.38	-94.08
Location TLD125 Seven Sisters - Whiteshell (SW2,SW3)				**391.3**	**-485.38**	**-94.08**
337225	4	03/31/1949	TLD125 - R.T.&B. - Whiteshell - Transcona WT34	12,231.14	-14,972.64	-2,741.50
Location TLD125A Whiteshell - Transcona (WT34)				**12,231.14**	**-14,972.64**	**-2,741.50**
337233	4	03/31/1930	TLD127 - R.T.&B. - Transcona - St.Vital TV-1 &TV-2	1,768.87	-3,035.82	-1,266.95
337233	5	03/31/1989	TLD127 - R.T.&B. - Transcona - St.Vital TV-1 &TV-2	20,583.79	-12,619.42	7,964.37
Location TLD127 Transcona - St. Vital (TV1 & TV2)				**22,352.66**	**-15,655.24**	**6,697.42**
337241	4	03/31/2002	TLD131 R.T.&B Pine Falls Ahitele Lines PA-1 & PA-2	10,036.60	-4,085.69	5,950.91
Location TLD131 Pine Falls - Abitibi (PA1 & PA2)				**10,036.60**	**-4,085.69**	**5,950.91**
343815	1	01/31/2017	SV24 Tap Tyndall DSC Supply Civil **	76,589.46	-5,172.45	71,417.01
Location TLD139A Tap to Tyndall DSC (SV24 &TS44)				**76,589.46**	**-5,172.45**	**71,417.01**
337281	4	03/31/1930	T/L RH-6 R,T&B: Initial acquisition	249.88	-310	-60.12

Location TLD140 LaVerendrye - Harrow (YH33)				**249.88**	**-310**	**-60.12**
337305	4	09/30/2015	ADD RL1/RL2 115kV TL ROW Drainage Sys UG	231,151.21	-22,545.46	208,605.75
Location TLD140C Rosser - McPhillips (RL1,2,3)				**231,151.21**	**-22,545.46**	**208,605.75**
337313	4	03/31/1930	T/L VH-3 RT&B: Orig T-Line Construction	894.3	-1,109.43	-215.13
Location TLD141 St. Vital- Harrow-Scotland (VH1 & VS27)				**894.3**	**-1,109.43**	**-215.13**
337321	4	03/31/1930	T/L XV39 R.T.&B: Orig T-Line Construction	62.47	-77.49	-15.02
Location TLD141A Mohawk - St. Vital (XV39)				**62.47**	**-77.49**	**-15.02**
337353	4	03/31/1930	T/L YV5 RTB: tsf from D174	62.47	-77.49	-15.02
Location TLD147A LaVerendrye - St. Vital (YV5)				**62.47**	**-77.49**	**-15.02**
337377	4	03/31/1930	T/L XS49 RTB: Tsf from D127	249.88	-310	-60.12
Location TLD149 Mohawk - Scotland (XS49)				**249.88**	**-310**	**-60.12**
343076	4	07/31/2018	Transmission Roads,Trails,Bridges DNU*	0	-0.6	-0.6
Location TLD189 Pine Falls - Manigotagan 65kms (PQ95)				**0**	**-0.6**	**-0.6**
337604	4	03/31/1973	T/L BP1&BP2 RTB: Buler Lake	6,771.60	-6,800.15	-28.55
337604	5	03/31/1979	T/L BP1&BP2 RTB: 1979 ADD	24,925.14	-21,931.28	2,993.86
337604	6	03/31/1998	T/L BP1&BP2 RTB: Kettle River Bridge Repl	3,132.64	-1,473.46	1,659.18
337604	7	03/31/1998	T/L BP1&BP2 RTB: Kettle River Bridge Repl	610,492.17	-285,679.45	324,812.72
337604	8	05/31/2013	T/L BP1&BP2 RTB: Emergency Preparedness	129,132.82	-19,431.63	109,701.19
337604	9	07/31/2013	T/L BP1&BP2 RTB: Access Impr-Clearwater Bridge	3,246,623.77	-474,331.36	2,772,292.41
337604	10	11/30/2014	ADD BPI&II Bridge Plan/Design	68,555.73	-7,920.72	60,635.01
337604	11	11/30/2014	ADD BPI&II Bridge Rating	157,233.20	-18,147.83	139,085.37
Location TLE1 BP 1&2 Radisson-Dorsey (DC1-4)				**4,246,867.07**	**-835,715.88**	**3,411,151.19**
Company Code MH01 Manitoba Hydro				**12,716,268.39**	**-3,012,346.19**	**9,703,922.20**

Substations Asset Components

Minutes ASL IFRS Compliant
Wednesday May 29th, 2019
Consultant: Dane Watson
Asset & Operations: Darryl Martin, Sheri Huminuk, Amanda Sanburn, Alanda Penner
Stations Line Staff: Karim Abdel-Hadi & Colin McKenzie

Substation Buildings W30B 65 Years

- High level discussion 65 years seems reasonable. All building components should be reviewed and discussed with Dane to determine if any subcomponents should be pulled out of the building key due to a significantly different life (for example roofs don't last 65 years). All buildings should be consistent across the corporation (Substation/ Communication/ Administrative).

Substation Building Renovations W30C 20 Years

- Was not discussed with the line.
- To be discussed with Dane at a later time.

Substation Roads, Steel Structures & Civil Work W30F 50 Years

- Should this depreciation key match the life of the buildings?
    - Comment from Colin McKenzie is that many foundations encounter heaving due to our climate resulting in a shorter life than the buildings
- Ground grid is tested every 10 years and is usually replaced throughout the life of the station
    - Retirements related to ground grid will impact the life of the rest of the civil assets

Substation Poles & Fixtures W30J 45 Years

- Why do station poles have a significantly shorter life than distribution poles?
    - Colin McKenzie would have expected station poles to last the same life as Distribution poles (65 years)

Substation Power Transformers – AC W31R 50 Years

- We seem to getting a longer life than 50 years from our power transformers
- Shorter life could be a result of the bushing replacements as we are booking retirements against transformers at about mid life.
    - Might need to create a new key "Bushings"
    - Issue would be TF is purchased with bushings therefore would we book retirement out of TF key then capitalize replacement to bushing key?
    - Set up a standard % for bushings
    - Set new key up as an amortization key
    - How would we track this and get the information from the line?

Equipment	Replacement
Bushings	Capital

Core	Remove - Never replaced separately TF would be replaced
Conservator Tank	Replaced on O&M
Radiator	Capital
Cooling System/Cooling Fans	O&M
Pumps	O&M
Tapchanger	Capital only on our large station class TF otherwise TF replaced
Control Panel	O&M
Deluge	No comments made

- Currently we capitalize Distribution Service Centre Power Transformers to this key
    - We have only had DSC's in our system for approximately 12 years so we don't know the true life of the equipment
    - DSC's are built to the same standard as Station Class Transformers due to the winding configuration.
    - According to maintenance staff they have seen some faults to date but not enough to know if there is a difference in life

Substation Other Transformers & Regulation W31S 50 Years

- PT's have a life between 30-40 years
- Station Service TF's have an expected life of 40 years
- It is recommended that Grounding TF should be moved from other TF to Power TF as they are built to the same standard as station class TF and have the same life (60-65 years) whereas the smaller TF tend to have a shorter life. These TF's are mostly on our 24kV system and are Winnipeg Hydro acquired.
- Reactors have a shorter life due to their functionality approximately 30-40 years (shunt and smoothing both have same life)
- Capacitors are not a retirement unit in themselves they are charged to O&M
- Capacitor bank is capital and lasts approximately 25 years
- Bushings are replaced at approximately 30 years

Substation Interrupting Equipment W31T 50 Years

- Breakers have different lives based on the type of breaker
    - Bulk Oil are the most robust and have a life of 50-60 years
    - Most were installed in 1950-1960 which would indicate a life of closer to 60-70 years
    - SF6 breakers have no available parts and therefore have a shorter life approximately 30-40 years after they come to market (tour comment was they last approximately 25)
    - Vacuum are similar to SF6 with a life of approximately 35-40 years
- Reclosers are used more in a distribution station compared to a transmission station
- Circuit switchers are part of the capacitor bank and reactor configuration. It only has a life of approximately 10 years as it is constantly working
- Switchgear can incur many replacements throughout its life including PT's, controls, relays etc however, the entire switchgear will usually last 50 years and would be replaced at end of life

Other Station Equipment W31U 45 Years

- Can this component be broken into possibly 2 one which warrants retirements and one that is shorter lived that warrants an amortization method process
- Sheri to go through equipment with Karim and Colin to identify possible changes

Equipment	Expected Life	Part of Commissioning Certificate	Comments
Arresters	35	No	
Insulators	40	No	
Disconnects Ring Pull Gang Operated Gang Operated (MOD) - Motorized	50	??	Cutouts are part of Distribution System and are on our lines with pole mount TF's Disconnects Isolate Equipment in the Station
Cable/Conductor	40 - 45	No	
Power Fuses including assembly and fuse holder	40-50	Yes	
Buswork	Life of Station unless reconfiguration required	No	
Lighting	Generally located on the pole therefore, should have same life	No	Luminaire has a shorter life but should be replaced under operating
Air Compressors	10-15	No	These are becoming old technology and have been removed from most stations although they were installed at Riel
Air Dryer	30	No	This was not listed but where ever there is an air compressor their must be an air dryer to remove the moisture
Signage	Life of station unless changes required due to reconfiguration	No	This should be removed signage should be an indirect charge to the equipment being installed
Electric Panel	N/A	No	These are part of the building not the Station
Fire protection for equipment in AC station yard	N/A	No	We don't have any other station fire protection other than the deluge if there is a fire the fire department is called
Deluge system for AC equipment	Unknown	No	How often do we install deluge equipment after the initial build? Old equipment never had deluge so it was added after the fact
Grounding/ground wire/ground rods	50 years	No	
Fans		No	Part of the TF replaced under operating unless a TF refurb is done. Capitalized to W31R.
Motors		No	Part of the TF replaced under operating unless a TF refurb is done. Capitalized to W31R.
Zone box	Life of Station unless regulated to change due to safety	No	May see new terminology of zone boxes (isolation box)

Substation Electronic Equipment & Batteries W31V 25 Years

- Batteries have a 20 year life however the chargers generally have a longer life. Replacement can be together or separately.

The below equipment needs to be reviewed in detail to determine what their specific lives might be. Generation is assigning a life of 25 years to Digital, 50 years to Analog and 100 years to Mechanical equipment.

Colin McKenzie recommended talking to Dan Funk.

Equipment	Expected Life
Relays	
Meters TSM PSM PSA	
Alarm Panels	
Control Panels	
Annunciators	
RTU's	
HMI	
Teleprotection Equipment	
Electronic Security System (switchyard)	
SAS	
Transfer Trip Receiver	
PLC	

HVDC Asset Components

Minutes ASL IFRS Compliant
Wednesday May 29th, 2019
HVDC Asset Components
Consultant: Dane Watson
Asset & Operations: Darryl Martin, Sheri Huminuk, Amanda Sanburn, Alanda Penner
Communications Line Staff: Treffle Aussant, Kelvin Kent, Tour Dale Hollands & Dallas McDonald

Substation Buildings W30B 65 Years

- High level discussion 65 years seems reasonable. All building components should be reviewed and discussed with Dane to determine if any subcomponents should be pulled out of the building key due to a significantly different life (for example roofs don't last 65 years). All buildings should be consistent across the corporation (Substation/ Communication/ Administrative).

Substation Building Renovations W30C 20 Years

- Was not discussed with the line.
- To be discussed with Dane at a later time.

Substation Roads, Steel Structures & Civil Work W30F 50 Years

- Should this depreciation key match the life of the buildings?
- Why would the civil structures not last the longest life?

Synchronous Condensers & Transformers - HVDC W32M 65 Years

- Simplify list to include the following equipment as this should not be retired until equipment is physically removed from the station. Overhauls are now performed on this equipment every 20 years and those costs are capitalized to W32N with no retirement booked to W32M
    - Synchronous Condenser - 65 Years
    - Unit Transformer - 50 Years (similar life to a power transformer)
        - Bushings - 30 Years (could be a separate component)
    - Excitation Transformer - 50 Years

Synchronous Condenser Overhauls W32N 15 Years

- Overhauls now occur every 20 years
    - 1st overhaul - mechanical overhaul
    - 2nd overhaul - mechanical & electrical
- Some discussion was made to regarding retirements - should we be retiring from the W32M key when we are doing an overhaul as this is affects our life and triggers significant losses as the overhauls are done well before end of life.

Converter Equipment W32P 30 Years

- Converter valves - life of 30 years

    - Discuss with line what should be listed as a subcomponent - what would be retired throughout the life and what would not be retired
    - Manitoba Hydro only has Thyrsitor Valves in the system (Mercury Arc went out of service in 2004)
- Valve Cooling System - life of 30 years
    - Heat Exchangers - 30 years
    - Pumps/Motors - 15 Years
- DC Smoothing Reactor - life of 25-35 years
- Converter Transformers - life of 40 years
    - Tapchanger - ??
    - Bushings - life of 30 years

Serialized Equipment HVDV System W32S 30 Years

- Sync Measuring Devices - CT's and PT's 30 years per EPRI and 30-40 Years per AC discussions (50 years is the approved AC life)
- DC Filters - life of 20 years - equipment below can be replaced independently
    - Capacitor Bank
    - Resistors
    - Reactors
    - Support Structure
- DC Measuring Equipment - life of 30 years per EPRI
    - Voltage Dividers
    - CT's would have the same life as AC of 30 years
    - Transductor - 30 years per EPRI
- DC Wall Bushings - 30 year life

The only difference to this key would be DC Filters which have a 20 year life compared to a 30 year life.

Accessory Station Equipment HVDC System W32U 36 Years

- Outdoor Power Centers have a life of 35 years due to the outside elements
- Indoor Power Centers have a life of approximately 50 years
- DC Swithgear and buswork includes many different types of equipment which should be reviewed with the line for age (might be similar lives to AC system)

Electronic Equipment & Batteries W32V 25 Years

- Batteries have an approximate life of 20 years chargers are generally replaced at the same time
- Sync Controls - generally have 40 year life
    - Exciter System- comment was made that it should have the same life as the exciters in generation
    - Generation has reviewed its components and the life of the exciter depends on whether it is digital (25 years), analog (50 years) or mechanical (100 years)
        - HVDC only has Digital Exciters and 25 years seems reasonable
    - In addition, Generation is recommending splitting Excitation Main Power Supplies, Field Breakers, Exciter Bus work or cabling, Slip Rings in a new component with a 70 year life.

    - Per Kelvin field breakers have a life of approximately 40 years in HVDC. The other assets should be discussed as well.
- DC Controls & Protection 20 year life
- Valve Cooling Controls 20 year life

Distribution Asset Components

Manitoba Hydro IFRS ASL Depreciation Study
Meeting Minutes
May 28th, 2019
Dane Watson Alliance Consulting
Asset & Operations Accounting Darryl Martin, Sheri Huminuk, Amanda Sanburn
Distribution Line: Jeff Shabaga, Owen Preston

W41A Concrete Ductline 75 Years

- Three types of ductline in the system:
    - Clay
    - Metal
    - PVC
    - Pre-cast (new only one installation across Portage Avenue)
- Even though material is different life is all expected to be the same
- 75 years is still reasonable

W41B Manholes 75 Years

- Three types of manholes
    - Brick
    - Poured in place
    - Pre-cast
- The difference in age is not due to type of manhole but rather location based
    - Suburban manholes have an expected life of approximately 50-60 years
    - Urban manholes have an expected life of approximately 100 years
- Urban manholes have drainage and are tied into the sewer system which yields a higher life expectancy. Suburban manholes are not tied into the sewer system and therefore, flood which results in faster deterioration of the manhole.

W41C Concrete Ductline Refurbishment 30 Years

- After investigation into these assets there were only two capital projects which in fact were replacements and not refurbishments. Asset transfers will be completed.
- Recommend that this asset component be abandoned as we would never replace part of a ductline (roof/walls/floor) we would replace all components.

W41D Manhole Refurbishment 30 Years

- Owen Preston confirmed that 30 years is reasonable per email June 4, 2019

W41J 25kV Poles 65 Years

- Height of pole does not impact life of pole
- We don't have enough data to know if new poles (cell growth) have a different life than old poles
- Poles north of Flin Flon usually have a 90 year life (approximately 15% of pole population - 180,000 poles). This is due to climate and lower risk of damage
- There are XX number of CCA poles that need to be replaced early due to poor treating
- We have now implemented testing on poles when they are received from vendor
- When we replace conductor we replace poles - how can poles have a longer life than conductor or maybe conductor life needs to be increased?

W41K Ground Line Treating 12 Years

- Ground Line Treating occurs every 14 years
- This life should be changed from 12 to 14
- Amortization method of depreciation

W41L 25kV Conductor & Devices 60 Years

- When we replace conductor we replace poles - how can poles have a longer life than conductor or maybe conductor life needs to be increased?
- The following information is related to equipment that is capitalized to OH Line

Switches:

Bypass Switch: The function of these switches is to bypass equipment. These switches are settled to OH Conductor.

CIIC 03-07-44 valued at $1,450 2017

Other switches that settle to OH Conductor: Function is to open the line. There generally are no handles on these switches and have to be opened manually usually via a hotstick.

- Switch Disconnects (CIIC 01-93-11 valued at $400 2017)
- Cutouts (CIIC 27-66-27 valued at $58 2017)

- Dropouts (CIIC 27-66-35 valued at $130 2017)



- Insulators have a projected life of approximately 40 years
- Arresters have a projected life of approximately XX years

W41P U/G Primary 60 Years

- We have the following type of U/G primary cable in our system (includes sub transmission cable as well)

Type	MIN	Max
RI/PVCJ	1960	1970
RINJ CN	1960	1970
PILC	1955	2000
HPPT	1967	1967
LPOF	1970	1990
XLPE (SubT)	1970	2016
XLPE CCS (SubT)	1970	2016
XLPE CTS (SubT)	1970	2016
XLPE CN	1970	1986
XLPE CNJ	1970	1986
TRXLPE CTS	1986	2016
TRXLPE CN	1986	2016
TRXLPE CNJ	1986	2016
Unknown	1970	1986

- There is a difference in life between the different types of cable:
    - XLPE is 40

- TRXLPE is 50-60
- PILC is 60-80 (in conduit – well insulated)
- HPPT and LPOF is about 70 years
- RINJ and PVC are about 30 years

25kV U/G Cable & Devices Secondary W41P 44 Years

- Secondary cable has a shorter life than primary as a result of contamination incurred due to hand splicing of cable
- 44 years is an odd life
- Services are direct buried

25kV Serialized Overhead Equipment W41Q 45 Years

- Equipment lives vary

Equipment	Expected Life	Comments
Transformers	50	All TF are roughly the same life - run to fail low risk
Reclosers - Hydraulic	10	10 year replacement program
Reclosers – Electronic	Ask Jeff	There is a program to start serializing them
Switches	??	These tend to fail
Capacitors	40	Run to fail
Voltage Regulators	35-40	Shorter life as there are more moving parts
Auto booster	35-40	Just a different name for a regulator
Sectionalizer	50	Similar life to transformers

25kV Serialized Underground Equipment W41S 42 Years

- Equipment lives vary

Equipment	Expected Life	Comments
Padmount Transformers	40	
DC Switches	40	
Padmount Reclosers	40	Only in stations
Padmount Capacitors	40	Only
Padmount Regulators	40	Only in Stations

Padmount Auto Boosters	40	Different name for regulator

- Padmount TF's:
    - Power - 40 Year Life
    - Network - 50 Year Life
        - In Vaults last longer as they are not exposed to the elements (salt spray rusts out the cabinets)
        - They are not loaded any less
        - Very critical but only 50 TF's out of 50,000

24kV Services W41W 35 Years

- Capacity needs drives the change in services
- We need to improve our method for retiring services
    - Is there a difference between OH vs U/G service?
    - Very short distances
    - Capacity drives our OH conductor changes and pole change outs
    - No difference between OH vs U/G - failure mode is usually customer request to upgrade service

25kV Streetlights W41X 45 Years

- Currently LED replacement lights are being replaced under DSM
- Manitoba Hydro does not splice streetlight cable
- U/G cable is direct buried and not in conduit
- Use No.4 streetlight cable
- Life of streetlight asset sub components:
    - Luminaire- 20 years
    - Standards expected life is 60 years but depends on type
        - Aluminum and Galvanized steel last about 50-60 years
        - Concrete lasts 70 years
        - Steel lasts about 40 years
        - No difference between residential and roadway other than height
- The streetlight cable and the standard should have the same life

25kV Electronic Equipment W41V 10 Years

- Line fault indicators, line sensors, ice vision all have similar lives of 10 years (amortization method)

Electronic Meters W49V 15 Years

- Not discussed at this time

Meter Exchanges W41W 15 Years

- Not discussed at this time

Metering Transformers W49Z 50 Years

Not discussed at this time

Distribution Asset Components Meeting #2

Minutes ASL IFRS Compliant
Wednesday July 17th, 2019
Consultant: Dane Watson
Asset & Operations: Sheri Huminuk, Michelle Hooper, Amanda Sanburn
Distribution Line Staff: Jeff Shabaga

Poles & Attachments W41J 65 Years

- Cross arms, wood poles and steel poles all have very different lives so may need to break apart.
- Usually the pole is the driver of the replacement but sometimes the cross arms burn and need replacement prior to the pole being replaced. If this is a one off it is replaced under operating. If this is a program then they are capitalized.
- Northern poles have a longer life of approximately 90 years north of Flin Flon (15% of poles). This is a result of the poles being frozen for half of the year. Might be significant enough to move to separate key. This change may cause other pole lives to decrease as these are increasing life of other poles - 65-70 for non-northern, have been increasing life expectancy over last few depreciation studies. 35 years (2005) to 55 years (2010) to 65 years (2014).

Ground Line Treating W41K 12 Years Amortization

- Not discussed as this will be updated with Larry Kennedy based on new cycle.

Overhead Conductor W41L 60 Years

- Generally replaced only if capacity change or if poles are being replaced
- Insulators can be replaced under O+M if only a few changed out

Underground Cable & Devices Primary W41N 60 Years

- There are different lives of primary cable but it would be difficult to split this cable administratively
- There were different periods of time when we installed different types of cable so if split was required we would have to set up based on estimates.
- We have a program to inject primary cable with silicone to extend life, not all primary cable can be injected
- Get cable information from Jeff

Underground Cable & Devices Secondary W41P 44 Years

- Secondary cable runs from the transformer to the house/customer
- Should primary and secondary conductor be combined or is there a difference in life of cable?
- Secondary conductor does have a shorter life due to splicing and contamination
- Might make more sense to split conductor based on conductor type versus function
- Jeff to provide information on what types are being used for primary versus secondary

- Once we have a list of conductor/cable we would have to asses how much administration would be required to split to the many different types
- Per Briand Kenning thinner cable should have a similar life, there are not a ton of faults on these cables and not a lot of splicing fails. The lifespan = 50-60 years, cheaper, less insulation, lower voltage/higher current, aluminum. We have had issues with cross-link.
- Commercial secondary different from residential secondary.
- May make sense to drop this key and only have by type. check based on life,
- Might make sense to have one secondary key and several primary keys depending on life difference given by Brian Kenning

W41Q OH Serialized Equipment 45 Years (Pole Mounted)

- Replacing hydraulic reclosers with electronic reclosers (Jeff to look into new life of electronic ones)
- Electronic reclosers are inspected on 10 year cycle, but might be because we are phasing them out.
- No predictive asset maintenance on transformers because small dollar to replace and risk is small when they fail. Life or approx. 50 years and are run to failure. Have approx. 150K pole mount transformers in the system
- Capacitors approx. 40 year life
- Regulators & autoboosters approx. 35-40 year life
- Sectionalizers function like switch and run to fail. Approx 50 year life.
- Not good understanding of switches as switches feed underground so is it overhead / underground – confusion when capitalizing as to whether should be overhead or underground..
- Recommend name change from OH to Pole Mount and Underground to Padmount
- Transformer voltage doesn't significantly affect life. Aging on transformers is known (85%) and data in study is good, just need to do SAP work.
- 1980's and 1990's transformers were more poorly made (not as robust) so might be shortening lives.
- Larry might be showing different lives and we can check at the end of August.
- Age limiting factor is when they start failing and will react sooner to change-outs rather than waiting for them to start failing or becoming critical.

W41S Underground Serialized Equipment 42 Years (Pad Mounted)

- Padmount reclosers are not on same inspection cycle as overhead reclosers. Have padmount ACR's in DSC sites but they are part of stations. Don't reclose on underground fault. OH faults have 3 tries before call out crew.
- Cap Banks generally OH in station have very small amount of padmount in the system. Most padmounted equipment is DSCs which again are a part of station assets.

- Padmount transformer and padmount switches have a similar life because they do not operate that much.
- Manitoba Hydro has 50 network transformers (in downtown network) underground in vaults (for secondary network) - 50 years came from study and subject matter experts (SME).
- Last longer because they are not exposed to elements (snow/salt) but have similar loading to padmount. Rusted out transformer box means replace whole transformer. Refurbish old one at the shop (now retired and re-installed as new). Manitoba Hydro has approximately 50,000 padmount transformers. Network/padmount similar in cost. Network is looped so one can fail. Network inconsequential so no need to split out

W41W Service 35 Years

- Cable for services could be OH or UG and is capitalized to cable and not services
- The labour to install the service is charged to this account.
- OH = triplex cable and comes off secondary feed of line to house
- OH vs UG services have similar life because short stretch and slacked span. Study didn't include OH cable.
- Upgrade OH/UG services when capacity change requested by customer. Upgrade within 2 years Manitoba Hydro pays, over 2 years Customer contributes, but asset same.
- UG - issues dig-ins. Splice to fix because multiple services in one trench. OH easier to fix because 1 to 1 and can see. System settles costs directly based on CIIC code – therefore, this account only has labour

W41X Streetlights 45 Years

- Asset vintages based on estimate. Now have better information on vintages, but can't update for this study.
- Cabling has shorter life than other cabling due to contamination and dig-ins.
- LED conversion going to DSM but looking if should be moved back to physical assets.
- Lights/poles/cables are all captalized to the same key.
- HPS lasted approx 20 years (since 1997). Changed bulb standards every 20 years.
- Some issues with LED now, but might just be due to new technology or manufacturer defect.
- New LEDs being installed on old standards, so could shorten life of LEDs. Expecting 20 years based on HPS.
- When replacing LED luminaire also need to replace head
- Future replacement will only be the luminaire
- How much does new LED head cost
- New standard with everything is approximately $3500
- Don't just do arm, do standard with arm. Based on history, not a lot of retirements until new technology comes in.
- Jeff to provide information on different types.

- Might be able to put galvanized steel and steel together if not significant amount of steel ones.
- Concreate is newer version (decorative black ones), not a huge population, so might not be material to split out.
- Currently 70,000 streetlights.

W41V Electronic Equipment – Not discussed

Meters Asset Components

Minutes ASL IFRS Compliant
Wednesday July 19th, 2019
Consultant: Dane Watson
Asset & Operations: Sheri Huminuk, Michelle Hooper
Meters Line Staff: Trevor Buchberger, Rick Pawluk, Dave Kostecky

Electric Line of Business

- Meters fall under the Distribution Asset Class

Electronic Meters W49V 15 Years

- This account only includes the equipment and material related to meters. Installation is completed in Distribution Services account W41W
- 3 year warranty on meters
- Sampling is completed at years 10,8,6,4,2. If sample passes then it is sampled again at the next interval. If sample fails all meters are pulled and meters are fixed and will be installed at another location. Retirements only occur when meters are not fixable and are disposed of
- Manitoba Hydro does not have AMI
- Per meter shop staff, life seems low we seem to be experiencing approximately 30 year life out of electronic meters
- With large customers we sometimes have an early retirement but that is not the norm

Analog Meters W49Y 26 Years

- Last analog meters installed were around 2003 and we have had no new additions since then as these meters are obsolete
- These meters are not showing high failure rates but we are nearing the end of the program for meters installed in the late 70's and early 80's
- This account only includes the equipment and material related to analog meters

Meter Exchanges W49W 15 Years (Amortization Method)

- This account captures the cost of meter sampling and meter exchanges
- Although this is a 15 year amortization method we complete meter exchanges in the following interval: 10 years, 8 years, 6 years, 4 years and 2 years. If a sample passes at year 10 the meters are left in and are resampled at year 8 etc.

Metering Transformers W49Z 50 Years

- Revenue metering CT's only
- All types of transformers have the same life we are not experiencing issues with a specific vintage or brand

- Confirm that meter bases are charged to this account
    - [MHooper] For electric side of business the analog and electronic meters accounts include provision for an inventory of meter parts that includes bases and repair parts. Total investment is estimated and has been pro-rata allocated by vintage between analog and electronic meters. A proportionate amount of parts is retired along with monthly meter retirements and additional investment capitalized to current year to maintain the floating meter parts balance. Any miscellaneous parts costs in excess of that required to maintain the parts balance is redirected to the meter exchanges account. Likely some portion of the meter parts balances should be associated with metering transformers as well. We need to work with the meter shop folks to see if a better way can be found to account for these parts.

Gas Line of Business (was part of minutes but out of scope of Electric GRA)

Distribution Meter Purchase V49Y 20 Years

- All gas meters are charged to this key including the fittings, valves etc
- There are base meters and then electronic meters on top of the base meters
    - Turbine meters – 25 year life
    - Rotary meters – 40 year life
    - Ultrasonic meters – 28 year life
    - Electronic meters that sit on top of the base meters above
        - These have been installed only since around 2000 so don't have enough data to predict life
        - Lack of parts will cause of end of life for these type of meters
- A group of 13,000 meters were pulled due to a failing sample which was an anomaly and may have caused the shortened life. This should be reviewed with other depreciation consultant Larry Kennedy
- We have approximately 300,000 residential meters which cost approximately $75 and 15,000 commercial meters which cost approximately $1200 per meter
- Residential meters undergo sampling while commercial meters are replaced when they fail
- When meters are sampled they stay as plant in service and used at a different premise if ok
- Meters are only retired when they are not repairable and salvaged
- Sheldon and Rick are going to put together quantities of each type of meter to determine if we have a material amount of Rotary meters as they are the only ones with a significantly different life
- Confirm if this account includes the fittings etc – emailed Sheldon Rebillard Aug 26th

- Meters are installed under Distribution Regulators (474.00) account should be renamed to Regulators and Meter Installations

Meter Testing V49W 10 Year (Amortization)

Information below is from Rick Pawluk

- All “types or models” of gas meters have different testing cycles so the table below is from the Measurement Canada website showing all the meter type seal periods (highlighted sections are metering we have in our inventory).
- All metering that is purchased “New” would fall under Column lll – Initial Reverification Period.
- All reverified (repaired, calibrated & final tested) metering at the Meter Shop would fall under Column V; except for turbines they would still fall under Column lll.

Table 1: Volumetric meters

Column I	Column II	Column III	Column IV	Column V
Type	Subtype or note	Initial reverification period	Subsequent reverification period (until December 31, 2013)	Subsequent reverification period (effective January 1, 2014)
1. Diaphragm	Meters with rated air capacity ≥ 240 cubic ft/hour (6.8 m³/hr)	7 years	6 years	5 years
	Meters with rated air capacity < 240 cubic ft/hour (6.8 m³/hr)	Qualifying under 5.4: 10 years All others: 7 years	Qualifying under 5.4: 6 years All others: 6 years	Qualifying under 5.4: 8 years All others: 5 years
2. Rotary	Pressure body	20 years	17 years	16 years
3. Turbine	All types	6 years	5 years	4 years
4. Orifice	plates, fitting, tubes and flow conditioner	6 years	5 years	4 years
5. Ultrasonic	Ultrasonic gas meter	Qualifying under 5.4: 10 years All others: 6 years	Qualifying under 5.4: 6 years All others: 5 years	Qualifying under 5.4: 8 years All others: 4 years
6. Fluidic oscillation	All types	6 years	5 years	4 years
7. Vortex	All types	6 years	5 years	4 years
8. Cone-shaped differential pressure	All types	6 years	5 years	4 years

Communications Asset Components

Minutes ASL IFRS Compliant
Wednesday May 29th, 2019
Consultant: Dane Watson
Asset & Operations: Darryl Martin, Sheri Huminuk, Amanda Sanburn, Barbara Harvey
Communications Line Staff: Shell Crocket, Kevin Zinc, Chuck Isaak

Communication Buildings W50B 65 Years

- High level discussion 65 years seems reasonable. All building components should be reviewed and discussed with Dane to determine if any subcomponents should be pulled out of the building key due to a significantly different life (for example roofs don't last 65 years). All buildings should be consistent across the corporation (Substation/ Communication/ Administrative) with a possible exception to System Control and 360 Portage Avenues.

Communication Building Renovations W50C 20 Years

- Was not discussed with the line.
- To be discussed with Dane at a later time.

Building System Control Center W50D 75 Years

- Was not discussed with the line. Need to discuss with System Control staff.
- Longer life due to robust construction of building compared to other communication buildings.

Communication Towers W50G 60 Years

- Life seemed reasonable to line.
- Should foundations be broken out from towers are we seeing any issues with tower foundations
    - Sheri to confirm with the line.
- Cathodic Protection (anodes & rectifiers) last approximately 20-30 years and is newly installed on towers
- Double check what life we give to cathodic protection in other areas of the corporation
- Lighting on towers will not last 60 years
- Capital work may include tower strengthening due to capacity increases not failure of towers

Fibre Optic & Metallica Cable (OPS Outside Plant) W50H 35 Years

- We started to install fibre in 1980's and industry predicted a 40 year life for fibre
- Only fibre that has been salvaged to date was not due to fibre failing but due to poor installation of fibre.
- We started installing OPGW in early 1990's
- Should consider if OPGW should have same life as conductor (80 years for transmission OH Conductor) rather than fibre life of 35 years
- We do not have much ADSS in the system

Carrier Equipment W50J 20 Years

- Wavetraps should not be capitalized to carrier they should be capitalized to substations – other station equipment and have a life of 40 years (35-50)
- We will continue to use PLC technology and it will not be replaced by fibre. Life of 20 years for PLC seems reasonable.
- VHF has a life of approximately 15-17 years
- Standby power systems
    - Batteries should be pulled out of this account as they will be pulled out of substation other equipment as well. Currently the life is 20 years but if we move to different battery technology Lithium the life of the batteries will go down significantly.
    - Battery charges are not always replaced when the batteries are replaced and generally have a longer life than the batteries.
    - We have approximately $6-7M in backup generators. The larges being at 820 Taylor worth approximately $1.5M and approximately 40kW across the province at approx. $100,000. The life of the generators is approximately 40 years.
    - Microwave and Optical – the equipment listed in this component seems reasonable to all have a 20 year life per Chuck. He did comment that the first install was 1968 and change was driven by capacity changes.

Communication Operational IT Equipment W50K 5 Years

- This was not discussed

Mobile Radio, Telephone & Video Conferencing W50M 8 Years

- This was not discussed

Communication Operational Data Network W50N 8 Years

- Remove cell modems from this component and capitalize to Distribution/Subtransmission Electronic Equipment (W41V/W42V)
- Life for equipment in this component is reasonable based on discussion
- Cabling and wiring should be capitalized to the building and not to this key as they are integral to the building

Power System Control W50R 15 Year

- Need to discuss this with System Control (Rajita)
    - TFR 15 years
        - Are the TFR digital?
- According to Dane some of this equipment seems to be station related equipment and not communication equipment
- Why is this key 15 years and not 20 like stations
    - What is the driver behind the difference in life?

Facilities Asset Components

Minutes ASL IFRS Compliant
Wednesday July 17th, 2019
Consultant: Dane Watson
Asset & Operations: Sheri Huminuk, Michelle Hooper, Amanda Sanburn
Facilities Line Staff: Mark Pauls

Buildings General W70B 65 Year Life

- This account includes the original capitalization of all building costs for all types of buildings excluding 360 Portage Avenue
    - Concrete
    - Wood
    - Metal
    - Trailers
    - Sheds
    - Quonsets
- The renovations to these buildings are subsequently charged to W70C with an asset retirement booked to W70B.
- This process needs to be reviewed as renovation costs should originally be set up to a shorter life asset (roofs, HVAC etc)
- The following building components were reviewed for life:
    - Flooring/Interior finishes – approximately 20 years life
    - Electronic components - Fire detection, security – 10 year life
    - Heat exchangers and cooling towers – 15 year life
    - AC Units – 10-15 year life
    - Sewer / Water – 35-40 year life
    - Elevators – 35-40 year life
    - Boilers – 20/25 year life
    - Exterior finishes – concrete/metal/granite – 50-60 years
    - Structural – steel/concrete/foundation/substructure – 75 years industry standard
- The renovation key may need to be split into a longer life renovation and a shorter life renovation.
    - Manitoba Hydro to discuss and review assets
    - File was sent to Mark Pauls for quick review
- There was discussion of moving costs from the General Building Key to the Renovation Key so that first time asset retirements do not impact the life of the General Building. This process will be discussed with both Larry Kennedy and Dane Watson
- After much discussion on different types of buildings the substructure of all buildings regardless of type have a similar life

Fleet Asset Components

Minutes ASL IFRS Compliant
Wednesday July 17th, 2019
Consultant: Dane Watson
Asset & Operations: Sheri Huminuk, Michelle Hooper, Amanda Sanburn, Kyle Stewart
Fleet Line Staff: Doug Gray, Dan Melnyk

General Discussion

Fleet Services has $17 million dollars a year to spend on capital replacements. Currently the department is $43 million behind on replacements due to end of life

- Reducing size of fleet over the years
- Backlog in equipment replacement
- Operating cost are increasing significantly

Report was provided by Fleet Services and Kyle Stewart which summarizes the different types of vehicles in each depreciation key and optimum service life from vehicle type. This information was useful in understanding fleets long term goals but does not necessarily tie to the current purchase strategy due to capital constraints.

Passenger Vehicles W60E 11 Years

- Life seems reasonable based on vehicles in the category
- This is not fleets ideal life for passenger vehicles but we have been keeping them longer than expected

Light Truck W60F 12 Years

- Life seems reasonable based on vehicles in the category

Construction Vehicles W60H 23 Years

- There various vehicles in this category with very different lives. For example:
    - Forklift 12 years
    - Crane 20 years
    - Loader 15 years
- Generally replacement is based on engine hours and not necessarily years. Some of the equipment there is a correlation between years and engine hours but not for all equipment. For example cranes are used for tower work and can sit for long periods of time without use.
- This equipment doesn't tend to rust and is driven mainly by mechanics
- Dane suggested that it might make sense to split this category into 10, 15, 20 year lives depending on materiality

- Michelle sent data on this depreciation key to Dane to help identify the life of the units in this category. The ideal end of life is not necessarily the actual end of life

Large Soft Track Equipment W60I 27 Year

- Units in this category all have the same life

Trailers W60J 35 Years

- Generally, see 15-20 year lives from trailers but due to the wide assortment of trailers they can last significantly longer or shorter
- Provide information to Dane on trailer vintages so informed decision can be made on lives and materiality
- Michelle sent data on this depreciation key to Dane to help identify the life of the units in this category. The ideal end of life is not necessarily the actual end of life

Boats, Motors, ATV & Snowmobiles W60K 13 Year

- ATV's and Boat motors generally have an 8-year life
- Boats have approximately a 15 year life but there are only 50-100 units

Information Technology Equipment Asset Components

Minutes ASL IFRS Compliant
Wednesday July 17th, 2019
Consultant: Dane Watson
Asset & Operations: Sheri Huminuk, Michelle Hooper, Amanda Sanburn, Barbara Harvey
IT Line Staff: Shell Crocket, Mike Evans, Sandra Smilski, Glenn Harrison

Computer Equipment – W80K 5 Year Amortization

- Predominately personal computers and servers
- Computers and servers have different lives
- Personal computers generally have a 5 year life and are on a set replacement schedule
- Monitors used to be used until they failed but they are encountering compatibility issues with newer software so they are generally replaced after 7 years.
- Multifunctional Devices are usually 5 years but they will run last between 3-7 depending on amount of usage; printers 5 years
- Core network has a 7 year replacement but that is probably conservative
- Dane usually sees approximately 7-10 years for peers – it might be beneficial to pull network costs into a separate component at approximately 8 years, similar to the Operational Data Network account in the Communication grouping.

Major Computer Systems – W9BG 11 Year

- There are 5 big system in this asset component
    - SAP
    - Banner
    - EAM
    - GIS
    - MWM
- Are the big 5 systems all going to have the same life?
- Dane's experience is that each of the big five systems should have their own depreciation key and should be depreciated based on the expected life of the system
- Each system is over $2M
- CGIS going through changes and is at least 12 years old
- TGIS – system replacement required – decision needs to be made on purchase new or leverage an existing system
- EGIS – being upgraded but not sure how old it currently is
- Hana S4 will be installed by 2025 which will be a complete front end and interface replacement
- Need to clean up IT assets with the line to ensure we still have all of our asset that our on our books

Computer System Development W9BH 10 year amortization

- Historically this has been purchased software that requires internal system development
- There are hundreds of software in this component
- Is this actually a 10 year life or is it closer to 5?
- Dane has seen IT components set up as 3/5/7 or 3/7/10 and you just slot the asset into the expected component that is appropriate based on discussion with the line

Communication Operation System Major Software W9BL 7 Years

- Every 7 years we replace approx. 70% of EMS other % are components of the application suite. Other components also replaced on approx. a 7 year cycle, but out of sync with the core upgrade.
- Last major retirement was 8 years ago and system will be replaced in 2019/20
- There are upgrades every year for approximately $200,000 which would shorten the overall life
- No changes required as this is the only system in this component

IT Software W9CJ 5 Years Amortization

- Boxed software
- Microsoft usually lasts 5-7 years – upgrades required
- Microsoft 365 – will be expensed as it subscription fee based
- Dane again recommended rather than trying to define boxed software vs purchased software with development to just create components based on expected life of purchase eg. 3/5/7

Communication Operation IT Software 5 Years Amortization

- Boxed software used to monitor and control the electric generation and grid assets
- Split into its own key for costing purposes
- Upgrade regularly due to security requirements never goes beyond 5 year

Communication Operational IT Equipment W50K 5 Years Amortization

- Equipment in this dep key is for operating the network at the System Control Centre – generally computers and monitors
- Cameras may go here if they have a 5 year life, but not being done consistently. Similarly station equipment like this goes into station

Communication Operation Data Network W50N 8 Years Amortization

- Equipment in this dep key is for operating the network at the System Control Centre – generally includes IDN, firewalls, EMS network

Manitoba Hydro Electric Operations
Calculation of IFRS-Compliant ASL Composite Depreciation Rates by Existing Account
For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
Manitoba Hydro														
1105A	1105A-01	402,456				3.08%	-	-		0.00%	-	402,456	1.26%	0.02%
1105A	1105A-02	3,884,814				23.93%	-	-		92.65%	-	3,884,814	1.25%	0.22%
1105A	1105A-05	7,721,446				0.00%	-	-		0.00%	-	7,721,446	1.92%	0.67%
1105A	1105A-06	4,892,287				0.00%	-	-		2.45%	-	4,892,287	4.11%	0.91%
1105A	1105A-10	4,956,071				0.00%	-	-		4.82%	-	4,956,071	6.15%	1.38%
1105A	1105B-03	75,121				0.00%	-	-		0.00%	-	75,121	2.17%	0.01%
1105A	1105B-04	51,645				0.00%	-	-		0.07%	-	51,645	3.25%	0.01%
1105A	1105B-05	21,910				0.00%	-	-		0.00%	-	21,910	5.58%	0.01%
1105A	1105B-06	7,825				0.00%	-	-		0.00%	-	7,825	12.93%	0.00%
1105A	1105D-03	5,926				0.00%	-	-		0.00%	-	5,926	4.71%	0.00%
1105A	1105D-05	38,125				0.00%	-	-		0.00%	-	38,125	2.56%	0.00%
1105A	1105P-02	92,830				72.98%	-	-		0.00%	-	92,830	2.06%	0.01%
1105A Total		22,150,455	22,150,455	-	-	100.00%	-	-	-	100.00%	-	22,150,455		3.23%
1105B	1105A-01	1,508,744				11.56%	-	-		0.79%	-	1,508,744	1.26%	0.13%
1105B	1105A-05	7,170,176				14.37%	-	-		82.24%	-	7,170,176	1.92%	0.93%
1105B	1105B-01	67,079				0.00%	-	-		0.00%	-	67,079	1.22%	0.01%
1105B	1105B-03	2,348,293				2.74%	-	-		9.97%	-	2,348,293	2.17%	0.35%
1105B	1105B-04	2,638,715				24.71%	-	-		5.50%	-	2,638,715	3.25%	0.58%
1105B	1105B-05	736,595				46.59%	-	-		1.13%	-	736,595	5.58%	0.28%
1105B	1105B-06	219,603				0.03%	-	-		0.38%	-	219,603	12.93%	0.19%
1105B	1105D-04	29,421				0.00%	-	-		0.00%	-	29,421	20.20%	0.04%
1105B	1105F-01	32,491				0.00%	-	-		0.00%	-	32,491	2.25%	0.00%
1105B	1105P-02	3,771				0.00%	-	-		0.00%	-	3,771	2.06%	0.00%
1105B Total		14,754,887	14,754,887	-	-	100.00%	-	-	-	100.00%	-	14,754,887		2.51%
1105C	1105A-05	736,478				0.00%	-	-		13.68%	28,184	764,663	1.92%	1.32%
1105C	1105B-03					0.00%	-	-		12.75%	26,265	26,265	2.17%	0.05%
1105C	1105B-04	47,039				0.00%	-	-		5.77%	11,897	58,937	3.25%	0.17%
1105C	1105B-05					0.00%	-	-		63.29%	130,403	130,403	5.58%	0.66%
1105C	1105P-02	120,135				0.00%	-	-		4.51%	9,299	129,434	2.06%	0.24%
1105C Total		903,653	1,109,701	206,048	-	0.00%	-	-	206,048	100.00%	206,048	1,109,701		2.44%
1105D	1105A-02	8,655,019				0.00%	-	-		0.00%	-	8,655,019	1.25%	1.12%
1105D	1105D-01	21,434				100.00%	-	-		98.72%	-	21,434	1.11%	0.00%
1105D	1105D-02	959,831				0.00%	-	-		0.00%	-	959,831	1.52%	0.15%
1105D	1105D-05	40,044				0.00%	-	-		1.28%	-	40,044	2.56%	0.01%
1105D Total		9,676,327	9,676,327	-	-	100.00%	-	-	-	100.00%	-	9,676,327		1.28%
1105E	1105B-01	235,822				0.00%	-	-		0.00%	-	235,822	1.22%	0.01%
1105E	1105B-03	911,081				0.00%	-	-		0.01%	-	911,081	2.17%	0.07%
1105E	1105E-01	13,113,310				70.60%	-	-		91.37%	-	13,113,310	1.86%	0.89%
1105E	1105E-02	13,107,960				29.40%	-	-		8.42%	-	13,107,960	2.36%	1.13%
1105E	1105Q-02	14,140				0.00%	-	-		0.20%	-	14,140	1.80%	0.00%
1105E Total		27,382,314	27,382,314	-	-	100.00%	-	-	-	100.00%	-	27,382,314		2.10%
1105F	1105F-01	1,916,956				100.00%	-	-		100.00%	532,300	2,449,256	2.25%	2.25%
1105F Total		1,916,956	2,449,256	532,300	-	100.00%	-	-	532,300	100.00%	532,300	2,449,256		2.25%
1105G	1105B-05	3,428				0.00%	-	-		0.00%	-	3,428	5.58%	0.00%
1105G	1105G-01	3,397,471				0.92%	(418)	-		5.17%	26,353	3,423,407	1.72%	0.08%
1105G	1105G-02	23,806,937				6.82%	(3,104)	-		29.97%	152,871	23,956,705	2.11%	0.66%
1105G	1105G-04	15,660,627				15.83%	(7,206)	-		15.13%	77,203	15,730,624	2.19%	0.45%
1105G	1105G-05	9,542,519				4.16%	(1,893)	-		8.17%	41,671	9,582,296	2.11%	0.26%
1105G	1105G-06	16,191,382				44.14%	(20,092)	-		18.05%	92,089	16,263,380	2.25%	0.47%
1105G	1105G-07	2,007,731				1.25%	(570)	-		4.21%	21,470	2,028,631	1.85%	0.05%
1105G	1105G-08	4,097,916				17.65%	(8,036)	-		12.74%	64,979	4,154,860	2.10%	0.11%
1105G	1105P-01	166,370				0.06%	(27)	-		-0.01%	-	166,343	1.94%	0.00%

Manitoba Hydro Electric Operations
Calculation of IFRS-Compliant ASL Composite Depreciation Rates by Existing Account
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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1105G	1105P-02	88,749				0.00%	-	-		0.00%	-	88,749	2.06%	0.00%
1105G	1105Q-02	85,244				1.85%	(843)	-		0.13%	680	85,082	1.80%	0.00%
1105G	1105Q-03	291,326				0.54%	(246)	-		0.08%	426	291,505	3.35%	0.01%
1105G	1105R-01	937,454				6.77%	(3,083)	-		6.35%	32,386	966,758	1.75%	0.02%
1105G	1105R-02	199,722				0.00%	-	-		0.00%	-	199,722	1.86%	0.00%
1105G	1105R-03	137,943				0.00%	-	-		0.00%	-	137,943	5.00%	0.01%
1105G Total		76,614,820	77,079,433	464,613	(45,517)	100.00%	(45,517)	-	510,130	100.00%	510,130	77,079,433		2.14%
1105H	1105Q-01	2,752,456				9.13%	-	-		13.54%	2,385	2,754,841	2.43%	0.83%
1105H	1105Q-03	4,661,958				85.85%	-	-		77.54%	13,655	4,675,613	3.35%	1.93%
1105H	1105R-02	670,946				5.02%	-	-		8.92%	1,571	672,517	1.86%	0.15%
1105H Total		8,085,360	8,102,970	17,610	-	100.00%	-	-	17,610	100.00%	17,610	8,102,970		2.91%
1105P	1105B-03	11,189				0.00%	-	-		0.00%	-	11,189	2.17%	0.00%
1105P	1105B-04	20,393				0.00%	-	-		0.00%	-	20,393	3.25%	0.00%
1105P	1105P-01	12,697,922				95.45%	-	-		90.27%	67,788	12,765,710	1.94%	1.56%
1105P	1105P-02	1,679,506				3.69%	-	-		9.73%	7,309	1,686,815	2.06%	0.22%
1105P	1105Q-02	33,045				0.34%	-	-		0.00%	-	33,045	1.80%	0.00%
1105P	1105R-01	1,251,147				0.52%	-	-		0.00%	-	1,251,147	1.75%	0.14%
1105P	1105R-03	92,803				0.00%	-	-		0.00%	-	92,803	5.00%	0.03%
1105P Total		15,786,005	15,861,102	75,097	-	100.00%	-	-	75,097	100.00%	75,097	15,861,102		1.96%
1105Q	1105B-06	44				0.00%	-	-		0.00%	-	44	12.93%	0.00%
1105Q	1105P-02	2,762,898				0.66%	(835)	-		3.91%	17,351	2,779,413	2.06%	0.25%
1105Q	1105Q-02	1,412,862				43.25%	(54,442)	-		14.85%	65,912	1,424,332	1.80%	0.11%
1105Q	1105Q-03	16,599,460				40.10%	(50,486)	-		47.66%	211,484	16,760,457	3.35%	2.48%
1105Q	1105Q-04	74,860				5.81%	(7,318)	-		3.05%	13,539	81,082	3.48%	0.01%
1105Q	1105Q-05	1,378,526				9.63%	(12,120)	-		29.76%	132,050	1,498,455	8.33%	0.55%
1105Q	1105R-01	47,369				0.54%	(684)	-		0.76%	3,393	50,078	1.75%	0.00%
1105Q	1105R-03	16,814				0.00%	-	-		0.00%	-	16,814	5.00%	0.00%
1105Q Total		22,292,832	22,610,675	317,843	(125,886)	100.00%	(125,886)	-	443,729	100.00%	443,729	22,610,675		3.42%
1105R	1105B-04	47,100				0.00%	-	-		1.08%	920	48,020	3.25%	0.02%
1105R	1105B-05	19,870				0.58%	(2,997)	-		0.95%	807	17,680	5.58%	0.01%
1105R	1105B-06	6,623				0.00%	-	-		0.12%	102	6,726	12.93%	0.01%
1105R	1105F-01	863				0.00%	-	-		4.39%	3,740	4,603	2.25%	0.00%
1105R	1105P-01	45,695				0.00%	-	-		0.00%	-	45,695	1.94%	0.01%
1105R	1105Q-01	7,846				0.00%	-	-		6.69%	5,702	13,548	2.43%	0.00%
1105R	1105Q-02	493,404				6.13%	(31,754)	-		2.72%	2,318	463,969	1.80%	0.08%
1105R	1105Q-03	109,051				0.85%	(4,417)	-		7.49%	6,385	111,019	3.35%	0.04%
1105R	1105Q-04	121,056				1.09%	(5,659)	-		1.79%	1,528	116,926	3.48%	0.04%
1105R	1105Q-05	672,392				0.01%	(31)	-		0.00%	-	672,361	8.33%	0.55%
1105R	1105R-01	7,676,566				87.26%	(451,999)	-		70.66%	60,218	7,284,785	1.75%	1.25%
1105R	1105R-02	948,506				4.08%	(21,129)	-		3.81%	3,245	930,622	1.86%	0.17%
1105R	1105R-03	518,355				0.00%	-	-		0.30%	258	518,613	5.00%	0.25%
1105R Total		10,667,328	10,234,565	(432,762)	(517,985)	100.00%	(517,985)	-	85,223	100.00%	85,223	10,234,565		2.42%
1105W	1105B-03					0.00%	-	-		21.44%	2,636	2,636	2.17%	0.14%
1105W	1105B-04	9,241				49.59%	-	-		34.96%	4,299	13,539	3.25%	1.08%
1105W	1105B-05	15,253				29.33%	-	-		31.89%	3,921	19,174	5.58%	2.64%
1105W	1105B-06	3,772				21.08%	-	-		11.71%	1,440	5,212	12.93%	1.66%
1105W Total		28,266	40,562	12,296	-	100.00%	-	-	12,296	100.00%	12,296	40,562		5.53%
1105X	1105B-02	441,303				7.28%	-	-		28.26%	-	441,303	2.97%	0.88%
1105X	1105B-03	17,587				4.61%	-	-		17.52%	-	17,587	2.17%	0.03%
1105X	1105B-04	509,243				68.86%	-	-		26.35%	-	509,243	3.25%	1.11%
1105X	1105B-05	338,120				16.95%	-	-		16.81%	-	338,120	5.58%	1.26%
1105X	1105B-06	188,722				2.30%	-	-		11.06%	-	188,722	12.93%	1.63%
1105X Total		1,494,975	1,494,975	-	-	100.00%	-	-	-	100.00%	-	1,494,975		4.90%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1110A	1110A-06	184,618				0.00%	-	-		100.00%	-	184,618	0.48%	0.25%
1110A	1110A-09	171,918				100.00%	-	-		0.00%	-	171,918	0.81%	0.39%
1110A Total		356,536	356,536	-	-	100.00%	-	-	-	100.00%	-	356,536		0.64%
1110B	1110A-01	174,465				11.55%	(91)	-		0.77%	-	174,374	1.39%	0.06%
1110B	1110A-02	58,155				0.00%	-	-		0.00%	-	58,155	1.39%	0.02%
1110B	1110A-05	371,411				14.37%	(113)	-		80.64%	1	371,299	2.21%	0.22%
1110B	1110A-09	1,593,233				0.02%	-	-		1.94%	-	1,593,233	0.81%	0.35%
1110B	1110B-01	6,979				0.00%	-	-		0.00%	-	6,979	1.39%	0.00%
1110B	1110B-03	2,655				2.74%	(21)	-		9.77%	-	2,634	2.19%	0.00%
1110B	1110B-04	1,131,776				24.71%	(194)	-		5.39%	-	1,131,582	2.22%	0.67%
1110B	1110B-05	9,305				46.59%	(366)	-		1.11%	-	8,939	3.63%	0.01%
1110B	1110B-06	385,875				0.03%	-	-		0.37%	-	385,875	3.75%	0.39%
1110B Total		3,733,852	3,733,068	(784)	(785)	100.00%	(785)	-	1	100.00%	1	3,733,068		1.73%
1110C	1110A-05	603,984				0.00%	-	-		13.62%	105,979	709,963	2.21%	0.44%
1110C	1110B-03					0.00%	-	-		12.69%	98,760	98,760	2.19%	0.06%
1110C	1110B-04	486,688				0.00%	-	-		5.75%	44,737	531,425	2.22%	0.33%
1110C	1110B-05	1,564,606				0.00%	-	-		63.01%	490,332	2,054,939	3.63%	2.09%
1110C	1110B-06	5,269				0.00%	-	-		0.16%	1,241	6,509	3.75%	0.01%
1110C	1110P-02	102,179				0.00%	-	-		4.49%	34,965	137,144	1.90%	0.07%
1110C	1110Q-05	27,545				0.00%	-	-		0.28%	2,178	29,723	10.00%	0.08%
1110C Total		2,790,272	3,568,463	778,192	-	0.00%	-	-	778,192	100.00%	778,192	3,568,463		3.08%
1110E	1110A-05	208,201				0.00%	-	-		0.00%	-	208,201	2.21%	0.33%
1110E	1110D-02	142,469				79.66%	-	-		0.00%	-	142,469	2.18%	0.22%
1110E	1110E-01	661,236				20.34%	-	-		100.00%	401,860	1,063,096	2.29%	1.72%
1110E Total		1,011,906	1,413,766	401,860	-	100.00%	-	-	401,860	100.00%	401,860	1,413,766		2.27%
1110F	1110F-01	1,481,524				100.00%	-	-		100.00%	-	1,481,524	2.29%	2.29%
1110F Total		1,481,524	1,481,524	-	-	100.00%	-	-	-	100.00%	-	1,481,524		2.29%
1110G	1110E-01	71,886				0.00%	-	-		0.04%	1,549	73,435	2.29%	0.00%
1110G	1110G-01	752,831				0.94%	(12,368)	-		5.17%	214,552	955,015	1.23%	0.02%
1110G	1110G-02	43,280,798				6.95%	(91,797)	-		30.00%	1,244,821	44,433,822	2.02%	1.49%
1110G	1110G-04	3,215,897				16.14%	(213,139)	-		15.15%	628,540	3,631,298	1.73%	0.10%
1110G	1110G-05	3,480,389				4.24%	(56,002)	-		8.18%	339,258	3,763,644	1.65%	0.10%
1110G	1110G-06	1,010,297				45.00%	(594,293)	-		18.07%	749,730	1,165,734	1.97%	0.04%
1110G	1110G-07	303,637				1.28%	(16,866)	-		4.21%	174,798	461,568	1.23%	0.01%
1110G	1110G-08	4,953,963				18.00%	(237,674)	-		12.75%	529,021	5,245,309	1.79%	0.16%
1110G	1110Q-03	160,838				0.55%	(7,282)	-		0.08%	3,466	157,022	3.71%	0.01%
1110G	1110R-01	304,610				6.90%	(91,127)	-		6.35%	263,666	477,149	2.10%	0.02%
1110G Total		57,535,146	60,363,997	2,828,851	(1,320,548)	100.00%	(1,320,548)	-	4,149,399	100.00%	4,149,399	60,363,997		1.95%
1110H	1110Q-01	261,220				100.00%	-	-		100.00%	-	261,220	2.04%	2.04%
1110H Total		261,220	261,220	-	-	100.00%	-	-	-	100.00%	-	261,220		2.04%
1110L	1110L-01	185,103				0.00%	-	-		100.00%	72,524	257,627	1.91%	1.91%
1110L Total		185,103	257,627	72,524	-	0.00%	-	-	72,524	100.00%	72,524	257,627		1.91%
1110P	1110B-04	332,414				0.00%	-	-		0.00%	-	332,414	2.22%	0.16%
1110P	1110B-05	31,174				0.00%	-	-		0.00%	-	31,174	3.63%	0.02%
1110P	1110B-06	10,391				0.00%	-	-		0.00%	-	10,391	3.75%	0.01%
1110P	1110P-01	7,133,827				95.45%	29,132	-		90.27%	(4,512,751)	2,650,208	1.71%	0.97%
1110P	1110P-02	2,109,256				3.69%	1,127	-		9.73%	(486,578)	1,623,806	1.90%	0.66%
1110P	1110Q-02	13,757				0.34%	103	-		0.00%	-	13,860	1.00%	0.00%
1110P	1110R-01	3,092				0.52%	159	-		0.00%	-	3,251	2.10%	0.00%
1110P Total		9,633,911	4,665,104	(4,968,807)	30,522	100.00%	30,522	-	(4,999,329)	100.00%	(4,999,329)	4,665,104		1.83%
1110Q	1110P-02	14,260				1.18%	(35)	-		4.63%	5,046	19,271	1.90%	0.02%
1110Q	1110Q-03	594,847				71.35%	(2,101)	-		56.48%	61,515	654,261	3.71%	1.09%
1110Q	1110Q-04	260,952				10.34%	(304)	-		3.62%	3,938	264,585	2.87%	0.34%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1110Q	1110Q-05	1,260,108				17.13%	(504)	-		35.27%	38,404	1,298,007	10.00%	5.80%
1110Q Total		2,130,167	2,236,125	105,958	(2,944)	100.00%	(2,944)	-	108,902	100.00%	108,902	2,236,125		7.25%
1110R	1110A-06	18,160				0.00%	-	-		0.00%	-	18,160	0.48%	0.00%
1110R	1110B-03	1,085,897				0.00%	-	-		1.32%	15,286	1,101,183	2.19%	0.26%
1110R	1110B-04	883,282				0.00%	-	-		1.24%	14,310	897,593	2.22%	0.21%
1110R	1110B-05	331,200				0.62%	(113)	-		1.09%	12,552	343,639	3.63%	0.13%
1110R	1110B-06	113,114				0.00%	-	-		0.14%	1,592	114,707	3.75%	0.05%
1110R	1110Q-03	145,299				0.91%	(167)	-		8.61%	99,300	244,433	3.71%	0.10%
1110R	1110Q-04	388,613				1.16%	(214)	-		2.06%	23,762	412,162	2.87%	0.13%
1110R	1110R-01	4,727,708				92.97%	(17,081)	-		81.17%	936,508	5,647,135	2.10%	1.28%
1110R	1110R-02	445,860				4.35%	(798)	-		4.37%	50,461	495,523	1.94%	0.10%
1110R Total		8,139,134	9,274,533	1,135,399	(18,374)	100.00%	(18,374)	-	1,153,773	100.00%	1,153,773	9,274,533		2.26%
1110W	1110B-04	113,658				49.59%	-	-		44.50%	5,468	119,126	2.22%	0.37%
1110W	1110B-05	553,282				29.33%	-	-		40.59%	4,988	558,270	3.63%	2.85%
1110W	1110B-06	30,956				21.08%	-	-		14.91%	1,832	32,788	3.75%	0.17%
1110W Total		697,897	710,184	12,288	-	100.00%	-	-	12,288	100.00%	12,288	710,184		3.40%
1110X	1110B-02	129,147				7.28%	-	-		28.26%	-	129,147	1.73%	0.22%
1110X	1110B-03	80,160				4.61%	-	-		17.52%	-	80,160	2.19%	0.18%
1110X	1110B-04	579,367				68.86%	-	-		26.35%	-	579,367	2.22%	1.28%
1110X	1110B-05	148,519				16.95%	-	-		16.81%	-	148,519	3.63%	0.54%
1110X	1110B-06	65,363				2.30%	-	-		11.06%	-	65,363	3.75%	0.24%
1110X Total		1,002,556	1,002,556	-	-	100.00%	-	-	-	100.00%	-	1,002,556		2.46%
1111A	1111A-02	96,809,302				100.00%	-	-		100.00%	-	96,809,302	0.83%	0.83%
1111A Total		96,809,302	96,809,302	-	-	100.00%	-	-	-	100.00%	-	96,809,302		0.83%
1111D	1111D-01	240,191,309				0.45%	-	-		70.00%	-	240,191,309	1.10%	0.77%
1111D	1111D-04	102,939,133				99.55%	-	-		30.00%	-	102,939,133	1.41%	0.42%
1111D Total		343,130,442	343,130,442	-	-	100.00%	-	-	-	100.00%	-	343,130,442		1.19%
1111E	1111E-01	97,062,968				100.00%	-	-		100.00%	-	97,062,968	1.23%	1.23%
1111E Total		97,062,968	97,062,968	-	-	100.00%	-	-	-	100.00%	-	97,062,968		1.23%
1111F	1111F-01	26,863,202				100.00%	-	-		100.00%	292,212	27,155,414	1.91%	1.91%
1111F Total		26,863,202	27,155,414	292,212	-	100.00%	-	-	292,212	100.00%	292,212	27,155,414		1.91%
1111P	1111P-02	2,862,890				100.00%	(98,139)	-		100.00%	254,313	3,019,064	2.56%	2.56%
1111P Total		2,862,890	3,019,064	156,174	(98,139)	100.00%	(98,139)	-	254,313	100.00%	254,313	3,019,064		2.56%
1111Q	1111Q-02	539,264				100.00%	-	-		100.00%	-	539,264	1.81%	1.81%
1111Q Total		539,264	539,264	-	-	100.00%	-	-	-	100.00%	-	539,264		1.81%
1111W	1111B-03	139,309				0.00%	-	-		100.00%	-	139,309	1.85%	1.85%
1111W Total		139,309	139,309	-	-	0.00%	-	-	-	100.00%	-	139,309		1.85%
1111X	1111B-02	1,472,065				7.28%	-	-		28.26%	1,365,717	2,837,783	1.36%	0.39%
1111X	1111B-03	911,356				4.61%	-	-		17.52%	846,666	1,758,021	1.85%	0.33%
1111X	1111B-04	1,319,783				68.86%	-	-		26.35%	1,273,086	2,592,869	2.99%	0.78%
1111X	1111B-05	812,174				16.95%	-	-		16.81%	812,192	1,624,366	4.31%	0.71%
1111X	1111B-06	558,370				2.30%	-	-		11.06%	534,285	1,092,655	7.52%	0.83%
1111X Total		5,073,748	9,905,694	4,831,946	-	100.00%	-	-	4,831,946	100.00%	4,831,946	9,905,694		3.04%
1115A	1115A-01	3,105,312				0.10%	-	-		0.00%	-	3,105,312	0.64%	0.06%
1115A	1115A-02	5,401,637				0.77%	-	-		91.44%	17,482	5,419,119	0.90%	0.14%
1115A	1115A-05	17,809,937				0.00%	-	-		0.00%	-	17,809,937	1.33%	0.66%
1115A	1115A-06	2,504,831				0.00%	-	-		2.42%	462	2,505,293	2.53%	0.18%
1115A	1115A-09	1,512,626				99.13%	-	-		0.00%	-	1,512,626	3.34%	0.14%
1115A	1115A-10	3,954,227				0.00%	-	-		4.76%	909	3,955,136	5.04%	0.55%
1115A	1115E-01	174,424				0.00%	-	-		1.38%	264	174,688	0.95%	0.00%
1115A	1115Q-03	1,504,407				0.00%	-	-		0.00%	-	1,504,407	3.49%	0.15%
1115A Total		35,967,401	35,986,518	19,116	-	100.00%	-	-	19,116	100.00%	19,116	35,986,518		1.87%
1115B	1115A-01	6,193,727				11.56%	-	-		0.79%	(79)	6,193,648	0.64%	0.29%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1115B	1115A-05	4,838,318				14.38%	-	-		82.55%	(8,255)	4,830,063	1.33%	0.47%
1115B	1115B-01	159,913				0.00%	-	-		0.00%	-	159,913	0.31%	0.00%
1115B	1115B-03	581,637				2.74%	-	-		10.00%	(1,000)	580,637	0.75%	0.03%
1115B	1115B-04	1,484,868				24.72%	-	-		5.52%	(552)	1,484,316	2.58%	0.28%
1115B	1115B-05	213,218				46.61%	-	-		1.14%	(114)	213,104	3.11%	0.05%
1115B	1115F-01	195,181				0.00%	-	-		0.00%	-	195,181	1.97%	0.03%
1115B Total		13,666,861	13,656,861	(10,000)	-	100.00%	-	-	(10,000)	100.00%	(10,000)	13,656,861		1.15%
1115C	1115B-04	276,535				0.00%	-	-		7.83%	1,640	278,175	2.58%	1.08%
1115C	1115B-05	74,807				0.00%	-	-		85.83%	17,979	92,786	3.11%	0.43%
1115C	1115B-06	48,263				0.00%	-	-		0.22%	45	48,308	8.40%	0.61%
1115C	1115P-02	46,805				0.00%	-	-		6.12%	1,282	48,087	1.88%	0.14%
1115C	1115Q-04	196,854				0.00%	-	-		0.00%	-	196,854	3.80%	1.13%
1115C Total		643,264	664,211	20,947	-	0.00%	-	-	20,947	100.00%	20,947	664,211		3.39%
1115D	1115A-01	500,358				0.00%	-	-		0.00%	-	500,358	0.64%	0.07%
1115D	1115A-02	333,572				0.00%	-	-		0.00%	-	333,572	0.90%	0.07%
1115D	1115A-05	622,004				0.00%	-	-		0.00%	-	622,004	1.33%	0.19%
1115D	1115D-01	174,090				0.45%	-	-		69.37%	-	174,090	1.05%	0.04%
1115D	1115D-04	1,570				99.55%	-	-		29.73%	-	1,570	1.09%	0.00%
1115D	1115D-05	2,723,678				0.00%	-	-		0.90%	-	2,723,678	2.72%	1.70%
1115D Total		4,355,273	4,355,273	-	-	100.00%	-	-	-	100.00%	-	4,355,273		2.08%
1115E	1115A-01	32,212				0.00%	-	-		0.00%	-	32,212	0.64%	0.00%
1115E	1115A-06	27,890				0.00%	-	-		0.02%	191	28,081	2.53%	0.01%
1115E	1115D-05	386,742				0.00%	-	-		0.00%	-	386,742	2.72%	0.20%
1115E	1115E-01	2,723,409				13.72%	(10,264)	-		81.29%	701,096	3,414,241	0.95%	0.61%
1115E	1115E-02	843,526				5.71%	(4,276)	-		7.49%	64,629	903,879	1.76%	0.30%
1115E	1115Q-03	377,092				0.00%	-	-		0.00%	-	377,092	3.49%	0.25%
1115E	1115R-01					80.57%	(60,265)	-		11.20%	96,567	36,302	1.58%	0.01%
1115E	1115R-03	157,309				0.00%	-	-		0.00%	-	157,309	2.61%	0.08%
1115E Total		4,548,181	5,335,858	787,678	(74,805)	100.00%	(74,805)	-	862,483	100.00%	862,483	5,335,858		1.45%
1115F	1115F-01	1,111,413				100.00%	(25,568)	-		100.00%	572,527	1,658,373	1.97%	1.97%
1115F Total		1,111,413	1,658,373	546,959	(25,568)	100.00%	(25,568)	-	572,527	100.00%	572,527	1,658,373		1.97%
1115G	1115E-02	102,595				0.00%	-	-		0.04%	-	102,595	1.76%	0.00%
1115G	1115F-01	233,170				0.00%	-	-		0.00%	-	233,170	1.97%	0.01%
1115G	1115G-01	2,173,794				0.92%	-	-		5.16%	-	2,173,794	1.21%	0.05%
1115G	1115G-02	18,860,195				6.82%	-	-		29.96%	-	18,860,195	1.47%	0.51%
1115G	1115G-04	6,613,044				15.83%	-	-		15.13%	-	6,613,044	1.63%	0.20%
1115G	1115G-05	3,062,025				4.16%	-	-		8.17%	-	3,062,025	1.41%	0.08%
1115G	1115G-06	964,288				44.14%	-	-		18.05%	-	964,288	0.88%	0.02%
1115G	1115G-07	742,369				1.25%	-	-		4.21%	-	742,369	1.14%	0.02%
1115G	1115G-08	15,557,578				17.65%	-	-		12.73%	-	15,557,578	1.86%	0.54%
1115G	1115P-01	149,268				0.06%	-	-		-0.01%	-	149,268	1.46%	0.00%
1115G	1115Q-02	374,220				1.85%	-	-		0.13%	-	374,220	1.86%	0.01%
1115G	1115Q-03	1,648,036				0.54%	-	-		0.08%	-	1,648,036	3.49%	0.11%
1115G	1115R-01	2,179,905				6.77%	-	-		6.35%	-	2,179,905	1.58%	0.06%
1115G	1115R-02	1,146,941				0.00%	-	-		0.00%	-	1,146,941	1.65%	0.04%
1115G	1115R-03	105,957				0.00%	-	-		0.00%	-	105,957	2.61%	0.01%
1115G Total		53,913,384	53,913,384	-	-	100.00%	-	-	-	100.00%	-	53,913,384		1.65%
1115H	1115R-02	290,552				100.00%	-	-		100.00%	-	290,552	1.65%	1.65%
1115H Total		290,552	290,552	-	-	100.00%	-	-	-	100.00%	-	290,552		1.65%
1115L	1115L					0.00%	-	-		100.00%	522,029	522,029	2.00%	2.00%
1115L Total			522,029	522,029	-	0.00%	-	-	522,029	100.00%	522,029	522,029		2.00%
1115P	1115P-01	5,432,089				87.42%	(25,703)	-		86.10%	80,286	5,486,671	1.46%	0.64%
1115P	1115P-02	2,324,480				3.38%	(995)	-		9.28%	8,657	2,332,142	1.88%	0.35%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1115P	1115Q-02	47,129				0.31%	(91)	-		0.00%	-	47,038	1.86%	0.01%
1115P	1115Q-03	2,839,745				0.00%	-	-		0.00%	-	2,839,745	3.49%	0.79%
1115P	1115Q-04	1,139,789				8.89%	(2,611)	-		4.62%	4,309	1,141,487	3.80%	0.35%
1115P	1115R-02	645,935				0.00%	-	-		0.00%	-	645,935	1.65%	0.08%
1115P	1115R-03	76,372				0.00%	-	-		0.00%	-	76,372	2.61%	0.02%
1115P Total		12,505,538	12,569,390	63,852	(29,400)	100.00%	(29,400)	-	93,252	100.00%	93,252	12,569,390		2.23%
1115Q	1115P-02	1,030,654				0.66%	(620)	-		3.91%	12,425	1,042,459	1.88%	0.15%
1115Q	1115Q-02	357,858				43.25%	(40,377)	-		14.85%	47,197	364,678	1.86%	0.05%
1115Q	1115Q-03	9,348,320				40.10%	(37,444)	-		47.66%	151,436	9,462,312	3.49%	2.52%
1115Q	1115Q-04	991,629				5.81%	(5,427)	-		3.05%	9,695	995,897	3.80%	0.29%
1115Q	1115Q-05	1,051,195				9.63%	(8,989)	-		29.76%	94,557	1,136,762	8.91%	0.77%
1115Q	1115R-01	63,268				0.54%	(508)	-		0.76%	2,429	65,190	1.58%	0.01%
1115Q	1115R-03	39,488				0.00%	-	-		0.00%	-	39,488	2.61%	0.01%
1115Q Total		12,882,412	13,106,787	224,375	(93,364)	100.00%	(93,364)	-	317,739	100.00%	317,739	13,106,787		3.80%
1115R	1115F-01	722				0.00%	-	-		4.81%	8,404	9,126	1.97%	0.00%
1115R	1115Q-02	57,340				6.17%	(269)	-		2.98%	5,209	62,280	1.86%	0.01%
1115R	1115Q-03	1,178,428				0.86%	(37)	-		8.22%	14,347	1,192,738	3.49%	0.46%
1115R	1115Q-04	150,184				1.10%	(48)	-		1.97%	3,433	153,569	3.80%	0.06%
1115R	1115Q-05	142,536				0.01%	-	-		0.00%	-	142,536	8.91%	0.14%
1115R	1115R-01	6,948,694				87.77%	(3,835)	-		77.51%	135,321	7,080,180	1.58%	1.23%
1115R	1115R-02	253,262				4.10%	(179)	-		4.18%	7,291	260,374	1.65%	0.05%
1115R	1115R-03	211,299				0.00%	-	-		0.33%	581	211,880	2.61%	0.06%
1115R Total		8,942,463	9,112,681	170,218	(4,369)	100.00%	(4,369)	-	174,586	100.00%	174,586	9,112,681		2.01%
1115W	1115B-02					0.00%	-	-		0.00%	-	-	1.72%	0.00%
1115W	1115B-03					0.00%	-	-		21.44%	44,192	44,192	0.75%	0.11%
1115W	1115B-04					49.59%	-	-		34.96%	72,063	72,063	2.58%	0.61%
1115W	1115B-05	101,023				29.33%	-	-		31.89%	65,729	166,752	3.11%	1.69%
1115W	1115B-06					21.08%	-	-		11.71%	24,144	24,144	8.40%	0.66%
1115W Total		101,023	307,152	206,129	-	100.00%	-	-	206,129	100.00%	206,129	307,152		3.06%
1115X	1115B-02	5,464				7.28%	(801)	-		28.26%	2,826	7,490	1.72%	0.02%
1115X	1115B-03	3,392				4.61%	(508)	-		17.52%	1,752	4,636	0.75%	0.01%
1115X	1115B-04	411,201				68.86%	(7,574)	-		26.35%	2,635	406,262	2.58%	1.75%
1115X	1115B-05	42,664				16.95%	(1,864)	-		16.81%	1,681	42,481	3.11%	0.22%
1115X	1115B-06	77,296				2.30%	(253)	-		11.06%	1,106	78,149	8.40%	1.09%
1115X	1115F-01	60,188				0.00%	-	-		0.00%	-	60,188	1.97%	0.20%
1115X	1115R-03	1,085				0.00%	-	-		0.00%	-	1,085	2.61%	0.00%
1115X Total		601,290	600,290	(1,000)	(11,000)	100.00%	(11,000)	-	10,000	100.00%	10,000	600,290		3.29%
1120A	1120A-01	5,426,644				11.41%	-	-		0.00%	0	5,426,644	1.47%	0.34%
1120A	1120A-02	1,713,677				88.59%	-	-		86.94%	5,789	1,719,466	1.47%	0.11%
1120A	1120B-03	78,569				0.00%	-	-		0.00%	-	78,569	1.84%	0.01%
1120A	1120D-02	14,493,199				0.00%	-	-		11.74%	782	14,493,980	2.32%	1.41%
1120A	1120E-01	1,570,810				0.00%	-	-		1.31%	87	1,570,898	1.66%	0.11%
1120A	1120Q-04	520,209				0.00%	-	-		0.00%	-	520,209	4.32%	0.09%
1120A Total		23,803,107	23,809,766	6,658	-	100.00%	-	-	6,658	100.00%	6,658	23,809,766		2.06%
1120B	1120A-01	13,759,744				13.49%	-	-		4.42%	743	13,760,487	1.47%	0.84%
1120B	1120A-02	4,586,581				0.00%	-	-		0.00%	-	4,586,581	1.47%	0.28%
1120B	1120B-01	550,390				0.00%	-	-		0.00%	-	550,390	1.48%	0.03%
1120B	1120B-03	1,926,364				3.19%	-	-		56.11%	9,433	1,935,797	1.84%	0.15%
1120B	1120B-04	2,682,434				28.86%	-	-		30.96%	5,202	2,687,636	2.80%	0.31%
1120B	1120B-05	512,230				54.41%	-	-		6.38%	1,073	513,302	4.17%	0.09%
1120B	1120B-06	6,562				0.03%	-	-		2.13%	358	6,920	4.98%	0.00%
1120B Total		24,024,306	24,041,114	16,808	-	100.00%	-	-	16,808	100.00%	16,808	24,041,114		1.71%
1120C	1120B-04	49,947				0.00%	-	-		7.85%	83,844	133,791	2.80%	0.14%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1120C	1120B-05	1,553,697				0.00%	-	-		86.02%	918,977	2,472,675	4.17%	3.72%
1120C	1120P-02	102,179				0.00%	-	-		6.13%	65,529	167,708	2.49%	0.15%
1120C Total		1,705,824	2,774,174	1,068,350	-	0.00%	-	-	1,068,350	100.00%	1,068,350	2,774,174		4.00%
1120D	1120D-01	656,017				0.45%	-	-		68.96%	3,086,048	3,742,065	1.61%	0.40%
1120D	1120D-02	5,904,152				0.00%	-	-		0.00%	-	5,904,152	2.32%	0.91%
1120D	1120D-03	1,170,413				0.00%	-	-		0.59%	26,399	1,196,812	5.03%	0.40%
1120D	1120D-04	281,150				99.55%	-	-		29.56%	1,322,687	1,603,837	1.75%	0.19%
1120D	1120D-05	2,530,351				0.00%	-	-		0.89%	39,940	2,570,291	3.61%	0.62%
1120D Total		10,542,084	15,017,157	4,475,074	-	100.00%	-	-	4,475,074	100.00%	4,475,074	15,017,157		2.52%
1120E	1120D-04	270,691				0.00%	-	-		0.23%	12,271	282,962	1.75%	0.02%
1120E	1120D-05	146,811				0.00%	-	-		0.00%	-	146,811	3.61%	0.02%
1120E	1120E-01	3,519,147				14.55%	(57,468)	-		87.69%	4,644,770	8,106,448	1.66%	0.59%
1120E	1120R-01	13,845,827				85.45%	(337,480)	-		12.08%	639,751	14,148,097	1.93%	1.20%
1120E Total		17,782,476	22,684,318	4,901,842	(394,949)	100.00%	(394,949)	-	5,296,791	100.00%	5,296,791	22,684,318		1.84%
1120F	1120F-01	38,804,345				100.00%	-	-		100.00%	1,423,590	40,227,936	2.04%	2.04%
1120F Total		38,804,345	40,227,936	1,423,590	-	100.00%	-	-	1,423,590	100.00%	1,423,590	40,227,936		2.04%
1120G	1120G-01	3,612,722				1.01%	-	-		5.53%	440	3,613,162	1.53%	0.48%
1120G	1120G-02	1,848,000				7.51%	-	-		32.08%	2,552	1,850,552	1.57%	0.25%
1120G	1120G-04	952,000				17.44%	-	-		16.20%	1,289	953,289	1.75%	0.14%
1120G	1120G-05	952,000				4.58%	-	-		8.74%	696	952,696	1.57%	0.13%
1120G	1120G-06	1,285,368				48.63%	-	-		19.32%	1,537	1,286,905	1.91%	0.21%
1120G	1120G-07	1,285,368				1.38%	-	-		4.50%	358	1,285,726	1.56%	0.17%
1120G	1120G-08	1,492,678				19.45%	-	-		13.63%	1,085	1,493,763	1.86%	0.24%
1120G	1120R-03	160,645				0.00%	-	-		0.00%	-	160,645	5.75%	0.08%
1120G Total		11,588,780	11,596,738	7,957	-	100.00%	-	-	7,957	100.00%	7,957	11,596,738		1.70%
1120H	1120Q-01	682,301				64.52%	-	-		60.29%	144	682,445	2.01%	1.35%
1120H	1120R-02	336,652				35.48%	-	-		39.71%	95	336,747	1.86%	0.61%
1120H Total		1,018,953	1,019,192	238	-	100.00%	-	-	238	100.00%	238	1,019,192		1.96%
1120P	1120P-01	13,518,429				87.28%	(307,348)	-		86.10%	8,589,787	21,800,868	1.73%	1.21%
1120P	1120P-02	6,575,730				3.38%	(11,892)	-		9.28%	926,189	7,490,026	2.49%	0.60%
1120P	1120Q-03	682,000				0.00%	-	-		0.00%	-	682,000	4.02%	0.09%
1120P	1120Q-04	550,000				8.87%	(31,238)	-		4.62%	461,063	979,825	4.32%	0.14%
1120P	1120R-01	102,822				0.48%	(1,679)	-		0.00%	-	101,143	1.93%	0.01%
1120P	1120R-03	61,112				0.00%	-	-		0.00%	-	61,112	5.75%	0.01%
1120P Total		21,490,093	31,114,975	9,624,882	(352,157)	100.00%	(352,157)	-	9,977,039	100.00%	9,977,039	31,114,975		2.05%
1120Q	1120P-02	2,096,109				1.18%	-	-		4.63%	(66,269)	2,029,840	2.49%	0.86%
1120Q	1120Q-03	4,342,049				71.35%	-	-		56.48%	(807,846)	3,534,203	4.02%	2.41%
1120Q	1120Q-04	122,686				10.34%	-	-		3.62%	(51,711)	70,975	4.32%	0.05%
1120Q	1120Q-05	760,986				17.13%	-	-		35.27%	(504,341)	256,644	10.58%	0.46%
1120Q Total		7,321,831	5,891,662	(1,430,168)	-	100.00%	-	-	(1,430,168)	100.00%	(1,430,168)	5,891,662		3.78%
1120R	1120B-04	210,010				0.00%	-	-		1.40%	17,559	227,569	2.80%	0.08%
1120R	1120B-05	88,598				0.63%	(85)	-		1.23%	15,401	103,914	4.17%	0.06%
1120R	1120B-06	29,533				0.00%	-	-		0.16%	1,954	31,486	4.98%	0.02%
1120R	1120D-02	597,224				0.00%	-	-		0.00%	-	597,224	2.32%	0.18%
1120R	1120R-01	5,212,943				94.93%	(12,782)	-		91.87%	1,149,127	6,349,287	1.93%	1.57%
1120R	1120R-02	422,614				4.44%	(597)	-		4.95%	61,914	483,931	1.86%	0.12%
1120R	1120R-03	15,129				0.00%	-	-		0.39%	4,932	20,061	5.75%	0.01%
1120R Total		6,576,050	7,813,473	1,237,423	(13,464)	100.00%	(13,464)	-	1,250,887	100.00%	1,250,887	7,813,473		2.03%
1120W	1120B-03	761,783				0.00%	-	-		21.44%	-	761,783	1.84%	0.88%
1120W	1120B-04	523,726				49.59%	-	-		34.96%	-	523,726	2.80%	0.92%
1120W	1120B-05	222,187				29.33%	-	-		31.89%	-	222,187	4.17%	0.58%
1120W	1120B-06	79,352				21.08%	-	-		11.71%	-	79,352	4.98%	0.25%
1120W Total		1,587,048	1,587,048	-	-	100.00%	-	-	-	100.00%	-	1,587,048		2.64%

Manitoba Hydro Electric Operations
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For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1120X	1120B-02	13,081				2.51%	-	-		31.78%	773	13,854	1.73%	0.01%
1120X	1120B-03	8,119				1.59%	-	-		19.70%	479	8,598	1.84%	0.00%
1120X	1120B-04	11,728				23.77%	-	-		29.62%	721	12,448	2.80%	0.01%
1120X	1120B-05	36,274				5.85%	-	-		18.90%	460	36,733	4.17%	0.05%
1120X	1120F-01	419,520				0.00%	-	-		0.00%	-	419,520	2.04%	0.26%
1120X	1120P-02	226,106				6.63%	-	-		0.00%	-	226,106	2.49%	0.17%
1120X	1120Q-02	58,000				0.00%	-	-		0.00%	-	58,000	2.43%	0.04%
1120X	1120Q-03	190,319				6.63%	-	-		0.00%	-	190,319	4.02%	0.23%
1120X	1120Q-04	195,000				0.00%	-	-		0.00%	-	195,000	4.32%	0.25%
1120X	1120Q-05	97,000				0.00%	-	-		0.00%	-	97,000	10.58%	0.31%
1120X	1120R-01	2,053,106				53.02%	-	-		0.00%	-	2,053,106	1.93%	1.20%
1120X Total		3,308,252	3,310,684	2,432	-	100.00%	-	-	2,432	100.00%	2,432	3,310,684		2.53%
1125A	1125A-02	2,833,784				24.70%	-	-		95.06%	-	2,833,784	1.08%	0.34%
1125A	1125A-05	368,671				0.00%	-	-		0.00%	-	368,671	1.49%	0.06%
1125A	1125A-10	5,737,054				0.00%	-	-		4.94%	-	5,737,054	6.64%	4.22%
1125A	1125P-02	77,073				75.30%	-	-		0.00%	-	77,073	2.35%	0.02%
1125A Total		9,016,581	9,016,581	-	-	100.00%	-	-	-	100.00%	-	9,016,581		4.65%
1125B	1125A-01	4,878,331				13.49%	(6,576)	-		3.98%	-	4,871,755	0.84%	0.41%
1125B	1125A-02	922,928				0.00%	-	-		0.00%	-	922,928	1.08%	0.10%
1125B	1125A-09	51,326				0.02%	(9)	-		10.02%	-	51,317	3.42%	0.02%
1125B	1125B-01	260,406				0.00%	-	-		0.00%	-	260,406	1.03%	0.03%
1125B	1125B-03	911,420				3.19%	(1,557)	-		50.47%	25	909,889	2.02%	0.18%
1125B	1125B-04	1,522,682				28.86%	(14,065)	-		27.85%	-	1,508,617	2.83%	0.42%
1125B	1125B-05	363,644				54.40%	(26,518)	-		5.74%	-	337,126	3.54%	0.12%
1125B	1125B-06	5,479				0.03%	(17)	-		1.91%	-	5,462	3.70%	0.00%
1125B	1125D-01	791,081				0.00%	-	-		0.00%	-	791,081	1.16%	0.09%
1125B	1125D-04	382,950				0.00%	-	-		0.00%	-	382,950	1.59%	0.06%
1125B	1125P-02	6,294				0.00%	-	-		0.00%	-	6,294	2.35%	0.00%
1125B	1125Q-03	6,294				0.00%	-	-		0.03%	-	6,294	3.67%	0.00%
1125B	1125R-01	18,883				0.00%	-	-		0.00%	-	18,883	1.56%	0.00%
1125B Total		10,121,717	10,073,001	(48,716)	(48,741)	100.00%	(48,741)	-	25	100.00%	25	10,073,001		1.43%
1125C	1125A-05					0.00%	-	-		13.66%	210,866	210,866	1.49%	0.19%
1125C	1125B-03					0.00%	-	-		12.73%	196,504	196,504	2.02%	0.24%
1125C	1125B-04	121,809				0.00%	-	-		5.76%	89,013	210,822	2.83%	0.36%
1125C	1125B-05					0.00%	-	-		63.19%	975,530	975,530	3.54%	2.07%
1125C	1125B-06					0.00%	-	-		0.16%	2,468	2,468	3.70%	0.01%
1125C	1125P-02					0.00%	-	-		4.51%	69,569	69,569	2.35%	0.10%
1125C Total		121,809	1,665,759	1,543,950	-	0.00%	-	-	1,543,950	100.00%	1,543,950	1,665,759		2.96%
1125D	1125D-05	93,376				0.00%	-	-		99.44%	-	93,376	3.43%	2.89%
1125D	1125E-01	17,602				0.00%	-	-		0.56%	-	17,602	0.28%	0.04%
1125D Total		110,978	110,978	-	-	0.00%	-	-	-	100.00%	-	110,978		2.93%
1125E	1125B-04	51,215				0.00%	-	-		0.02%	6	51,221	2.83%	0.04%
1125E	1125B-05	21,606				0.00%	-	-		0.01%	3	21,610	3.54%	0.02%
1125E	1125B-06	7,202				0.00%	-	-		0.01%	2	7,204	3.70%	0.01%
1125E	1125E-01	1,465,990				13.61%	-	-		81.28%	28,373	1,494,363	0.28%	0.11%
1125E	1125E-02	864,642				5.67%	-	-		7.49%	2,616	867,258	1.03%	0.24%
1125E	1125P-02	302,980				0.82%	-	-		0.00%	-	302,980	2.35%	0.19%
1125E	1125R-01	987,803				79.91%	-	-		11.20%	3,908	991,711	1.56%	0.41%
1125E Total		3,701,439	3,736,347	34,908	-	100.00%	-	-	34,908	100.00%	34,908	3,736,347		1.02%
1125F	1125F-01	1,972,243				100.00%	-	-		100.00%	129,020	2,101,263	1.40%	1.40%
1125F Total		1,972,243	2,101,263	129,020	-	100.00%	-	-	129,020	100.00%	129,020	2,101,263		1.40%
1125G	1125G-01	9,552,498				0.92%	(7,733)	-		5.17%	996,624	10,541,389	1.37%	0.20%
1125G	1125G-02	13,733,692				6.82%	(57,398)	-		29.97%	5,783,182	19,459,476	1.54%	0.41%

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For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1125G	1125G-04	5,607,135				15.84%	(133,270)	-		15.13%	2,919,652	8,393,517	1.78%	0.21%
1125G	1125G-05	5,607,135				4.16%	(35,017)	-		8.17%	1,575,898	7,148,016	1.55%	0.15%
1125G	1125G-06	5,895,795				44.17%	(371,598)	-		18.05%	3,482,598	9,006,795	1.98%	0.25%
1125G	1125G-07	6,231,809				1.25%	(10,546)	-		4.21%	811,960	7,033,223	1.55%	0.15%
1125G	1125G-08	7,181,475				17.67%	(148,612)	-		12.74%	2,457,374	9,490,238	1.88%	0.25%
1125G	1125Q-02	57,394				1.85%	(15,582)	-		0.13%	25,734	67,545	1.77%	0.00%
1125G	1125Q-03	4,698				0.54%	(4,553)	-		0.08%	16,101	16,246	3.67%	0.00%
1125G	1125R-01	51,938				6.77%	(56,979)	-		6.35%	1,224,763	1,219,721	1.56%	0.03%
1125G	1125R-03	415				0.00%	-	-		0.00%	-	415	5.19%	0.00%
1125G Total		53,923,984	72,376,581	18,452,598	(841,289)	100.00%	(841,289)	-	19,293,886	100.00%	19,293,886	72,376,581		1.65%
1125H	1125P-01	1,614,700				0.29%	(98)	-		5.68%	98,661	1,713,263	1.63%	0.45%
1125H	1125Q-01	488,173				9.10%	(3,084)	-		12.77%	221,731	706,820	1.85%	0.21%
1125H	1125Q-03	1,614,700				85.60%	(29,000)	-		73.13%	1,269,464	2,855,163	3.67%	1.69%
1125H	1125R-02	778,638				5.01%	(1,696)	-		8.41%	146,016	922,959	1.85%	0.28%
1125H Total		4,496,212	6,198,206	1,701,994	(33,878)	100.00%	(33,878)	-	1,735,872	100.00%	1,735,872	6,198,206		2.63%
1125L	1125L					0.00%	-	-		100.00%	470,788	470,788	2.00%	2.00%
1125L Total			470,788	470,788	-	0.00%	-	-	470,788	100.00%	470,788	470,788		2.00%
1125P	1125P-01	7,228,658				87.01%	(101,546)	-		86.10%	2,348,270	9,475,382	1.63%	1.07%
1125P	1125P-02	4,381,268				3.37%	(3,929)	-		9.28%	253,201	4,630,539	2.35%	0.75%
1125P	1125Q-02	23,655				0.31%	(360)	-		0.00%	-	23,295	1.77%	0.00%
1125P	1125Q-04	46,037				8.84%	(10,322)	-		4.62%	126,045	161,760	3.90%	0.04%
1125P	1125R-01	118,156				0.48%	(555)	-		0.00%	-	117,602	1.56%	0.01%
1125P	1125R-03	55,662				0.00%	-	-		0.00%	-	55,662	5.19%	0.02%
1125P Total		11,853,436	14,464,239	2,610,804	(116,712)	100.00%	(116,712)	-	2,727,515	100.00%	2,727,515	14,464,239		1.90%
1125Q	1125P-01	30,185				0.00%	-	-		0.00%	-	30,185	1.63%	0.01%
1125Q	1125P-02	1,905,158				0.66%	(135)	-		3.91%	66,181	1,971,204	2.35%	0.55%
1125Q	1125Q-02	57,546				43.25%	(8,780)	-		14.85%	251,403	300,169	1.77%	0.06%
1125Q	1125Q-03	3,468,665				40.10%	(8,142)	-		47.66%	806,648	4,267,171	3.67%	1.86%
1125Q	1125Q-04	57,917				5.81%	(1,180)	-		3.05%	51,642	108,379	3.90%	0.05%
1125Q	1125Q-05	1,167,937				9.63%	(1,955)	-		29.76%	503,669	1,669,651	9.57%	1.90%
1125Q	1125R-01	55,930				0.54%	(110)	-		0.76%	12,941	68,760	1.56%	0.01%
1125Q Total		6,743,338	8,415,520	1,672,181	(20,302)	100.00%	(20,302)	-	1,692,484	100.00%	1,692,484	8,415,520		4.44%
1125R	1125B-04	326,831				0.00%	-	-		1.16%	694	327,525	2.83%	0.12%
1125R	1125B-05	129,279				0.58%	-	-		1.01%	609	129,887	3.54%	0.06%
1125R	1125B-06	43,093				0.00%	-	-		0.13%	77	43,170	3.70%	0.02%
1125R	1125F-01	863				0.00%	-	-		4.70%	2,822	3,685	1.40%	0.00%
1125R	1125P-01	17,951				0.00%	-	-		0.00%	-	17,951	1.63%	0.00%
1125R	1125Q-02	55,298				6.13%	-	-		2.92%	1,749	57,047	1.77%	0.01%
1125R	1125Q-03	949,718				0.85%	-	-		8.03%	4,818	954,535	3.67%	0.46%
1125R	1125Q-04	313,499				1.09%	-	-		1.92%	1,153	314,652	3.90%	0.16%
1125R	1125R-01	5,257,539				87.27%	-	-		75.73%	45,434	5,302,973	1.56%	1.08%
1125R	1125R-02	200,385				4.08%	-	-		4.08%	2,448	202,833	1.85%	0.05%
1125R	1125R-03	270,871				0.00%	-	-		0.33%	195	271,066	5.19%	0.18%
1125R Total		7,565,326	7,625,326	59,999	-	100.00%	-	-	59,999	100.00%	59,999	7,625,326		2.16%
1125X	1125B-02	3,664				7.45%	-	-		31.78%	-	3,664	1.36%	0.01%
1125X	1125B-03	2,274				4.72%	-	-		19.70%	-	2,274	2.02%	0.01%
1125X	1125B-04	3,285				70.48%	-	-		29.62%	-	3,285	2.83%	0.03%
1125X	1125B-05	3,412				17.34%	-	-		18.90%	-	3,412	3.54%	0.04%
1125X	1125F-01	323,777				0.00%	-	-		0.00%	-	323,777	1.40%	1.35%
1125X Total		336,412	336,412	-	-	100.00%	-	-	-	100.00%	-	336,412		1.44%
1125W	1125B-03					0.00%	-	-		21.44%	2,634	2,634	2.02%	0.43%
1125W	1125B-04					49.59%	-	-		34.96%	4,296	4,296	2.83%	0.99%
1125W	1125B-05					29.33%	-	-		31.89%	3,918	3,918	3.54%	1.13%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1125W	1125B-06					21.08%	-	-		11.71%	1,439	1,439	3.70%	0.43%
1125W Total			12,288	12,288	-	100.00%	-	-	12,288	100.00%	12,288	12,288		2.98%
1125Z	1125Z-01	25,592,289				0.00%	-	-		100.00%	(19,502,761)	6,089,528	1.16%	1.16%
1125Z Total		25,592,289	6,089,528	(19,502,761)	-	0.00%	-	-	(19,502,761)	100.00%	(19,502,761)	6,089,528		1.16%
1130A	1130A-01	6,530				11.41%	-	-		0.00%	61	6,591	0.68%	0.00%
1130A	1130A-02	4,516,683				88.59%	-	-		82.40%	1,513,889	6,030,572	1.17%	0.37%
1130A	1130A-06	2,511,945				0.00%	-	-		2.18%	40,020	2,551,964	2.59%	0.35%
1130A	1130A-10	7,708,612				0.00%	-	-		4.29%	78,731	7,787,343	6.77%	2.78%
1130A	1130D-02	2,365,952				0.00%	-	-		11.13%	204,467	2,570,419	2.03%	0.28%
1130A Total		17,109,720	18,946,889	1,837,168	-	100.00%	-	-	1,837,168	100.00%	1,837,168	18,946,889		3.78%
1130B	1130A-01	6,754,691				13.49%	-	-		4.42%	-	6,754,691	0.68%	0.62%
1130B	1130B-01	28,263				0.00%	-	-		0.00%	-	28,263	0.75%	0.00%
1130B	1130B-03	104,723				3.19%	-	-		56.11%	-	104,723	1.45%	0.02%
1130B	1130B-04	460,197				28.86%	-	-		30.96%	-	460,197	2.80%	0.17%
1130B	1130B-05	20,322				54.41%	-	-		6.38%	-	20,322	4.09%	0.01%
1130B	1130B-06	9,271				0.03%	-	-		2.13%	-	9,271	6.71%	0.01%
1130B Total		7,377,467	7,377,467	-	-	100.00%	-	-	-	100.00%	-	7,377,467		0.84%
1130C	1130B-04	363,945				0.00%	-	-		7.83%	15,847	379,792	2.80%	0.66%
1130C	1130B-05	932,462				0.00%	-	-		85.83%	173,674	1,106,136	4.09%	2.82%
1130C	1130B-06	36,710				0.00%	-	-		0.22%	439	37,149	6.71%	0.16%
1130C	1130P-02	70,952				0.00%	-	-		6.12%	12,385	83,337	1.94%	0.10%
1130C Total		1,404,069	1,606,415	202,346	-	0.00%	-	-	202,346	100.00%	202,346	1,606,415		3.73%
1130D	1130D-01	1,646,007				0.45%	-	-		68.96%	-	1,646,007	1.21%	0.45%
1130D	1130D-03	2,054,728				0.00%	-	-		0.59%	-	2,054,728	4.02%	1.85%
1130D	1130D-04	705,431				99.55%	-	-		29.56%	-	705,431	1.74%	0.27%
1130D	1130D-05	66,065				0.00%	-	-		0.89%	-	66,065	2.89%	0.04%
1130D Total		4,472,231	4,472,231	-	-	100.00%	-	-	-	100.00%	-	4,472,231		2.61%
1130E	1130D-02	4,644,167				72.62%	-	-		0.00%	-	4,644,167	2.03%	0.79%
1130E	1130E-01	4,561,625				18.54%	-	-		91.38%	232,045	4,793,670	1.11%	0.45%
1130E	1130E-02	245,726				7.72%	-	-		8.42%	21,390	267,116	1.47%	0.03%
1130E	1130P-02	1,610,768				1.12%	-	-		0.00%	-	1,610,768	1.94%	0.26%
1130E	1130Q-02	585,099				0.00%	-	-		0.20%	504	585,604	1.68%	0.08%
1130E Total		11,647,385	11,901,325	253,940	-	100.00%	-	-	253,940	100.00%	253,940	11,901,325		1.62%
1130F	1130F-01	1,168,477				100.00%	-	-		100.00%	374,699	1,543,176	1.95%	1.95%
1130F Total		1,168,477	1,543,176	374,699	-	100.00%	-	-	374,699	100.00%	374,699	1,543,176		1.95%
1130G	1130G-01	1,450,437				1.01%	-	-		5.53%	-	1,450,437	0.03%	0.01%
1130G	1130G-02	1,024,281				7.51%	-	-		32.08%	-	1,024,281	0.46%	0.09%
1130G	1130G-04	492,349				17.44%	-	-		16.20%	-	492,349	0.00%	0.00%
1130G	1130G-05	469,977				4.58%	-	-		8.74%	-	469,977	0.00%	0.00%
1130G	1130G-06	538,128				48.63%	-	-		19.32%	-	538,128	0.00%	0.00%
1130G	1130G-07	538,128				1.38%	-	-		4.50%	-	538,128	0.00%	0.00%
1130G	1130G-08	538,128				19.45%	-	-		13.63%	-	538,128	0.00%	0.00%
1130G Total		5,051,428	5,051,428	-	-	100.00%	-	-	-	100.00%	-	5,051,428		0.10%
1130H	1130Q-01	1,197				31.07%	-	-		59.47%	-	1,197	0.77%	0.00%
1130H	1130Q-02	118,118				51.85%	-	-		1.37%	-	118,118	1.68%	0.11%
1130H	1130R-02	1,749,984				17.08%	-	-		39.16%	-	1,749,984	1.84%	1.72%
1130H Total		1,869,299	1,869,299	-	-	100.00%	-	-	-	100.00%	-	1,869,299		1.83%
1130L	1130L					0.00%	-	-		100.00%	328,546	328,546	2.00%	2.00%
1130L Total			328,546	328,546	-	0.00%	-	-	328,546	100.00%	328,546	328,546		2.00%
1130P	1130P-01	778,135				96.27%	(122,179)	-		90.27%	1,900,098	2,556,054	1.03%	0.52%
1130P	1130P-02	2,349,059				3.73%	(4,728)	-		9.73%	204,874	2,549,205	1.94%	0.97%
1130P Total		3,127,193	5,105,259	1,978,066	(126,907)	100.00%	(126,907)	-	2,104,972	100.00%	2,104,972	5,105,259		1.48%
1130Q	1130P-02	11,791				0.66%	-	-		3.91%	6,491	18,282	1.94%	0.01%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1130Q	1130Q-02	49,325				43.25%	-	-		14.85%	24,658	73,982	1.68%	0.04%
1130Q	1130Q-03	904,984				40.10%	-	-		47.66%	79,117	984,101	3.57%	1.10%
1130Q	1130Q-04	986,205				5.81%	-	-		3.05%	5,065	991,270	3.96%	1.23%
1130Q	1130Q-05	978,675				9.63%	-	-		29.76%	49,400	1,028,075	10.07%	3.24%
1130Q	1130R-01	102,711				0.54%	-	-		0.76%	1,269	103,980	1.53%	0.05%
1130Q Total		3,033,690	3,199,690	166,000	-	100.00%	-	-	166,000	100.00%	166,000	3,199,690		5.66%
1130R	1130B-03	159,022				0.00%	-	-		1.32%	1,285	160,308	1.45%	0.04%
1130R	1130B-04	109,328				0.00%	-	-		1.24%	1,203	110,531	2.80%	0.06%
1130R	1130B-05	337,507				0.62%	(215)	-		1.08%	1,056	338,347	4.09%	0.25%
1130R	1130B-06	16,565				0.00%	-	-		0.14%	134	16,699	6.71%	0.02%
1130R	1130D-02	49,908				0.00%	-	-		0.00%	-	49,908	2.03%	0.02%
1130R	1130Q-03	1,043,896				0.91%	(317)	-		8.58%	8,351	1,051,929	3.57%	0.67%
1130R	1130Q-04	567,424				1.16%	(407)	-		2.05%	1,998	569,016	3.96%	0.40%
1130R	1130R-01	3,136,884				92.97%	(32,476)	-		80.89%	78,757	3,183,165	1.53%	0.87%
1130R	1130R-02	15,481				4.35%	(1,518)	-		4.36%	4,243	18,206	1.84%	0.01%
1130R	1130R-03	96,573				0.00%	-	-		0.35%	338	96,911	6.67%	0.12%
1130R Total		5,532,589	5,595,021	62,432	(34,933)	100.00%	(34,933)	-	97,366	100.00%	97,366	5,595,021		2.45%
1130W	1130B-03					0.00%	-	-		21.44%	2,634	2,634	1.45%	0.31%
1130W	1130B-04					49.59%	-	-		34.96%	4,296	4,296	2.80%	0.98%
1130W	1130B-05					29.33%	-	-		31.89%	3,918	3,918	4.09%	1.30%
1130W	1130B-06					21.08%	-	-		11.71%	1,439	1,439	6.71%	0.79%
1130W Total			12,288	12,288	-	100.00%	-	-	12,288	100.00%	12,288	12,288		3.38%
1135A	1135A-02	3,637,125				0.77%	-	-		82.41%	-	3,637,125	1.24%	0.49%
1135A	1135A-05	16,676				0.00%	-	-		0.00%	-	16,676	1.38%	0.00%
1135A	1135A-06	218,657				0.00%	-	-		2.18%	-	218,657	4.30%	0.10%
1135A	1135A-09	189,568				99.23%	-	-		0.00%	-	189,568	4.48%	0.09%
1135A	1135A-10	681,170				0.00%	-	-		4.29%	-	681,170	10.25%	0.75%
1135A	1135D-02	2,393,841				0.00%	-	-		11.13%	-	2,393,841	3.01%	0.78%
1135A	1135Q-02	1,456,489				0.00%	-	-		0.00%	-	1,456,489	1.98%	0.31%
1135A	1135R-01	702,893				0.00%	-	-		0.00%	-	702,893	1.62%	0.12%
1135A Total		9,296,418	9,296,418	-	-	100.00%	-	-	-	100.00%	-	9,296,418		2.64%
1135B	1135A-01	22,968,751				11.56%	(30,492)	-		0.79%	-	22,938,259	0.98%	0.30%
1135B	1135A-02	13,535				0.00%	-	-		0.00%	-	13,535	1.24%	0.00%
1135B	1135A-05	47,624,450				14.37%	(37,932)	-		82.24%	-	47,586,518	1.38%	0.89%
1135B	1135B-01	300,567				0.00%	-	-		0.00%	-	300,567	1.27%	0.01%
1135B	1135B-03	1,439,019				2.74%	(7,219)	-		9.97%	-	1,431,799	2.21%	0.04%
1135B	1135B-04	1,434,969				24.71%	(65,212)	-		5.50%	-	1,369,757	3.73%	0.07%
1135B	1135B-05	453,078				46.59%	(122,944)	-		1.13%	-	330,134	6.19%	0.03%
1135B	1135B-06	18,724				0.03%	(78)	-		0.38%	-	18,646	5.93%	0.00%
1135B	1135E-01	53,685				0.00%	-	-		0.00%	-	53,685	1.82%	0.00%
1135B Total		74,306,777	74,042,901	(263,876)	(263,876)	100.00%	(263,876)	-	-	100.00%	-	74,042,901		1.34%
1135C	1135A-05					0.00%	-	-		13.68%	337,958	337,958	1.38%	0.14%
1135C	1135B-03	775,797				0.00%	-	-		12.75%	314,940	1,090,737	2.21%	0.74%
1135C	1135B-04					0.00%	-	-		5.77%	142,663	142,663	3.73%	0.16%
1135C	1135B-05					0.00%	-	-		63.29%	1,563,661	1,563,661	6.19%	2.98%
1135C	1135P-02					0.00%	-	-		4.51%	111,500	111,500	2.56%	0.09%
1135C Total		775,797	3,246,518	2,470,721	-	0.00%	-	-	2,470,721	100.00%	2,470,721	3,246,518		4.12%
1135D	1135D-01	1,199,388				0.45%	-	-		69.58%	-	1,199,388	1.81%	0.30%
1135D	1135D-03	1,864,997				0.00%	-	-		0.60%	-	1,864,997	4.84%	1.25%
1135D	1135D-04	4,132,541				99.55%	-	-		29.82%	-	4,132,541	3.44%	1.98%
1135D Total		7,196,926	7,196,926	-	-	100.00%	-	-	-	100.00%	-	7,196,926		3.53%
1135E	1135E-01	3,282,685				58.16%	-	-		90.72%	-	3,282,685	1.82%	0.13%
1135E	1135E-02	40,679,866				24.22%	-	-		8.36%	-	40,679,866	2.65%	2.43%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1135E	1135G-04	159,306				17.62%	-	-		0.72%	-	159,306	1.85%	0.01%
1135E	1135Q-01	3,455				0.00%	-	-		0.00%	-	3,455	1.75%	0.00%
1135E	1135Q-02	99,640				0.00%	-	-		0.20%	-	99,640	1.98%	0.00%
1135E	1135R-03	144,027				0.00%	-	-		0.00%	-	144,027	6.67%	0.02%
1135E Total		44,368,979	44,368,979	-	-	100.00%	-	-	-	100.00%	-	44,368,979		2.60%
1135F	1135F-01	12,791,706				100.00%	(149,177)	-		100.00%	10,823,726	23,466,255	2.05%	2.05%
1135F Total		12,791,706	23,466,255	10,674,549	(149,177)	100.00%	(149,177)	-	10,823,726	100.00%	10,823,726	23,466,255		2.05%
1135G	1135G-01	13,230,175				1.01%	-	-		5.53%	3,516	13,233,691	1.26%	0.11%
1135G	1135G-02	60,137,063				7.51%	-	-		32.08%	20,396	60,157,458	1.55%	0.60%
1135G	1135G-04	22,191,717				17.44%	-	-		16.20%	10,299	22,202,016	1.85%	0.26%
1135G	1135G-05	22,191,717				4.58%	-	-		8.74%	5,559	22,197,275	1.59%	0.23%
1135G	1135G-06	7,736,610				48.63%	-	-		19.32%	12,285	7,748,895	2.05%	0.10%
1135G	1135G-07	212,444				1.38%	-	-		4.50%	2,864	215,308	2.04%	0.00%
1135G	1135G-08	29,801,399				19.45%	-	-		13.63%	8,668	29,810,068	1.96%	0.38%
1135G Total		155,501,124	155,564,710	63,586	-	100.00%	-	-	63,586	100.00%	63,586	155,564,710		1.68%
1135H	1135Q-01	692,374				31.07%	-	-		59.47%	-	692,374	1.75%	0.17%
1135H	1135Q-02	4,846,618				51.85%	-	-		1.37%	-	4,846,618	1.98%	1.39%
1135H	1135R-01	692,374				0.00%	-	-		0.00%	-	692,374	1.62%	0.16%
1135H	1135R-02	692,374				17.08%	-	-		39.16%	-	692,374	1.78%	0.18%
1135H Total		6,923,740	6,923,740	-	-	100.00%	-	-	-	100.00%	-	6,923,740		1.90%
1135L	1135L					0.00%	-	-		100.00%	776,747	776,747	2.00%	2.00%
1135L Total			776,747	776,747	-	0.00%	-	-	776,747	100.00%	776,747	776,747		2.00%
1135P	1135P-01	40,328,273				87.42%	(12,669)	-		86.10%	110,496	40,426,100	1.61%	1.56%
1135P	1135P-02	1,080,526				3.38%	(490)	-		9.28%	11,914	1,091,950	2.56%	0.07%
1135P	1135Q-02	56,195				0.31%	(45)	-		0.00%	-	56,150	1.98%	0.00%
1135P	1135Q-03	4,502				0.00%	-	-		0.00%	-	4,502	2.79%	0.00%
1135P	1135Q-04	35,377				8.89%	(1,288)	-		4.62%	5,931	40,021	3.24%	0.00%
1135P Total		41,504,874	41,618,723	113,850	(14,492)	100.00%	(14,492)	-	128,341	100.00%	128,341	41,618,723		1.64%
1135Q	1135P-02	41,143				0.66%	-	-		3.91%	12,569	53,712	2.56%	0.01%
1135Q	1135Q-01	1,099,813				0.00%	-	-		0.00%	9	1,099,823	1.75%	0.12%
1135Q	1135Q-02	7,940,224				43.25%	-	-		14.85%	47,745	7,987,968	1.98%	0.98%
1135Q	1135Q-03	2,485,610				40.10%	-	-		47.66%	153,206	2,638,816	2.79%	0.46%
1135Q	1135Q-04	298,120				5.81%	-	-		3.05%	9,808	307,928	3.24%	0.06%
1135Q	1135Q-05	1,750,725				9.63%	-	-		29.76%	95,653	1,846,378	8.85%	1.01%
1135Q	1135R-01	1,099,813				0.54%	-	-		0.76%	2,458	1,102,271	1.62%	0.11%
1135Q	1135R-02	1,099,813				0.00%	-	-		0.00%	9	1,099,823	1.78%	0.12%
1135Q Total		15,815,262	16,136,719	321,457	-	100.00%	-	-	321,457	100.00%	321,457	16,136,719		2.87%
1135R	1135B-02	13,193				0.00%	-	-		0.00%	-	13,193	1.74%	0.00%
1135R	1135B-03	946,321				0.00%	-	-		1.19%	24,184	970,506	2.21%	0.10%
1135R	1135B-04	639,683				0.00%	-	-		1.11%	22,640	662,323	3.73%	0.12%
1135R	1135B-05	278,645				0.58%	(348)	-		0.98%	19,859	298,156	6.19%	0.09%
1135R	1135B-06	95,130				0.00%	-	-		0.12%	2,519	97,649	5.93%	0.03%
1135R	1135F-01	2,092,152				0.00%	-	-		4.52%	92,020	2,184,172	2.05%	0.21%
1135R	1135P-02	1,323,106				0.00%	(2)	-		4.52%	91,946	1,415,050	2.56%	0.17%
1135R	1135Q-02	1,015,206				6.20%	(3,689)	-		2.80%	57,040	1,068,558	1.98%	0.10%
1135R	1135Q-03	1,325,269				0.86%	(513)	-		7.72%	157,102	1,481,858	2.79%	0.20%
1135R	1135Q-05	264,656				0.01%	(4)	-		0.00%	-	264,652	8.85%	0.11%
1135R	1135R-01	10,824,435				88.22%	(52,512)	-		72.80%	1,481,673	12,253,596	1.62%	0.95%
1135R	1135R-02	35,357				4.12%	(2,455)	-		3.92%	79,833	112,736	1.78%	0.01%
1135R	1135R-03	175,770				0.00%	-	-		0.31%	6,360	182,130	6.67%	0.06%
1135R Total		19,028,922	21,004,578	1,975,656	(59,521)	100.00%	(59,521)	-	2,035,177	100.00%	2,035,177	21,004,578		2.14%
1135W	1135B-04	130,041				49.59%	-	-		44.50%	-	130,041	3.73%	0.89%
1135W	1135B-05	364,489				29.33%	-	-		40.59%	-	364,489	6.19%	4.12%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1135W	1135B-06	53,078				21.08%	-	-		14.91%	-	53,078	5.93%	0.57%
1135W Total		547,608	547,608	-	-	100.00%	-	-	-	100.00%	-	547,608		5.58%
1135X	1135B-02	1,804,075				2.87%	-	-		28.26%	-	1,804,075	1.74%	0.47%
1135X	1135B-03	1,119,771				1.82%	-	-		17.52%	-	1,119,771	2.21%	0.37%
1135X	1135B-04	1,996,850				27.15%	-	-		26.35%	-	1,996,850	3.73%	1.10%
1135X	1135B-05	1,080,629				6.68%	-	-		16.81%	-	1,080,629	6.19%	0.99%
1135X	1135B-06	747,550				0.91%	-	-		11.06%	-	747,550	5.93%	0.66%
1135X	1135R-01	-				60.57%	-	-		0.00%	-	-	1.62%	0.00%
1135X Total		6,748,875	6,748,875	-	-	100.00%	-	-	-	100.00%	-	6,748,875		3.58%
1140A	1140A-02	40,794,687				100.00%	-	-		92.73%	-	40,794,687	0.95%	0.68%
1140A	1140A-03	250,000				0.00%	-	-		0.00%	-	250,000	8.95%	0.04%
1140A	1140A-06	795,242				0.00%	-	-		2.45%	-	795,242	3.08%	0.04%
1140A	1140A-10	13,049,580				0.00%	-	-		4.82%	-	13,049,580	5.84%	1.35%
1140A	1140Q-01	31,301				0.00%	-	-		0.00%	-	31,301	1.85%	0.00%
1140A	1140Q-03	1,645,913				0.00%	-	-		0.00%	-	1,645,913	4.04%	0.12%
1140A	1140R-01	53,483				0.00%	-	-		0.00%	-	53,483	1.59%	0.00%
1140A Total		56,620,206	56,620,206	-	-	100.00%	-	-	-	100.00%	-	56,620,206		2.23%
1140B	1140A-01	20,728,240				11.56%	-	-		0.79%	-	20,728,240	0.81%	0.69%
1140B	1140A-05	74,274				14.37%	-	-		82.24%	-	74,274	1.30%	0.00%
1140B	1140B-01	234,984				0.00%	-	-		0.00%	-	234,984	0.91%	0.01%
1140B	1140B-03	1,251,634				2.74%	-	-		9.97%	-	1,251,634	1.83%	0.09%
1140B	1140B-04	1,753,622				24.71%	-	-		5.50%	-	1,753,622	2.80%	0.20%
1140B	1140B-05	219,085				46.59%	-	-		1.13%	-	219,085	4.10%	0.04%
1140B	1140B-06	22,554				0.03%	-	-		0.38%	-	22,554	5.69%	0.01%
1140B	1140F-01	119,374				0.00%	-	-		0.00%	-	119,374	1.40%	0.01%
1140B	1140P-02	13,365				0.00%	-	-		0.00%	-	13,365	2.40%	0.00%
1140B Total		24,417,132	24,417,132	-	-	100.00%	-	-	-	100.00%	-	24,417,132		1.05%
1140C	1140A-05					0.00%	-	-		13.44%	443,010	443,010	1.30%	0.12%
1140C	1140B-03					0.00%	-	-		12.53%	412,837	412,837	1.83%	0.16%
1140C	1140B-04	26,979				0.00%	-	-		5.67%	187,008	213,987	2.80%	0.12%
1140C	1140B-05	1,328,358				0.00%	-	-		62.19%	2,049,639	3,377,998	4.10%	2.88%
1140C	1140B-06	4,624				0.00%	-	-		0.16%	5,186	9,811	5.69%	0.01%
1140C	1140P-02					0.00%	-	-		4.43%	146,159	146,159	2.40%	0.07%
1140C	1140R-03	157,044				0.00%	-	-		1.57%	51,902	208,946	4.20%	0.18%
1140C Total		1,517,006	4,812,747	3,295,741	-	0.00%	-	-	3,295,741	100.00%	3,295,741	4,812,747		3.55%
1140D	1140D-01	4,007,473				0.45%	-	-		70.00%	-	4,007,473	0.96%	0.71%
1140D	1140D-02	143,426				0.00%	-	-		0.00%	-	143,426	2.19%	0.06%
1140D	1140D-04	1,300,861				99.55%	-	-		30.00%	-	1,300,861	1.10%	0.26%
1140D Total		5,451,760	5,451,760	-	-	100.00%	-	-	-	100.00%	-	5,451,760		1.03%
1140E	1140E-01	12,138,833				67.72%	-	-		91.56%	-	12,138,833	0.13%	0.10%
1140E	1140E-02	2,587,832				28.20%	-	-		8.44%	-	2,587,832	1.21%	0.20%
1140E	1140P-02	6,047				4.07%	-	-		0.00%	-	6,047	2.40%	0.00%
1140E	1140Q-03	1,249,780				0.00%	-	-		0.00%	-	1,249,780	4.04%	0.32%
1140E Total		15,982,492	15,982,492	-	-	100.00%	-	-	-	100.00%	-	15,982,492		0.61%
1140F	1140B-05	37,571				0.00%	-	-		0.10%	348	37,919	4.10%	0.04%
1140F	1140F-01	3,353,383				100.00%	(12,700)	-		99.90%	349,178	3,689,861	1.40%	1.39%
1140F Total		3,390,955	3,727,780	336,826	(12,700)	100.00%	(12,700)	-	349,526	100.00%	349,526	3,727,780		1.43%
1140G	1140G-01	2,976,028				0.97%	(1,756)	-		7.35%	(490,954)	2,483,318	1.23%	0.03%
1140G	1140G-03	50,718,877				1.24%	(2,242)	-		0.42%	(28,240)	50,688,395	2.76%	1.30%
1140G	1140G-04	9,077,379				16.78%	(30,259)	-		21.52%	(1,438,271)	7,608,849	1.96%	0.14%
1140G	1140G-05	9,077,379				4.41%	(7,951)	-		11.62%	(776,314)	8,293,114	1.66%	0.13%
1140G	1140G-06	5,321,514				46.78%	(84,374)	-		25.67%	(1,715,654)	3,521,486	2.22%	0.07%
1140G	1140G-07	5,321,514				1.33%	(2,395)	-		5.99%	(399,985)	4,919,134	1.65%	0.08%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1140G	1140G-08	19,802,293				18.71%	(33,743)	-		18.11%	(1,210,545)	18,558,006	2.06%	0.35%
1140G	1140P-01	3,288,023				0.06%	(114)	-		-0.01%	821	3,288,731	1.64%	0.05%
1140G	1140Q-02	44,822				1.96%	(3,538)	-		0.19%	(12,677)	28,607	1.53%	0.00%
1140G	1140Q-03	2,965,587				0.57%	(1,034)	-		0.12%	(7,932)	2,956,622	4.04%	0.11%
1140G	1140R-01	3,150,757				7.17%	(12,937)	-		9.03%	(603,339)	2,534,481	1.59%	0.04%
1140G	1140R-02	2,965,587				0.00%	-	-		0.00%	-	2,965,587	1.95%	0.05%
1140G Total		114,709,762	107,846,331	(6,863,431)	(180,342)	100.00%	(180,342)	-	(6,683,089)	100.00%	(6,683,089)	107,846,331		2.35%
1140H	1140P-01	124,915				0.26%	(116)	-		6.19%	175,831	300,630	1.64%	0.05%
1140H	1140Q-01	379,681				8.26%	(3,666)	-		13.90%	395,165	771,179	1.85%	0.15%
1140H	1140Q-02	42,718				13.79%	(6,119)	-		0.32%	9,112	45,710	1.53%	0.01%
1140H	1140Q-03	6,242,480				77.69%	(34,476)	-		79.59%	2,262,499	8,470,503	4.04%	3.57%
1140H Total		6,789,793	9,588,022	2,798,230	(44,378)	100.00%	(44,378)	-	2,842,607	100.00%	2,842,607	9,588,022		3.78%
1140L	1140L-01	78,917,675				0.00%	-	-		100.00%	6,387,261	85,304,936	1.99%	1.99%
1140L Total		78,917,675	85,304,936	6,387,261	-	0.00%	-	-	6,387,261	100.00%	6,387,261	85,304,936		1.99%
1140P	1140P-01	25,402,331				87.42%	(222,531)	-		86.10%	6,573,387	31,753,187	1.64%	1.41%
1140P	1140P-02	1,809,951				3.38%	(8,611)	-		9.28%	708,771	2,510,111	2.40%	0.16%
1140P	1140Q-02	508,682				0.31%	(789)	-		0.00%	-	507,893	1.53%	0.02%
1140P	1140Q-04	1,913,757				8.89%	(22,619)	-		4.62%	352,831	2,243,969	3.97%	0.24%
1140P Total		29,634,721	37,015,161	7,380,440	(254,549)	100.00%	(254,549)	-	7,634,989	100.00%	7,634,989	37,015,161		1.83%
1140Q	1140P-02	69,607				0.67%	(1,320)	-		3.94%	42,743	111,030	2.40%	0.04%
1140Q	1140Q-01	62,447				0.00%	-	-		0.00%	32	62,479	1.85%	0.02%
1140Q	1140Q-02	3,290,790				43.49%	(86,025)	-		14.97%	162,368	3,367,133	1.53%	0.69%
1140Q	1140Q-03	1,015,545				40.32%	(79,760)	-		48.03%	520,989	1,456,774	4.04%	0.79%
1140Q	1140Q-04	105,145				5.84%	(11,561)	-		3.07%	33,353	126,937	3.97%	0.07%
1140Q	1140Q-05	2,046,832				9.68%	(19,148)	-		29.99%	325,293	2,352,978	7.75%	2.44%
1140Q	1140R-03	3,418				0.00%	-	-		0.00%	-	3,418	4.20%	0.00%
1140Q Total		6,593,785	7,480,749	886,964	(197,814)	100.00%	(197,814)	-	1,084,778	100.00%	1,084,778	7,480,749		4.03%
1140R	1140B-03	451,662				0.00%	-	-		1.24%	1,108	452,771	1.83%	0.06%
1140R	1140B-04	301,917				0.00%	-	-		1.17%	1,038	302,955	2.80%	0.06%
1140R	1140B-05	153,918				0.58%	(357)	-		1.02%	910	154,471	4.10%	0.04%
1140R	1140B-06	45,745				0.00%	-	-		0.13%	115	45,860	5.69%	0.02%
1140R	1140P-02	68,402				0.00%	-	-		4.73%	4,214	72,616	2.40%	0.01%
1140R	1140Q-02	466,918				6.20%	(3,785)	-		2.94%	2,614	465,747	1.53%	0.05%
1140R	1140Q-03	784,526				0.86%	(527)	-		8.08%	7,199	791,199	4.04%	0.22%
1140R	1140Q-05	104,716				0.01%	-	-		0.00%	-	104,716	7.75%	0.06%
1140R	1140R-01	11,586,086				88.22%	(53,885)	-		76.25%	67,897	11,600,099	1.59%	1.28%
1140R	1140R-02	112,476				4.12%	(2,518)	-		4.11%	3,658	113,616	1.95%	0.02%
1140R	1140R-03	310,531				0.00%	-	-		0.33%	291	310,823	4.20%	0.09%
1140R Total		14,386,900	14,414,873	27,973	(61,072)	100.00%	(61,072)	-	89,045	100.00%	89,045	14,414,873		1.90%
1140W	1140B-03	462,535				0.00%	-	-		21.44%	(108,854)	353,681	1.83%	0.08%
1140W	1140B-04	3,989,201				49.59%	-	-		34.96%	(177,506)	3,811,695	2.80%	1.27%
1140W	1140B-05	2,836,406				29.33%	-	-		31.89%	(161,905)	2,674,501	4.10%	1.30%
1140W	1140B-06	1,632,141				21.08%	-	-		11.71%	(59,472)	1,572,669	5.69%	1.06%
1140W Total		8,920,283	8,412,546	(507,737)	-	100.00%	-	-	(507,737)	100.00%	(507,737)	8,412,546		3.71%
1140X	1140B-02	2,245,776				7.28%	(14,708)	-		28.26%	354,927	2,585,994	1.51%	0.42%
1140X	1140B-03	1,393,930				4.61%	(9,318)	-		17.52%	220,034	1,604,646	1.83%	0.31%
1140X	1140B-04	2,153,054				68.86%	(139,052)	-		26.35%	330,854	2,344,855	2.80%	0.70%
1140X	1140B-05	1,960,964				16.95%	(34,222)	-		16.81%	211,075	2,137,818	4.10%	0.93%
1140X	1140B-06	570,145				2.30%	(4,643)	-		11.06%	138,852	704,354	5.69%	0.43%
1140X Total		8,323,870	9,377,669	1,053,799	(201,943)	100.00%	(201,943)	-	1,255,741	100.00%	1,255,741	9,377,669		2.79%
1140Z	1140Z-01	187,821,533				0.00%	-	-		100.00%	10,627,340	198,448,874	1.12%	1.12%
1140Z Total		187,821,533	198,448,874	10,627,340	-	0.00%	-	-	10,627,340	100.00%	10,627,340	198,448,874		1.12%
1145A	1145A-01	7,046,158				11.41%	-	-		0.00%	8	7,046,166	0.82%	0.13%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1145A	1145A-02	37,278,583				88.59%	-	-		95.05%	200,461	37,479,044	0.75%	0.62%
1145A	1145A-05	262,515				0.00%	-	-		0.00%	-	262,515	1.04%	0.01%
1145A	1145A-10	693,408				0.00%	-	-		4.94%	10,426	703,833	5.00%	0.08%
1145A Total		45,280,663	45,491,558	210,895	-	100.00%	-	-	210,895	100.00%	210,895	45,491,558		0.83%
1145B	1145A-01	118,167,957				11.55%	(57,475)	-		0.77%	5,195	118,115,677	0.82%	0.66%
1145B	1145A-05					14.37%	(71,499)	-		80.64%	543,888	472,389	1.04%	0.00%
1145B	1145A-09	107,616				0.02%	(77)	-		1.94%	13,084	120,624	3.33%	0.00%
1145B	1145B-01	2,941,485				0.00%	-	-		0.00%	-	2,941,485	1.00%	0.02%
1145B	1145B-03	10,885,333				2.74%	(13,607)	-		9.77%	65,913	10,937,638	1.79%	0.13%
1145B	1145B-04	7,634,079				24.71%	(122,920)	-		5.39%	36,366	7,547,524	2.82%	0.15%
1145B	1145B-05	6,798,244				46.59%	(231,765)	-		1.11%	7,498	6,573,977	4.00%	0.18%
1145B	1145B-06	22,720				0.03%	(147)	-		0.37%	2,499	25,073	7.42%	0.00%
1145B	1145P-02	3,605				0.00%	-	-		0.00%	-	3,605	1.71%	0.00%
1145B Total		146,561,039	146,737,991	176,952	(497,490)	100.00%	(497,490)	-	674,442	100.00%	674,442	146,737,991		1.15%
1145C	1145A-05					0.00%	-	-		13.66%	379,646	379,646	1.04%	0.12%
1145C	1145B-03	403,941				0.00%	-	-		12.73%	353,788	757,730	1.79%	0.41%
1145C	1145B-04	141,925				0.00%	-	-		5.76%	160,260	302,186	2.82%	0.26%
1145C	1145B-05					0.00%	-	-		63.19%	1,756,359	1,756,359	4.00%	2.11%
1145C	1145B-06					0.00%	-	-		0.16%	4,444	4,444	7.42%	0.01%
1145C	1145P-02					0.00%	-	-		4.51%	125,254	125,254	1.71%	0.06%
1145C Total		545,867	3,325,619	2,779,752	-	0.00%	-	-	2,779,752	100.00%	2,779,752	3,325,619		2.97%
1145D	1145D-01	14,733,141				0.45%	-	-		70.00%	33,808	14,766,949	0.98%	0.57%
1145D	1145D-04	6,314,203				99.55%	-	-		30.00%	14,489	6,328,692	1.13%	0.28%
1145D	1145E-01	4,359,616				0.00%	-	-		0.01%	2	4,359,618	0.41%	0.07%
1145D Total		25,406,960	25,455,259	48,299	-	100.00%	-	-	48,299	100.00%	48,299	25,455,259		0.92%
1145E	1145E-01	12,958,476				13.07%	(10,378)	-		80.78%	1,352,609	14,300,707	0.41%	0.28%
1145E	1145E-02	634,458				5.44%	(4,322)	-		7.45%	124,687	754,822	2.29%	0.08%
1145E	1145G-04	1,092,564				3.96%	(3,144)	-		0.64%	10,784	1,100,204	1.61%	0.08%
1145E	1145P-02	62,154				0.79%	(624)	-		0.00%	-	61,530	1.71%	0.00%
1145E	1145R-01	4,705,723				76.74%	(60,940)	-		11.13%	186,303	4,831,086	1.44%	0.33%
1145E Total		19,453,374	21,048,348	1,594,974	(79,408)	100.00%	(79,408)	-	1,674,382	100.00%	1,674,382	21,048,348		0.78%
1145F	1145B-04	85,163				0.00%	-	-		0.00%	-	85,163	2.82%	0.04%
1145F	1145F-01	1,297,742				100.00%	-	-		100.00%	4,398,321	5,696,062	1.98%	1.95%
1145F Total		1,382,904	5,781,225	4,398,321	-	100.00%	-	-	4,398,321	100.00%	4,398,321	5,781,225		1.99%
1145G	1145G-01	17,325,966				0.92%	(76)	-		5.17%	112,006	17,437,896	0.99%	0.12%
1145G	1145G-02	9,667,828				6.86%	(565)	-		30.00%	649,795	10,317,058	1.23%	0.09%
1145G	1145G-04	6,634,115				15.93%	(1,311)	-		15.15%	328,125	6,960,930	1.61%	0.08%
1145G	1145G-05	5,111,366				4.18%	(344)	-		8.18%	177,107	5,288,129	1.27%	0.05%
1145G	1145G-06	42,916,903				44.41%	(3,655)	-		18.07%	391,392	43,304,640	1.97%	0.59%
1145G	1145G-07	7,658,138				1.26%	(104)	-		4.21%	91,252	7,749,287	1.25%	0.07%
1145G	1145G-08	33,972,786				17.76%	(1,462)	-		12.75%	276,172	34,247,497	1.87%	0.45%
1145G	1145Q-02	95,511				1.86%	(153)	-		0.13%	2,892	98,249	1.95%	0.00%
1145G	1145R-01	18,033,107				6.81%	(560)	-		6.35%	137,645	18,170,191	1.44%	0.18%
1145G Total		141,415,720	143,573,876	2,158,156	(8,231)	100.00%	(8,231)	-	2,166,387	100.00%	2,166,387	143,573,876		1.62%
1145H	1145P-02	85,044				0.25%	-	-		0.51%	373	85,417	1.71%	0.01%
1145H	1145Q-02	2,391,952				15.04%	-	-		0.40%	291	2,392,243	1.95%	0.40%
1145H	1145Q-03	9,072,651				84.71%	-	-		99.09%	72,376	9,145,027	3.44%	2.71%
1145H Total		11,549,647	11,622,688	73,041	-	100.00%	-	-	73,041	100.00%	73,041	11,622,688		3.12%
1145P	1145P-01	47,632,618				95.95%	-	-		90.27%	(157,914)	47,474,704	1.56%	1.54%
1145P	1145P-02	536,244				3.71%	-	-		9.73%	(17,027)	519,217	1.71%	0.02%
1145P	1145Q-02	79,316				0.34%	-	-		0.00%	-	79,316	1.95%	0.00%
1145P Total		48,248,179	48,073,238	(174,941)	-	100.00%	-	-	(174,941)	100.00%	(174,941)	48,073,238		1.56%
1145Q	1145P-01	58,074				0.00%	-	-		0.00%	-	58,074	1.56%	0.00%

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[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1145Q	1145P-02	206,483				0.66%	(239)	-		3.91%	4,614	210,858	1.71%	0.02%
1145Q	1145Q-02	10,965,362				43.25%	(15,553)	-		14.85%	17,526	10,967,335	1.95%	0.95%
1145Q	1145Q-03	8,504,581				40.10%	(14,423)	-		47.66%	56,234	8,546,393	3.44%	1.31%
1145Q	1145Q-04	348,030				5.81%	(2,091)	-		3.05%	3,600	349,540	3.48%	0.05%
1145Q	1145Q-05	2,274,998				9.63%	(3,462)	-		29.76%	35,112	2,306,648	8.57%	0.88%
1145Q	1145R-01	67,812				0.54%	(195)	-		0.76%	902	68,518	1.44%	0.00%
1145Q Total		22,425,340	22,507,366	82,026	(35,963)	100.00%	(35,963)	-	117,989	100.00%	117,989	22,507,366		3.21%
1145R	1145B-03	1,121,940				0.00%	-	-		1.24%	90,809	1,212,749	1.79%	0.06%
1145R	1145B-04	691,804				0.00%	-	-		1.17%	85,012	776,816	2.82%	0.06%
1145R	1145B-05	336,391				0.58%	-	-		1.02%	74,566	410,957	4.00%	0.05%
1145R	1145B-06	104,819				0.00%	-	-		0.13%	9,459	114,278	7.42%	0.02%
1145R	1145P-02	4,312,222				0.00%	-	-		4.73%	345,244	4,657,466	1.71%	0.22%
1145R	1145Q-02	32,091				6.20%	-	-		2.94%	214,180	246,271	1.95%	0.01%
1145R	1145Q-03	1,673,658				0.86%	-	-		8.08%	589,899	2,263,557	3.44%	0.22%
1145R	1145Q-05	249,364				0.01%	-	-		0.00%	-	249,364	8.57%	0.06%
1145R	1145R-01	17,657,876				88.22%	-	-		76.25%	5,563,320	23,221,195	1.44%	0.93%
1145R	1145R-02	1,904,712				4.12%	-	-		4.11%	299,764	2,204,476	1.80%	0.11%
1145R	1145R-03	619,703				0.00%	-	-		0.33%	23,880	643,583	3.31%	0.06%
1145R Total		28,704,580	36,000,712	7,296,132	-	100.00%	-	-	7,296,132	100.00%	7,296,132	36,000,712		1.80%
1145X	1145B-02	713,110				7.28%	(94,743)	281,737		28.26%	393,940	1,294,045	1.41%	0.52%
1145X	1145B-03	442,620				4.61%	(60,018)	174,872		17.52%	244,220	801,693	1.79%	0.41%
1145X	1145B-04	639,340				68.86%	(895,689)	252,592		26.35%	367,221	363,464	2.82%	0.29%
1145X	1145B-05	404,004				16.95%	(220,434)	155,441		16.81%	234,276	573,287	4.00%	0.65%
1145X	1145B-06	259,926				2.30%	(29,906)	115,488		11.06%	154,114	499,622	7.42%	1.05%
1145X Total		2,458,999	3,532,111	1,073,112	(1,300,790)	100.00%	(1,300,790)	980,131	1,393,771	100.00%	1,393,771	3,532,111		2.91%
1150A	1150A-06	316,188				0.00%	-	-		100.00%	-	316,188	3.92%	3.49%
1150A	1150Q-02	39,350				0.00%	-	-		0.00%	-	39,350	1.46%	0.16%
1150A Total		355,538	355,538	-	-	0.00%	-	-	-	100.00%	-	355,538		3.65%
1150B	1150A-05	2,611,923				16.25%	-	-		82.89%	-	2,611,923	1.52%	0.52%
1150B	1150B-03	2,425,067				3.09%	-	-		10.05%	-	2,425,067	2.18%	0.69%
1150B	1150B-04	1,667,234				27.94%	-	-		5.54%	-	1,667,234	2.67%	0.58%
1150B	1150B-05	707,311				52.68%	-	-		1.14%	-	707,311	3.23%	0.30%
1150B	1150B-06	252,611				0.03%	-	-		0.38%	-	252,611	4.67%	0.15%
1150B Total		7,664,146	7,664,146	-	-	100.00%	-	-	-	100.00%	-	7,664,146		2.24%
1150D	1150D-02	870,000				0.00%	-	-		0.00%	-	870,000	2.11%	2.11%
1150D Total		870,000	870,000	-	-	0.00%	-	-	-	0.00%	-	870,000		2.11%
1150E	1150E-01	136,331				70.60%	-	-		91.56%	-	136,331	1.68%	0.50%
1150E	1150E-02	321,702				29.40%	-	-		8.44%	-	321,702	2.31%	1.62%
1150E Total		458,033	458,033	-	-	100.00%	-	-	-	100.00%	-	458,033		2.12%
1150F	1150F-01	1,588,097				100.00%	-	-		100.00%	32,667	1,620,764	2.01%	2.01%
1150F Total		1,588,097	1,620,764	32,667	-	100.00%	-	-	32,667	100.00%	32,667	1,620,764		2.01%
1150G	1150E-01	181,663				0.00%	-	-		0.08%	-	181,663	1.68%	0.07%
1150G	1150G-01	257,898				1.30%	-	-		11.10%	-	257,898	1.27%	0.07%
1150G	1150G-06	257,898				62.40%	-	-		38.78%	-	257,898	1.24%	0.07%
1150G	1150G-07	257,898				1.77%	-	-		9.04%	-	257,898	1.27%	0.07%
1150G	1150G-08	3,415,062				24.96%	-	-		27.36%	-	3,415,062	2.07%	1.54%
1150G	1150P-02	153,014				0.00%	-	-		0.00%	-	153,014	2.21%	0.07%
1150G	1150R-01	79,703				9.57%	-	-		13.64%	-	79,703	1.49%	0.03%
1150G Total		4,603,136	4,603,136	-	-	100.00%	-	-	-	100.00%	-	4,603,136		1.91%
1150H	1150P-02	95,198				0.25%	-	-		0.51%	-	95,198	2.21%	0.24%
1150H	1150Q-02	122,609				15.04%	-	-		0.40%	-	122,609	1.46%	0.20%
1150H	1150Q-03	664,846				84.71%	-	-		99.09%	-	664,846	3.34%	2.52%
1150H Total		882,653	882,653	-	-	100.00%	-	-	-	100.00%	-	882,653		2.96%

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[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1150L	1150L					0.00%	-	-		100.00%	1,751	1,751	2.00%	2.00%
1150L Total			1,751	1,751	-	0.00%	-	-	1,751	100.00%	1,751	1,751		2.00%
1150P	1150P-02	1,441,945				100.00%	-	-		100.00%	828,182	2,270,127	2.21%	2.21%
1150P Total		1,441,945	2,270,127	828,182	-	100.00%	-	-	828,182	100.00%	828,182	2,270,127		2.21%
1150Q	1150E-01	27,142				0.00%	-	-		0.00%	-	27,142	1.68%	0.04%
1150Q	1150P-02	13,001				0.73%	(68)	-		5.57%	23,816	36,748	2.21%	0.07%
1150Q	1150Q-02	180,453				47.86%	(4,448)	-		21.15%	90,469	266,474	1.46%	0.34%
1150Q	1150Q-03	93,592				44.38%	(4,125)	-		67.85%	290,315	379,782	3.34%	1.10%
1150Q	1150Q-04	32,263				6.43%	(598)	-		4.34%	18,584	50,248	1.57%	0.07%
1150Q	1150R-01	384,603				0.60%	(56)	-		1.09%	4,657	389,204	1.49%	0.50%
1150Q Total		731,054	1,149,599	418,545	(9,296)	100.00%	(9,296)	-	427,841	100.00%	427,841	1,149,599		2.13%
1150R	1150P-02	85,107				0.00%	-	-		4.91%	8,088	93,195	2.21%	0.21%
1150R	1150Q-01	81,827				0.00%	-	-		7.50%	12,342	94,168	1.66%	0.16%
1150R	1150Q-03	95,473				0.97%	-	-		8.40%	13,820	109,293	3.34%	0.38%
1150R	1150R-01	537,100				99.03%	-	-		79.19%	130,336	667,436	1.49%	1.03%
1150R Total		799,506	964,093	164,586	-	100.00%	-	-	164,586	100.00%	164,586	964,093		1.79%
1150W	1150B-04	27,647				70.17%	-	-		74.90%	-	27,647	2.67%	1.60%
1150W	1150B-06	18,432				29.83%	-	-		25.10%	-	18,432	4.67%	1.87%
1150W Total		46,079	46,079	-	-	100.00%	-	-	-	100.00%	-	46,079		3.47%
1150X	1150B-02	103,216				7.28%	-	-		28.26%	78,180	181,397	1.91%	0.55%
1150X	1150B-03	64,065				4.61%	-	-		17.52%	48,467	112,533	2.18%	0.39%
1150X	1150B-04	92,539				68.86%	-	-		26.35%	72,878	165,417	2.67%	0.70%
1150X	1150B-05	56,947				16.95%	-	-		16.81%	46,494	103,441	3.23%	0.53%
1150X	1150B-06	39,151				2.30%	-	-		11.06%	30,585	69,736	4.67%	0.51%
1150X Total		355,919	632,523	276,604	-	100.00%	-	-	276,604	100.00%	276,604	632,523		2.68%
1155A	1155A-01	6,769,722				11.41%	-	-		0.00%	0	6,769,722	0.78%	0.32%
1155A	1155A-02	8,015,475				88.59%	-	-		95.05%	4,006	8,019,481	0.84%	0.41%
1155A	1155A-10	1,672,408				0.00%	-	-		4.94%	208	1,672,616	4.72%	0.48%
1155A	1155Q-03	55,577				0.00%	-	-		0.00%	-	55,577	3.82%	0.01%
1155A Total		16,513,182	16,517,397	4,215	-	100.00%	-	-	4,215	100.00%	4,215	16,517,397		1.22%
1155B	1155A-01	73,836,651				13.17%	-	-		3.96%	1,123	73,837,774	0.78%	0.75%
1155B	1155A-09	31,576				0.02%	-	-		9.99%	2,828	34,403	3.20%	0.00%
1155B	1155B-01	124,647				0.00%	-	-		0.00%	-	124,647	0.89%	0.00%
1155B	1155B-03	775,585				3.12%	-	-		50.31%	14,240	789,826	1.86%	0.02%
1155B	1155B-04	1,611,633				28.17%	-	-		27.76%	7,859	1,619,492	3.18%	0.07%
1155B	1155B-05	101,947				53.11%	-	-		5.72%	1,620	103,568	4.23%	0.01%
1155B	1155B-06	22,322				0.03%	-	-		1.91%	540	22,863	7.12%	0.00%
1155B	1155F-01	299,332				0.00%	-	-		0.00%	-	299,332	1.89%	0.01%
1155B	1155G-04	7,278				2.38%	-	-		0.32%	91	7,370	1.79%	0.00%
1155B	1155Q-03	730				0.00%	-	-		0.03%	9	740	3.82%	0.00%
1155B Total		76,811,703	76,840,014	28,311	-	100.00%	-	-	28,311	100.00%	28,311	76,840,014		0.85%
1155C	1155B-04	98,979				0.00%	-	-		8.12%	40,406	139,385	3.18%	0.13%
1155C	1155B-05	2,627,339				0.00%	-	-		88.98%	442,890	3,070,230	4.23%	3.94%
1155C	1155B-06	13,919				0.00%	-	-		0.23%	1,121	15,039	7.12%	0.03%
1155C	1155P-01	29,543				0.00%	-	-		0.42%	2,110	31,653	1.47%	0.01%
1155C	1155R-03	26,446				0.00%	-	-		2.25%	11,214	37,660	5.84%	0.07%
1155C Total		2,796,227	3,293,967	497,740	-	0.00%	-	-	497,740	100.00%	497,740	3,293,967		4.19%
1155D	1155D-01	10,334,765				0.31%	-	-		69.37%	3,862	10,338,626	0.89%	0.62%
1155D	1155D-04	4,429,185				67.90%	-	-		29.73%	1,655	4,430,840	1.30%	0.39%
1155D	1155D-05	28,928				0.00%	-	-		0.90%	50	28,978	2.38%	0.00%
1155D	1155E-01	106,838				0.00%	-	-		0.01%	0	106,838	0.64%	0.00%
1155D	1155F-01	43,017				31.79%	-	-		0.00%	-	43,017	1.89%	0.01%
1155D Total		14,942,733	14,948,300	5,567	-	100.00%	-	-	5,567	100.00%	5,567	14,948,300		1.02%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1155E	1155D-01	4,588,629				0.00%	-	-		0.00%	-	4,588,629	0.89%	0.21%
1155E	1155D-05	42,827				0.00%	-	-		0.00%	-	42,827	2.38%	0.01%
1155E	1155E-01	12,925,979				14.55%	-	-		87.89%	5,452	12,931,431	0.64%	0.43%
1155E	1155F-01	1,287,189				0.00%	-	-		0.00%	-	1,287,189	1.89%	0.13%
1155E	1155Q-01	3,912				0.00%	-	-		0.00%	-	3,912	0.24%	0.00%
1155E	1155R-01	223,907				85.45%	-	-		12.11%	751	224,658	1.36%	0.02%
1155E Total		19,072,443	19,078,646	6,203	-	100.00%	-	-	6,203	100.00%	6,203	19,078,646		0.80%
1155F	1155A-06	1,323,364				0.00%	-	-		3.39%	16,770	1,340,134	2.48%	0.69%
1155F	1155F-01	3,009,995				100.00%	-	-		96.61%	477,628	3,487,623	1.89%	1.37%
1155F Total		4,333,359	4,827,757	494,398	-	100.00%	-	-	494,398	100.00%	494,398	4,827,757		2.05%
1155G	1155G-01	19,171,002				0.98%	(422)	-		7.35%	289,432	19,460,011	1.04%	0.19%
1155G	1155G-03	11,642,687				1.25%	(539)	-		0.42%	16,648	11,658,797	2.16%	0.24%
1155G	1155G-04	13,631,258				16.89%	(7,272)	-		21.54%	847,903	14,471,890	1.79%	0.25%
1155G	1155G-05	19,772,483				4.44%	(1,911)	-		11.63%	457,660	20,228,232	1.54%	0.29%
1155G	1155G-06	10,671,117				47.08%	(20,275)	-		25.70%	1,011,123	11,661,965	1.77%	0.20%
1155G	1155G-07	10,424,603				1.34%	(575)	-		5.99%	235,803	10,659,831	1.44%	0.15%
1155G	1155G-08	12,993,253				18.83%	(8,109)	-		18.13%	713,652	13,698,796	1.76%	0.23%
1155G	1155Q-02	837,834				1.97%	(850)	-		0.19%	7,473	844,457	1.82%	0.01%
1155G	1155R-01	2,644,033				7.22%	(3,109)	-		9.04%	355,686	2,996,610	1.36%	0.04%
1155G Total		101,788,270	105,680,589	3,892,319	(43,062)	100.00%	(43,062)	-	3,935,381	100.00%	3,935,381	105,680,589		1.59%
1155H	1155Q-03	2,770,375				100.00%	-	-		100.00%	-	2,770,375	3.82%	3.82%
1155H Total		2,770,375	2,770,375	-	-	100.00%	-	-	-	100.00%	-	2,770,375		3.82%
1155P	1155B-04	3,309				0.00%	-	-		0.00%	-	3,309	3.18%	0.00%
1155P	1155P-01	16,622,735				96.27%	(95,206)	-		90.27%	587,843	17,115,371	1.47%	0.83%
1155P	1155P-02	13,193,195				3.73%	(3,684)	-		9.73%	63,383	13,252,894	1.94%	0.84%
1155P	1155Q-03	33,533				0.00%	-	-		0.00%	-	33,533	3.82%	0.00%
1155P	1155R-03	51,432				0.00%	-	-		0.00%	-	51,432	5.84%	0.01%
1155P Total		29,904,204	30,456,539	552,335	(98,890)	100.00%	(98,890)	-	651,225	100.00%	651,225	30,456,539		1.68%
1155Q	1155P-02	161,934				0.66%	(1,390)	-		3.91%	249,377	409,921	1.94%	0.05%
1155Q	1155Q-02	1,767,770				43.25%	(90,589)	-		14.85%	947,316	2,624,498	1.82%	0.31%
1155Q	1155Q-03	4,858,569				40.10%	(84,007)	-		47.66%	3,039,541	7,814,103	3.82%	1.95%
1155Q	1155Q-04	30,806				5.81%	(12,176)	-		3.05%	194,594	213,224	2.53%	0.04%
1155Q	1155Q-05	1,852,135				9.63%	(20,167)	-		29.76%	1,897,882	3,729,849	8.57%	2.08%
1155Q	1155R-01	396,430				0.54%	(1,139)	-		0.76%	48,763	444,054	1.36%	0.04%
1155Q	1155R-03	97,544				0.00%	-	-		0.00%	-	97,544	5.84%	0.04%
1155Q Total		9,165,187	15,333,192	6,168,005	(209,468)	100.00%	(209,468)	-	6,377,473	100.00%	6,377,473	15,333,192		4.51%
1155R	1155Q-02	74,562				6.23%	(7,207)	-		3.20%	21,586	88,941	1.82%	0.01%
1155R	1155Q-03	995,954				0.87%	(1,002)	-		8.82%	59,452	1,054,403	3.82%	0.28%
1155R	1155Q-05	132,041				0.01%	(7)	-		0.00%	-	132,034	8.57%	0.08%
1155R	1155R-01	12,191,125				88.74%	(102,587)	-		83.15%	560,701	12,649,239	1.36%	1.18%
1155R	1155R-02	511,999				4.15%	(4,795)	-		4.48%	30,211	537,415	0.83%	0.03%
1155R	1155R-03	116,369				0.00%	-	-		0.36%	2,407	118,775	5.84%	0.05%
1155R Total		14,022,049	14,580,807	558,758	(115,598)	100.00%	(115,598)	-	674,356	100.00%	674,356	14,580,807		1.62%
1155W	1155B-03	707,170				0.00%	-	-		21.44%	180,003	887,172	1.86%	0.44%
1155W	1155B-04	1,087,269				49.59%	-	-		34.96%	293,528	1,380,796	3.18%	1.18%
1155W	1155B-05	650,596				29.33%	-	-		31.89%	267,729	918,325	4.23%	1.05%
1155W	1155B-06	424,302				21.08%	-	-		11.71%	98,345	522,647	7.12%	1.00%
1155W Total		2,869,336	3,708,941	839,604	-	100.00%	-	-	839,604	100.00%	839,604	3,708,941		3.68%
1155X	1155B-02	1,728,345				7.28%	(4,224)	-		28.26%	22	1,724,143	1.37%	0.20%
1155X	1155B-03	2,205,377				4.61%	(2,676)	-		17.52%	14	2,202,715	1.86%	0.34%
1155X	1155B-04	5,384,043				68.86%	(39,937)	-		26.35%	21	5,344,127	3.18%	1.42%
1155X	1155B-05	1,817,219				16.95%	(9,829)	-		16.81%	13	1,807,404	4.23%	0.64%
1155X	1155B-06	913,495				2.30%	(1,333)	-		11.06%	9	912,170	7.12%	0.54%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1155X Total		12,048,479	11,990,558	(57,920)	(58,000)	100.00%	(58,000)	-	80	100.00%	80	11,990,558		3.14%
1160A	1160A-01	1,244,420				11.41%	-	-		0.00%	575	1,244,995	0.72%	0.01%
1160A	1160A-02	115,539,484				88.59%	-	-		100.00%	14,278,154	129,817,638	0.74%	0.73%
1160A	1160F-01	960,604				0.00%	-	-		0.00%	-	960,604	1.58%	0.01%
1160A	1160Q-03	7,316				0.00%	-	-		0.00%	-	7,316	4.00%	0.00%
1160A Total		117,751,824	132,030,553	14,278,729	-	100.00%	-	-	14,278,729	100.00%	14,278,729	132,030,553		0.75%
1160L	1160L-01	500,000				0.00%	-	-		100.00%	(500,000)	-	2.01%	2.01%
1160L Total		500,000	-	(500,000)	-	0.00%	-	-	(500,000)	100.00%	(500,000)	-		2.01%
1160Z	1160Z-01	500,269,212				0.00%	-	-		100.00%	28,890,042	529,159,254	1.16%	1.16%
1160Z Total		500,269,212	529,159,254	28,890,042	-	0.00%	-	-	28,890,042	100.00%	28,890,042	529,159,254		1.16%
1165A	1165A-01	8,819,221				11.41%	-	-		0.00%	549	8,819,769	0.65%	0.04%
1165A	1165A-02	97,713,432				88.59%	-	-		97.35%	13,639,273	111,352,704	0.83%	0.61%
1165A	1165A-04	28,741,825				0.00%	-	-		0.00%	-	28,741,825	2.11%	0.40%
1165A	1165A-06	90,770				0.00%	-	-		2.57%	360,548	451,318	2.83%	0.01%
1165A	1165A-08	1,242,108				0.00%	-	-		0.00%	-	1,242,108	4.50%	0.04%
1165A	1165B-04	82,532				0.00%	-	-		0.08%	10,808	93,340	2.32%	0.00%
1165A Total		136,689,888	150,701,065	14,011,177	-	100.00%	-	-	14,011,177	100.00%	14,011,177	150,701,065		1.10%
1165D	1165A-01	55,932,310				0.00%	-	-		0.00%	-	55,932,310	0.65%	0.54%
1165D	1165B-01	54,849				0.00%	-	-		0.00%	-	54,849	0.69%	0.00%
1165D	1165B-03	191,973				0.00%	-	-		0.00%	-	191,973	1.48%	0.00%
1165D	1165B-04	137,123				0.00%	-	-		0.00%	-	137,123	2.32%	0.00%
1165D	1165B-05	73,132				0.00%	-	-		0.00%	-	73,132	3.72%	0.00%
1165D	1165D-01	2,776,405				0.45%	-	-		70.00%	5,013,624	7,790,029	0.68%	0.08%
1165D	1165D-04	457,078				99.55%	-	-		30.00%	2,148,780	2,605,858	0.34%	0.01%
1165D Total		59,622,870	66,785,274	7,162,404	-	100.00%	-	-	7,162,404	100.00%	7,162,404	66,785,274		0.65%
1165E	1165B-02	22,401				0.00%	-	-		0.02%	396	22,797	1.35%	0.00%
1165E	1165B-03	13,904				0.00%	-	-		0.01%	246	14,150	1.48%	0.00%
1165E	1165B-04	20,084				0.00%	-	-		0.02%	355	20,439	2.32%	0.00%
1165E	1165B-05	12,359				0.00%	-	-		0.01%	219	12,578	3.72%	0.00%
1165E	1165B-06	8,497				0.00%	-	-		0.01%	150	8,647	6.05%	0.00%
1165E	1165D-04	45,519				0.00%	-	-		0.21%	4,789	50,308	0.34%	0.00%
1165E	1165E-01	13,418,792				13.72%	-	-		80.94%	1,812,893	15,231,685	0.58%	0.42%
1165E	1165E-02	508,422				5.71%	-	-		7.46%	167,110	675,532	2.52%	0.08%
1165E	1165F-01	281,921				0.00%	-	-		0.00%	-	281,921	1.82%	0.02%
1165E	1165Q-01	3,764				0.00%	-	-		0.00%	-	3,764	1.81%	0.00%
1165E	1165Q-02	62,570				0.00%	-	-		0.18%	3,939	66,510	1.45%	0.00%
1165E	1165R-01	4,537,679				80.57%	-	-		11.15%	249,691	4,787,370	0.74%	0.17%
1165E Total		18,935,911	21,175,701	2,239,790	-	100.00%	-	-	2,239,790	100.00%	2,239,790	21,175,701		0.70%
1165F	1165F-01	11,414,976				100.00%	(278,852)	-		100.00%	2,541,167	13,677,291	1.82%	1.81%
1165F	1165R-01	52,500				0.00%	-	-		0.00%	-	52,500	0.74%	0.00%
1165F Total		11,467,476	13,729,791	2,262,315	(278,852)	100.00%	(278,852)	-	2,541,167	100.00%	2,541,167	13,729,791		1.82%
1165P	1165P-02	1,668,538				27.57%	-	-		66.76%	131,441	1,799,979	2.84%	2.72%
1165P	1165Q-04	14,831				72.43%	-	-		33.24%	65,464	80,295	3.81%	0.16%
1165P Total		1,683,369	1,880,274	196,905	-	100.00%	-	-	196,905	100.00%	196,905	1,880,274		2.88%
1165Q	1165Q-02	2,672,736				48.50%	(1,245)	-		22.65%	51,455	2,722,946	1.45%	1.34%
1165Q	1165Q-03	44,305				44.98%	(1,154)	-		72.69%	165,099	208,249	3.72%	0.26%
1165Q	1165Q-04	2,566				6.52%	(167)	-		4.65%	10,570	12,968	3.81%	0.02%
1165Q Total		2,719,606	2,944,164	224,557	(2,566)	100.00%	(2,566)	-	227,123	100.00%	227,123	2,944,164		1.62%
1165R	1165B-03	319,538				0.00%	-	-		1.21%	388	319,926	1.48%	0.09%
1165R	1165B-04	296,255				0.00%	-	-		1.13%	363	296,618	2.32%	0.13%
1165R	1165B-05	74,258				0.61%	-	-		0.99%	319	74,577	3.72%	0.05%
1165R	1165B-06	26,521				0.00%	-	-		0.13%	40	26,561	6.05%	0.03%
1165R	1165F-01	138,187				0.00%	-	-		4.59%	1,477	139,664	1.82%	0.05%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1165R	1165Q-01	3,242,503				0.00%	-	-		7.00%	2,252	3,244,755	1.81%	1.14%
1165R	1165Q-02	109,222				6.46%	-	-		2.85%	916	110,138	1.45%	0.03%
1165R	1165Q-03	134,682				0.90%	-	-		7.84%	2,522	137,204	3.72%	0.10%
1165R	1165R-01	658,474				92.03%	-	-		73.95%	23,784	682,258	0.74%	0.10%
1165R	1165R-03	119,666				0.00%	-	-		0.32%	102	119,768	6.67%	0.16%
1165R Total		5,119,305	5,151,468	32,163	-	100.00%	-	-	32,163	100.00%	32,163	5,151,468		1.88%
1165X	1165B-02	8,225				7.28%	-	-		28.26%	990,456	998,680	1.35%	0.38%
1165X	1165B-03	56,053				4.61%	-	-		17.52%	614,025	670,078	1.48%	0.28%
1165X	1165B-04	7,374				68.86%	-	-		26.35%	923,277	930,651	2.32%	0.60%
1165X	1165B-05	4,538				16.95%	-	-		16.81%	589,024	593,562	3.72%	0.62%
1165X	1165B-06	3,120				2.30%	-	-		11.06%	387,478	390,598	6.05%	0.66%
1165X Total		79,309	3,583,569	3,504,260	-	100.00%	-	-	3,504,260	100.00%	3,504,260	3,583,569		2.53%
1165Z	1165Z-01	393,313,694				0.00%	-	-		100.00%	17,221,522	410,535,216	1.08%	1.08%
1165Z Total		393,313,694	410,535,216	17,221,522	-	0.00%	-	-	17,221,522	100.00%	17,221,522	410,535,216		1.08%
1170A	1170A-01	25,707,822				11.41%	-	-		0.00%	42	25,707,864	0.82%	0.32%
1170A	1170A-02	36,035,091				88.59%	-	-		92.72%	1,033,275	37,068,365	0.80%	0.45%
1170A	1170A-06	2,954,291				0.00%	-	-		2.45%	27,316	2,981,607	2.37%	0.11%
1170A	1170A-10	576,630				0.00%	-	-		4.82%	53,739	630,370	3.58%	0.03%
1170A	1170Q-02	68,912				0.00%	-	-		0.00%	-	68,912	1.96%	0.00%
1170A	1170Q-03	49,598				0.00%	-	-		0.00%	-	49,598	3.78%	0.00%
1170A Total		65,392,344	66,506,716	1,114,371	-	100.00%	-	-	1,114,371	100.00%	1,114,371	66,506,716		0.91%
1170B	1170A-01	129,585,008				13.49%	(84,543)	-		3.98%	16,331	129,516,795	0.82%	0.74%
1170B	1170A-09	225,042				0.02%	(113)	-		10.02%	41,132	266,061	3.33%	0.01%
1170B	1170B-01	1,285,948				0.00%	-	-		0.00%	-	1,285,948	0.99%	0.01%
1170B	1170B-03	4,579,922				3.19%	(20,016)	-		50.49%	207,127	4,767,033	1.79%	0.06%
1170B	1170B-04	3,512,749				28.86%	(180,810)	-		27.85%	114,322	3,446,261	2.70%	0.06%
1170B	1170B-05	4,800,277				54.40%	(340,906)	-		5.74%	23,571	4,482,943	3.96%	0.12%
1170B	1170B-06	16,548				0.03%	(216)	-		1.91%	7,857	24,189	5.36%	0.00%
1170B Total		144,005,495	143,789,231	(216,264)	(626,604)	100.00%	(626,604)	-	410,340	100.00%	410,340	143,789,231		1.00%
1170C	1170B-03					0.00%	-	-		14.74%	381,092	381,092	1.79%	0.26%
1170C	1170B-04					0.00%	-	-		6.68%	172,628	172,628	2.70%	0.18%
1170C	1170B-05					0.00%	-	-		73.18%	1,892,066	1,892,066	3.96%	2.90%
1170C	1170B-06					0.00%	-	-		0.19%	4,787	4,787	5.36%	0.01%
1170C	1170P-02					0.00%	-	-		5.22%	134,920	134,920	0.75%	0.04%
1170C Total			2,585,494	2,585,494	-	0.00%	-	-	2,585,494	100.00%	2,585,494	2,585,494		3.39%
1170D	1170D-01	29,259,213				0.45%	-	-		69.37%	85,093	29,344,306	1.06%	0.73%
1170D	1170D-04	12,510,403				99.55%	-	-		29.73%	36,466	12,546,869	1.32%	0.39%
1170D	1170D-05	474,742				0.00%	-	-		0.90%	1,101	475,843	2.38%	0.03%
1170D Total		42,244,358	42,367,018	122,660	-	100.00%	-	-	122,660	100.00%	122,660	42,367,018		1.15%
1170E	1170D-05	24,233				0.00%	-	-		0.00%	-	24,233	2.38%	0.00%
1170E	1170E-02	41,781				6.56%	-	-		40.09%	67,819	109,599	1.72%	0.00%
1170E	1170P-02	1,761,500				0.95%	-	-		0.00%	-	1,761,500	0.75%	0.02%
1170E	1170R-01	56,152,490				92.49%	-	-		59.91%	101,368	56,253,858	0.83%	0.80%
1170E Total		57,980,005	58,149,191	169,187	-	100.00%	-	-	169,187	100.00%	169,187	58,149,191		0.83%
1170F	1170F-01	3,963,846				100.00%	-	-		100.00%	1,584,939	5,548,785	1.90%	1.90%
1170F Total		3,963,846	5,548,785	1,584,939	-	100.00%	-	-	1,584,939	100.00%	1,584,939	5,548,785		1.90%
1170G	1170G-01	39,883,069				0.99%	(267)	-		5.52%	51,557	39,934,359	0.97%	0.27%
1170G	1170G-02	20,711,550				7.36%	(1,982)	-		32.03%	299,084	21,008,651	1.22%	0.18%
1170G	1170G-04	10,912,969				17.09%	(4,602)	-		16.17%	151,040	11,059,407	1.31%	0.10%
1170G	1170G-05	10,738,905				4.49%	(1,209)	-		8.73%	81,524	10,819,220	1.25%	0.09%
1170G	1170G-06	19,246,716				47.65%	(12,832)	-		19.29%	180,162	19,414,047	1.13%	0.15%
1170G	1170G-07	19,246,716				1.35%	(364)	-		4.50%	42,004	19,288,356	1.23%	0.16%
1170G	1170G-08	22,246,298				19.06%	(5,132)	-		13.61%	127,125	22,368,291	1.32%	0.20%

Manitoba Hydro Electric Operations

Calculation of IFRS-Compliant ASL Composite Depreciation Rates by Existing Account

For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1170G	1170Q-02	141,922				2.00%	(538)	-		0.14%	1,331	142,715	1.96%	0.00%
1170G Total		143,128,145	144,035,046	906,901	(26,927)	100.00%	(26,927)	-	933,828	100.00%	933,828	144,035,046		1.17%
1170H	1170R-02	191,824				100.00%	-	-		100.00%	-	191,824	0.91%	0.91%
1170H Total		191,824	191,824	-	-	100.00%	-	-	-	100.00%	-	191,824		0.91%
1170P	1170B-04	12,021				0.00%	-	-		0.00%	-	12,021	2.70%	0.00%
1170P	1170P-01	24,052,592				95.45%	-	-		90.27%	73,815	24,126,406	1.05%	0.82%
1170P	1170P-02	6,574,473				3.69%	-	-		9.73%	7,959	6,582,432	0.75%	0.16%
1170P	1170Q-02	32,193				0.34%	-	-		0.00%	-	32,193	1.96%	0.00%
1170P	1170R-01	95,283				0.52%	-	-		0.00%	-	95,283	0.83%	0.00%
1170P	1170R-03	4,054				0.00%	-	-		0.00%	-	4,054	6.67%	0.00%
1170P Total		30,770,617	30,852,391	81,774	-	100.00%	-	-	81,774	100.00%	81,774	30,852,391		0.99%
1170Q	1170P-02	3,339,443				0.67%	(6,266)	-		3.94%	197,536	3,530,713	0.75%	0.11%
1170Q	1170Q-02	521,310				43.49%	(408,442)	-		14.97%	750,384	863,252	1.96%	0.07%
1170Q	1170Q-03	13,118,229				40.32%	(378,695)	-		48.03%	2,407,897	15,147,431	3.78%	2.44%
1170Q	1170Q-04	496,178				5.84%	(54,890)	-		3.07%	154,141	595,429	3.68%	0.09%
1170Q	1170Q-05	1,932,628				9.68%	(90,913)	-		29.99%	1,503,342	3,345,056	9.07%	1.29%
1170Q Total		19,407,787	23,481,881	4,074,094	(939,205)	100.00%	(939,205)	-	5,013,299	100.00%	5,013,299	23,481,881		4.01%
1170R	1170B-04	112,873				0.00%	-	-		1.22%	71,139	184,012	2.70%	0.02%
1170R	1170B-05	-				0.59%	(4,608)	-		1.07%	62,397	57,789	3.96%	0.01%
1170R	1170F-01	471,274				0.00%	-	-		4.97%	289,138	760,412	1.90%	0.06%
1170R	1170P-02	426,197				0.00%	(20)	-		4.97%	288,903	715,079	0.75%	0.02%
1170R	1170Q-02	1,246,675				6.25%	(48,829)	-		3.08%	179,227	1,377,073	1.96%	0.12%
1170R	1170Q-05	314,470				0.01%	(48)	-		0.00%	-	314,422	9.07%	0.13%
1170R	1170R-01	13,780,775				88.99%	(695,086)	-		80.03%	4,655,941	17,741,630	0.83%	0.65%
1170R	1170R-02	733,751				4.16%	(32,490)	-		4.31%	250,845	952,105	0.91%	0.04%
1170R	1170R-03	525,886				0.00%	-	-		0.34%	19,983	545,870	6.67%	0.16%
1170R Total		17,611,901	22,648,391	5,036,491	(781,082)	100.00%	(781,082)	-	5,817,573	100.00%	5,817,573	22,648,391		1.21%
1170W	1170B-04	164,802				49.59%	-	-		44.50%	32,310	197,112	2.70%	1.30%
1170W	1170B-05	104,262				29.33%	-	-		40.59%	29,471	133,733	3.96%	1.30%
1170W	1170B-06	67,266				21.08%	-	-		14.91%	10,826	78,092	5.36%	1.02%
1170W Total		336,330	408,937	72,607	-	100.00%	-	-	72,607	100.00%	72,607	408,937		3.62%
1170X	1170B-05	63,418				100.00%	-	-		100.00%	-	63,418	3.96%	1.56%
1170X	1170Q-05	97,066				0.00%	-	-		0.00%	-	97,066	9.07%	5.49%
1170X Total		160,484	160,484	-	-	100.00%	-	-	-	100.00%	-	160,484		7.05%
1175A	1175A-01	21,723,303				11.41%	-	-		0.00%	1	21,723,304	0.81%	0.53%
1175A	1175A-02	11,492,757				88.59%	-	-		95.05%	30,874	11,523,631	0.80%	0.28%
1175A	1175A-10	71,274				0.00%	-	-		4.94%	1,606	72,880	2.55%	0.01%
1175A	1175D-03	6,164				0.00%	-	-		0.00%	-	6,164	3.68%	0.00%
1175A Total		33,293,497	33,325,978	32,481	-	100.00%	-	-	32,481	100.00%	32,481	33,325,978		0.81%
1175B	1175A-01	444,703,819				13.49%	-	-		4.42%	20,845	444,724,663	0.81%	0.78%
1175B	1175B-01	1,648,680				0.00%	-	-		0.00%	-	1,648,680	0.98%	0.00%
1175B	1175B-03	5,867,106				3.19%	-	-		56.11%	264,615	6,131,721	1.69%	0.02%
1175B	1175B-04	4,772,250				28.86%	-	-		30.96%	145,923	4,918,173	2.90%	0.03%
1175B	1175B-05	4,402,237				54.41%	-	-		6.38%	30,087	4,432,323	4.06%	0.04%
1175B	1175B-06	553,044				0.03%	-	-		2.13%	10,029	563,073	9.23%	0.01%
1175B Total		461,947,134	462,418,633	471,498	-	100.00%	-	-	471,498	100.00%	471,498	462,418,633		0.89%
1175C	1175B-03	69,424				0.00%	-	-		14.77%	32,843	102,267	1.69%	0.59%
1175C	1175B-04					0.00%	-	-		6.69%	14,877	14,877	2.90%	0.15%
1175C	1175B-05					0.00%	-	-		73.32%	163,051	163,051	4.06%	2.27%
1175C	1175P-02					0.00%	-	-		5.23%	11,628	11,628	1.47%	0.06%
1175C Total		69,424	291,824	222,399	-	0.00%	-	-	222,399	100.00%	222,399	291,824		3.07%
1175D	1175D-01	140,903,599				0.45%	-	-		68.96%	137,317	141,040,916	1.07%	0.74%
1175D	1175D-03	164,599				0.00%	-	-		0.59%	1,175	165,774	3.68%	0.00%

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[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1175D	1175D-04	60,387,257				99.55%	-	-		29.56%	58,854	60,446,111	1.35%	0.40%
1175D	1175D-05	1,615,603				0.00%	-	-		0.89%	1,777	1,617,380	2.83%	0.02%
1175D Total		203,071,057	203,270,181	199,123	-	100.00%	-	-	199,123	100.00%	199,123	203,270,181		1.17%
1175E	1175B-03	581,122				0.00%	-	-		0.01%	15	581,137	1.69%	0.01%
1175E	1175B-04	621				0.00%	-	-		0.02%	21	642	2.90%	0.00%
1175E	1175E-01	105,578,550				14.42%	-	-		87.70%	108,345	105,686,895	0.86%	0.78%
1175E	1175P-02	525,856				0.87%	-	-		0.00%	-	525,856	1.47%	0.01%
1175E	1175Q-02	123,012				0.00%	-	-		0.19%	235	123,247	1.44%	0.00%
1175E	1175Q-03	1,396,182				0.00%	-	-		0.00%	-	1,396,182	4.31%	0.05%
1175E	1175R-01	8,024,023				84.71%	-	-		12.08%	14,923	8,038,946	1.22%	0.08%
1175E Total		116,229,365	116,352,905	123,540	-	100.00%	-	-	123,540	100.00%	123,540	116,352,905		0.93%
1175F	1175F-01	17,919,064				100.00%	-	-		100.00%	1,692,848	19,611,912	1.76%	1.76%
1175F Total		17,919,064	19,611,912	1,692,848	-	100.00%	-	-	1,692,848	100.00%	1,692,848	19,611,912		1.76%
1175G	1175G-01	114,364,515				0.99%	(1,411)	-		5.52%	335,336	114,698,440	1.02%	0.29%
1175G	1175G-02	59,179,216				7.36%	(10,473)	-		32.03%	1,945,280	61,114,024	1.38%	0.21%
1175G	1175G-04	29,641,317				17.09%	(24,317)	-		16.17%	982,382	30,599,382	1.61%	0.12%
1175G	1175G-05	31,139,157				4.49%	(6,389)	-		8.73%	530,246	31,663,013	1.43%	0.11%
1175G	1175G-06	54,019,224				47.65%	(67,798)	-		19.29%	1,171,797	55,123,223	1.71%	0.23%
1175G	1175G-07	57,780,018				1.35%	(1,924)	-		4.50%	273,202	58,051,296	1.41%	0.20%
1175G	1175G-08	57,780,018				19.06%	(27,116)	-		13.61%	826,838	58,579,740	1.68%	0.24%
1175G	1175Q-02	200,565				2.00%	(2,843)	-		0.14%	8,659	206,380	1.44%	0.00%
1175G Total		404,104,029	410,035,497	5,931,468	(142,272)	100.00%	(142,272)	-	6,073,740	100.00%	6,073,740	410,035,497		1.39%
1175H	1175P-02	104,811				0.26%	-	-		0.40%	65	104,877	1.47%	0.01%
1175H	1175Q-01	33,563				9.11%	-	-		13.49%	2,219	35,781	1.83%	0.00%
1175H	1175Q-03	17,579,453				85.63%	-	-		77.23%	12,702	17,592,155	4.31%	4.26%
1175H	1175R-02	85,003				5.01%	-	-		8.88%	1,461	86,464	1.37%	0.01%
1175H Total		17,802,829	17,819,276	16,447	-	100.00%	-	-	16,447	100.00%	16,447	17,819,276		4.27%
1175P	1175P-01	114,616,611				87.42%	(224,915)	-		0.00%	-	114,391,695	1.29%	1.17%
1175P	1175P-02	10,502,296				3.38%	(8,703)	-		0.00%	-	10,493,593	1.47%	0.12%
1175P	1175Q-02	20,514,935				0.31%	(797)	-		99.38%	(19,773,328)	740,810	1.44%	0.01%
1175P	1175Q-04	145,610				8.89%	(22,861)	-		0.62%	(122,749)	-	3.65%	0.00%
1175P Total		145,779,452	125,626,098	(20,153,354)	(257,277)	100.00%	(257,277)	-	(19,896,077)	100.00%	(19,896,077)	125,626,098		1.31%
1175Q	1175P-02	1,214,174				0.66%	(62,904)	-		3.91%	909,810	2,061,080	1.47%	0.09%
1175Q	1175Q-02	2,019,406				43.25%	(4,099,713)	-		14.85%	3,456,121	1,375,814	1.44%	0.06%
1175Q	1175Q-03	13,026,064				40.10%	(3,801,843)	-		47.66%	11,089,243	20,313,464	4.31%	2.69%
1175Q	1175Q-04	190,534				5.81%	(551,058)	-		3.05%	709,944	349,420	3.65%	0.04%
1175Q	1175Q-05	2,078,849				9.63%	(912,706)	-		29.76%	6,924,095	8,090,238	8.19%	2.04%
1175Q	1175R-01	205,710				0.54%	(51,529)	-		0.76%	177,902	332,083	1.22%	0.01%
1175Q Total		18,734,738	32,522,099	13,787,361	(9,479,753)	100.00%	(9,479,753)	-	23,267,114	100.00%	23,267,114	32,522,099		4.94%
1175R	1175B-03	1,867,242				0.00%	-	-		1.31%	(8,680)	1,858,562	1.69%	0.07%
1175R	1175B-04	167,673				0.00%	-	-		1.22%	(8,126)	159,547	2.90%	0.01%
1175R	1175B-05	71,134				0.58%	-	-		1.07%	(7,127)	64,007	4.06%	0.01%
1175R	1175B-06	25,405				0.00%	-	-		0.14%	(904)	24,501	9.23%	0.01%
1175R	1175Q-02	1,347,440				6.20%	-	-		3.08%	(20,472)	1,326,968	1.44%	0.04%
1175R	1175Q-03	3,047,138				0.86%	-	-		8.49%	(56,385)	2,990,753	4.31%	0.30%
1175R	1175Q-05	705,765				0.01%	-	-		0.00%	-	705,765	8.19%	0.13%
1175R	1175R-01	32,976,224				88.22%	-	-		80.04%	(531,799)	32,444,426	1.22%	0.92%
1175R	1175R-02	1,214,781				4.12%	-	-		4.31%	(28,653)	1,186,128	1.37%	0.04%
1175R	1175R-03	2,489,726				0.00%	-	-		0.34%	(2,283)	2,487,443	6.67%	0.38%
1175R Total		43,912,527	43,248,100	(664,428)	-	100.00%	-	-	(664,428)	100.00%	(664,428)	43,248,100		1.91%
1175W	1175B-04	319,796				49.59%	-	-		44.50%	10,023	329,819	2.90%	1.42%
1175W	1175B-05	202,320				29.33%	-	-		40.59%	9,142	211,462	4.06%	1.27%
1175W	1175B-06	130,529				21.08%	-	-		14.91%	3,358	133,887	9.23%	1.83%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1175W Total		652,644	675,168	22,523	-	100.00%	-	-	22,523	100.00%	22,523	675,168		4.52%
1175X	1175B-02	1,853,834				7.28%	(44)	-		28.26%	1,197	1,854,988	1.48%	0.43%
1175X	1175B-03	1,150,656				4.61%	(28)	-		17.52%	742	1,151,370	1.69%	0.30%
1175X	1175B-04	1,666,792				68.86%	(413)	-		26.35%	1,116	1,667,495	2.90%	0.75%
1175X	1175B-05	1,022,805				16.95%	(102)	-		16.81%	712	1,023,416	4.06%	0.65%
1175X	1175B-06	703,179				2.30%	(14)	4,311		11.06%	468	707,944	9.23%	1.02%
1175X Total		6,397,266	6,405,213	7,948	(600)	100.00%	(600)	4,311	4,237	100.00%	4,237	6,405,213		3.16%
1180A	1180A-01	2,111,798				11.41%	-	-		0.00%	-	2,111,798	0.84%	0.38%
1180A	1180A-02	938,873				88.59%	-	-		98.51%	-	938,873	0.83%	0.17%
1180A	1180D-01	704,155				0.00%	-	-		0.00%	-	704,155	1.09%	0.16%
1180A	1180E-01	704,155				0.00%	-	-		1.49%	-	704,155	1.23%	0.18%
1180A	1180F-01	234,718				0.00%	-	-		0.00%	-	234,718	1.95%	0.10%
1180A Total		4,693,699	4,693,699	-	-	100.00%	-	-	-	100.00%	-	4,693,699		0.99%
1180B	1180A-01	4,602,139				13.49%	-	-		4.42%	-	4,602,139	0.84%	0.21%
1180B	1180B-01	1,634,801				0.00%	-	-		0.00%	-	1,634,801	1.03%	0.09%
1180B	1180B-03	5,721,804				3.19%	-	-		56.11%	-	5,721,804	1.93%	0.61%
1180B	1180B-04	4,087,003				28.86%	-	-		30.96%	-	4,087,003	3.11%	0.70%
1180B	1180B-05	1,634,801				54.41%	-	-		6.38%	-	1,634,801	4.59%	0.41%
1180B	1180B-06	544,547				0.03%	-	-		2.13%	-	544,547	8.30%	0.25%
1180B Total		18,225,096	18,225,096	-	-	100.00%	-	-	-	100.00%	-	18,225,096		2.27%
1180D	1180D-01	2,012,795				0.45%	-	-		70.00%	-	2,012,795	1.09%	0.76%
1180D	1180D-04	862,626				99.55%	-	-		30.00%	-	862,626	1.39%	0.42%
1180D Total		2,875,421	2,875,421	-	-	100.00%	-	-	-	100.00%	-	2,875,421		1.18%
1180E	1180E-01	1,543,423				14.42%	-	-		87.89%	-	1,543,423	1.23%	0.62%
1180E	1180P-02	154,342				0.87%	-	-		0.00%	-	154,342	2.35%	0.12%
1180E	1180R-01	1,389,081				84.71%	-	-		12.11%	-	1,389,081	1.50%	0.67%
1180E Total		3,086,847	3,086,847	-	-	100.00%	-	-	-	100.00%	-	3,086,847		1.41%
1180F	1180F-01	2,494,848				100.00%	(8,019)	-		100.00%	-	2,486,829	1.95%	1.95%
1180F Total		2,494,848	2,486,829	(8,019)	(8,019)	100.00%	(8,019)	-	-	100.00%	-	2,486,829		1.95%
1180G	1180G-01	370,027				0.92%	-	-		5.17%	-	370,027	1.06%	0.08%
1180G	1180G-02	1,004,284				6.86%	-	-		30.00%	-	1,004,284	1.49%	0.32%
1180G	1180G-04	334,744				15.93%	-	-		15.15%	-	334,744	1.78%	0.13%
1180G	1180G-05	440,465				4.18%	-	-		8.18%	-	440,465	1.54%	0.15%
1180G	1180G-06	792,707				44.41%	-	-		18.07%	-	792,707	1.96%	0.33%
1180G	1180G-07	986,804				1.26%	-	-		4.21%	-	986,804	1.51%	0.32%
1180G	1180G-08	458,094				17.76%	-	-		12.75%	-	458,094	1.88%	0.19%
1180G	1180Q-02	26,432				1.86%	-	-		0.13%	-	26,432	2.04%	0.01%
1180G	1180R-01	220,251				6.81%	-	-		6.35%	-	220,251	1.50%	0.07%
1180G	1180R-02	17,612				0.00%	-	-		0.00%	-	17,612	1.73%	0.01%
1180G Total		4,651,419	4,651,419	-	-	100.00%	-	-	-	100.00%	-	4,651,419		1.61%
1180H	1180P-02	27,059				0.22%	-	-		0.40%	-	27,059	2.35%	0.38%
1180H	1180Q-01	6,767				7.90%	-	-		13.45%	-	6,767	1.84%	0.07%
1180H	1180Q-02	55,825				13.19%	-	-		0.31%	-	55,825	2.04%	0.67%
1180H	1180Q-03	33,823				74.33%	-	-		76.99%	-	33,823	3.69%	0.74%
1180H	1180R-02	45,668				4.35%	-	-		8.86%	-	45,668	1.73%	0.47%
1180H Total		169,142	169,142	-	-	100.00%	-	-	-	100.00%	-	169,142		2.33%
1180P	1180P-01	1,517,072				96.27%	(4,057)	-		90.27%	-	1,513,015	1.55%	1.41%
1180P	1180P-02	150,040				3.73%	(157)	-		9.73%	-	149,883	2.35%	0.21%
1180P Total		1,667,112	1,662,898	(4,214)	(4,214)	100.00%	(4,214)	-	-	100.00%	-	1,662,898		1.62%
1180Q	1180P-01	137,025				0.00%	-	-		0.00%	-	137,025	1.55%	0.19%
1180Q	1180Q-03	605,081				72.20%	-	-		59.23%	-	605,081	3.69%	1.96%
1180Q	1180Q-04	342,514				10.47%	-	-		3.79%	-	342,514	3.54%	1.06%
1180Q	1180Q-05	57,094				17.33%	-	-		36.98%	-	57,094	6.48%	0.32%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MNGT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MNGT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1180Q Total		1,141,713	1,141,713	-	-	100.00%	-	-	-	100.00%	-	1,141,713		3.53%
1180R	1180P-02	101,320				0.00%	-	-		5.44%	-	101,320	2.35%	0.12%
1180R	1180Q-04	101,478				1.18%	-	-		2.22%	-	101,478	3.54%	0.18%
1180R	1180R-01	1,664,435				94.40%	-	-		87.62%	-	1,664,435	1.50%	1.23%
1180R	1180R-02	162,322				4.41%	-	-		4.72%	-	162,322	1.73%	0.14%
1180R Total		2,029,554	2,029,554	-	-	100.00%	-	-	-	100.00%	-	2,029,554		1.66%
1180X	1180B-02	269,820				7.28%	-	-		28.26%	-	269,820	1.38%	0.40%
1180X	1180B-03	167,475				4.61%	-	-		17.52%	-	167,475	1.93%	0.35%
1180X	1180B-04	241,908				68.86%	-	-		26.35%	-	241,908	3.11%	0.81%
1180X	1180B-05	148,587				16.95%	-	-		16.81%	-	148,587	4.59%	0.73%
1180X	1180B-06	102,217				2.30%	-	-		11.06%	-	102,217	8.30%	0.91%
1180X Total		930,007	930,007	-	-	100.00%	-	-	-	100.00%	-	930,007		3.20%
1180Z	1180Z-01	35,400,112				0.00%	-	-		100.00%	-	35,400,112	1.06%	1.06%
1180Z Total		35,400,112	35,400,112	-	-	0.00%	-	-	-	100.00%	-	35,400,112		1.06%
1185A	1185A-02					0.00%		35,136,041		100.00%	-	35,136,041	0.80%	0.80%
1185A Total			35,136,041	35,136,041	-	0.00%	-	35,136,041	-	100.00%	-	35,136,041		0.80%
1185B	1185A-01					0.00%		181,365,291		87.69%	-	181,365,291	0.80%	0.70%
1185B	1185B-01					0.00%		11,292,973		5.46%	-	11,292,973	1.00%	0.05%
1185B	1185B-02					0.00%		2,734,347		1.32%	-	2,734,347	1.33%	0.02%
1185B	1185B-03					0.00%		6,193,124		2.99%	-	6,193,124	1.82%	0.05%
1185B	1185B-04					0.00%		4,181,708		2.02%	-	4,181,708	2.86%	0.06%
1185B	1185B-05					0.00%		91,596		0.04%	-	91,596	4.00%	0.00%
1185B	1185R-01					0.00%		972,463		0.47%	-	972,463	1.59%	0.01%
1185B Total			206,831,503	206,831,503	-	0.00%	-	206,831,503	-	100.00%	-	206,831,503		0.90%
1185C Total			-	-	-	0.00%	-	-	-	0.00%	-	-		2.86%
1185D	1185D-01					0.00%		23,496,047		90.74%	-	23,496,047	1.11%	1.01%
1185D	1185D-04					0.00%		2,396,874		9.26%	-	2,396,874	1.43%	0.13%
1185D Total			25,892,921	25,892,921	-	0.00%	-	25,892,921	-	100.00%	-	25,892,921		1.14%
1185E	1185E-01					0.00%		5,093,480		39.05%	-	5,093,480	1.25%	0.49%
1185E	1185P-02					0.00%		560,556		4.30%	-	560,556	2.50%	0.11%
1185E	1185R-01					0.00%		7,390,045		56.65%	-	7,390,045	1.59%	0.90%
1185E Total			13,044,082	13,044,082	-	0.00%	-	13,044,082	-	100.00%	-	13,044,082		1.50%
1185F	1185F-01					0.00%		4,275,648		100.00%	-	4,275,648	2.00%	2.00%
1185F Total			4,275,648	4,275,648	-	0.00%	-	4,275,648	-	100.00%	-	4,275,648		2.00%
1185G	1185G-01					0.00%		4,584,421		12.79%	-	4,584,421	1.08%	0.14%
1185G	1185G-02					0.00%		6,418,189		17.91%	-	6,418,189	1.52%	0.27%
1185G	1185G-04					0.00%		3,667,537		10.23%	-	3,667,537	1.82%	0.19%
1185G	1185G-05					0.00%		3,667,537		10.23%	-	3,667,537	1.56%	0.16%
1185G	1185G-06					0.00%		4,961,756		13.84%	-	4,961,756	2.00%	0.28%
1185G	1185G-07					0.00%		7,875,803		21.98%	-	7,875,803	1.54%	0.34%
1185G	1185G-08					0.00%		2,914,047		8.13%	-	2,914,047	1.92%	0.16%
1185G	1185R-01					0.00%		1,750,179		4.88%	-	1,750,179	1.59%	0.08%
1185G Total			35,839,469	35,839,469	-	0.00%	-	35,839,469	-	100.00%	-	35,839,469		1.61%
1185H	1185P-01					0.00%		525,733		44.56%	-	525,733	1.59%	0.71%
1185H	1185P-02					0.00%		29,882		2.53%	-	29,882	2.50%	0.06%
1185H	1185Q-03					0.00%		220,869		18.72%	-	220,869	4.00%	0.75%
1185H	1185R-02					0.00%		403,444		34.19%	-	403,444	1.85%	0.63%
1185H Total			1,179,929	1,179,929	-	0.00%	-	1,179,929	-	100.00%	-	1,179,929		2.15%
1185L Total			-	-	-	0.00%	-	-	-	0.00%	-	-		2.00%
1185P	1185P-01					0.00%		6,137,630		81.47%	-	6,137,630	1.59%	1.30%
1185P	1185P-02					0.00%		1,396,039		18.53%	-	1,396,039	2.50%	0.46%
1185P Total			7,533,669	7,533,669	-	0.00%	-	7,533,669	-	100.00%	-	7,533,669		1.76%
1185Q	1185P-02					0.00%		1,366,939		31.05%	-	1,366,939	2.50%	0.78%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MNGT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MNGT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1185Q	1185Q-03					0.00%		1,973,911		44.83%	-	1,973,911	4.00%	1.79%
1185Q	1185Q-04					0.00%		1,010,284		22.95%	-	1,010,284	4.00%	0.92%
1185Q	1185Q-05					0.00%		19,103		0.43%	-	19,103	10.00%	0.04%
1185Q	1185B-02					0.00%		12,755		0.29%	-	12,755	1.33%	0.00%
1185Q	1185B-03					0.00%		3,598		0.08%	-	3,598	1.82%	0.00%
1185Q	1185B-04					0.00%		9,158		0.21%	-	9,158	2.86%	0.01%
1185Q	1185B-05					0.00%		5,233		0.12%	-	5,233	4.00%	0.00%
1185Q	1185B-06					0.00%		1,962		0.04%	-	1,962	6.67%	0.00%
1185Q Total			4,402,942	4,402,942	-	0.00%	-	4,402,942	-	100.00%	-	4,402,942		3.55%
1185R	1185P-02					0.00%		1,065,671		7.81%	-	1,065,671	2.50%	0.20%
1185R	1185Q-03					0.00%		451,086		3.31%	-	451,086	4.00%	0.13%
1185R	1185Q-04					0.00%		550,033		4.03%	-	550,033	4.00%	0.16%
1185R	1185Q-05					0.00%		132,707		0.97%	-	132,707	10.00%	0.10%
1185R	1185R-01					0.00%		11,007,220		80.72%	-	11,007,220	1.59%	1.28%
1185R	1185R-02					0.00%		429,595		3.15%	-	429,595	1.85%	0.06%
1185R Total			13,636,312	13,636,312	-	0.00%	-	13,636,312	-	100.00%	-	13,636,312		1.93%
1185X	1185B-02					0.00%		57,794		39.00%	-	57,794	1.33%	0.52%
1185X	1185B-03					0.00%		16,301		11.00%	-	16,301	1.82%	0.20%
1185X	1185B-04					0.00%		41,493		28.00%	-	41,493	2.86%	0.80%
1185X	1185B-05					0.00%		23,710		16.00%	-	23,710	4.00%	0.64%
1185X	1185B-06					0.00%		8,891		6.00%	-	8,891	6.67%	0.40%
1185X Total			148,189	148,189	-	0.00%	-	148,189	-	100.00%	-	148,189		2.56%
1185W Total			-	-	-	0.00%	-	-	-	0.00%	-	-		3.33%
1185Y	1185Y					0.00%		1,190,524		100.00%	-	1,190,524	1.05%	1.05%
1185Y Total			1,190,524	1,190,524	-	0.00%	-	1,190,524	-	100.00%	-	1,190,524		1.05%
1185Z	1185Z					0.00%		9,808,127		100.00%	-	9,808,127	1.05%	1.05%
1185Z Total			9,808,127	9,808,127	-	0.00%	-	9,808,127	-	100.00%	-	9,808,127		1.05%
1199F	1199F-01	31,498,880				100.00%	-	-		100.00%	7,797,048	39,295,928	1.97%	1.97%
1199F Total		31,498,880	39,295,928	7,797,048	-	100.00%	-	-	7,797,048	100.00%	7,797,048	39,295,928		1.97%
1199V	1199B-02	32,422,166				14.85%	(637,583)	159,696		26.02%	2,261,017	34,205,296	1.41%	0.41%
1199V	1199B-03	20,517,043				16.02%	(687,837)	99,122		18.60%	1,615,558	21,543,886	1.87%	0.34%
1199V	1199B-04	29,727,985				27.96%	(1,200,822)	143,176		26.95%	2,341,128	31,011,467	2.91%	0.76%
1199V	1199B-05	20,085,049				37.72%	(1,619,598)	88,108		17.10%	1,485,266	20,038,825	4.15%	0.70%
1199V	1199B-06	10,361,643				3.45%	(148,268)	60,574		11.34%	984,928	11,258,877	6.56%	0.63%
1199V Total		113,113,886	118,058,351	4,944,465	(4,294,107)	100.00%	(4,294,107)	550,675	8,687,898	100.00%	8,687,898	118,058,351		2.84%
1199W	1199B-03	6,920,307				19.53%	(220,793)	-		15.84%	11,071,053	17,770,567	1.87%	0.30%
1199W	1199B-04	16,546,320				39.15%	(442,616)	-		43.56%	30,444,355	46,548,059	2.91%	1.24%
1199W	1199B-05	10,862,298				22.52%	(254,616)	-		27.42%	19,167,704	29,775,385	4.15%	1.13%
1199W	1199B-06	6,025,286				18.79%	(212,406)	-		13.18%	9,208,259	15,021,140	6.56%	0.90%
1199W Total		40,354,211	109,115,151	68,760,940	(1,130,431)	100.00%	(1,130,431)	-	69,891,371	100.00%	69,891,371	109,115,151		3.58%
1199Y	1199B-04	258,139				4.14%	(145,237)	-		0.00%	-	112,902	2.91%	0.00%
1199Y	1199B-05	1,552,865				5.99%	(210,209)	-		0.98%	666,478	2,009,134	4.15%	0.06%
1199Y	1199B-06	777,361				0.14%	(5,051)	-		0.00%	-	772,310	6.56%	0.04%
1199Y	1199Y-01	71,048,855				89.73%	(3,149,843)	-		99.02%	67,146,822	135,045,835	2.79%	2.73%
1199Y Total		73,637,219	137,940,181	64,302,961	(3,510,340)	100.00%	(3,510,340)	-	67,813,301	100.00%	67,813,301	137,940,181		2.83%
1199Z	1199Z-01	3,297,342				0.00%	-	-		100.00%	210,868	3,508,211	0.98%	0.98%
1199Z Total		3,297,342	3,508,211	210,868	-	0.00%	-	-	210,868	100.00%	210,868	3,508,211		0.98%
1210B	1210B-02	7,524,337				0.00%	-	-		0.00%	-	7,524,337	0.88%	0.30%
1210B	1210B-03	6,754,714				0.00%	-	-		25.00%	(850,162)	5,904,552	1.32%	0.36%
1210B	1210B-04	4,492,538				100.00%	(1,600)	-		36.00%	(1,224,233)	3,266,705	1.23%	0.18%
1210B	1210B-05	3,340,810				0.00%	-	-		24.00%	(816,155)	2,524,655	0.91%	0.11%
1210B	1210B-06	1,471,325				0.00%	-	-		15.00%	(510,097)	961,228	4.28%	0.19%
1210B	1210F-01	1,549,343				0.00%	-	-		0.00%	-	1,549,343	1.04%	0.07%

Manitoba Hydro Electric Operations

Calculation of IFRS-Compliant ASL Composite Depreciation Rates by Existing Account

For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1210B Total		25,133,066	21,730,819	(3,402,247)	(1,600)	100.00%	(1,600)	-	(3,400,647)	100.00%	(3,400,647)	21,730,819		1.22%
1210C	1210B-03	589,298				0.00%	-	-		25.00%	959,544	1,548,841	1.32%	0.34%
1210C	1210B-04	41,277				0.00%	-	-		36.00%	1,381,743	1,423,020	1.23%	0.29%
1210C	1210B-05	1,624,064				0.00%	-	-		24.00%	921,162	2,545,227	0.91%	0.38%
1210C	1210B-06	5,195				0.00%	-	-		15.00%	575,726	580,922	4.28%	0.41%
1210C Total		2,259,834	6,098,010	3,838,176	-	0.00%	-	-	3,838,176	100.00%	3,838,176	6,098,010		1.41%
1210F	1210F-01	2,351,188				0.00%	-	-		100.00%	(526,451)	1,824,736	1.04%	0.70%
1210F	1210Q-05	95,239				0.00%	-	-		0.00%	-	95,239	1.43%	0.05%
1210F	1210R-03	793,140				0.00%	-	-		0.00%	-	793,140	6.67%	1.95%
1210F Total		3,239,567	2,713,116	(526,451)	-	0.00%	-	-	(526,451)	100.00%	(526,451)	2,713,116		2.70%
1210G	1210K-01	366,390				0.00%	-	-		0.00%	-	366,390	0.91%	0.03%
1210G	1210P-01	10,856,016				0.00%	-	-		100.00%	(3,082,447)	7,773,569	1.17%	0.81%
1210G	1210Q-03	655,417				0.00%	-	-		0.00%	-	655,417	1.39%	0.08%
1210G	1210R-01	2,465,958				0.00%	-	-		0.00%	-	2,465,958	0.83%	0.18%
1210G Total		14,343,781	11,261,334	(3,082,447)	-	0.00%	-	-	(3,082,447)	100.00%	(3,082,447)	11,261,334		1.10%
1210K	1210B-02	(26,337)				0.00%	-	-		0.00%	-	(26,337)	0.88%	0.00%
1210K	1210B-03	(16,347)				0.00%	-	-		0.00%	-	(16,347)	1.32%	0.00%
1210K	1210B-04	(23,612)				0.00%	-	-		0.00%	-	(23,612)	1.23%	0.00%
1210K	1210B-05	(14,531)				0.00%	-	-		0.00%	-	(14,531)	0.91%	0.00%
1210K	1210B-06	(9,990)				0.00%	-	-		0.00%	-	(9,990)	4.28%	0.00%
1210K	1210G-06	17,241,946				0.00%	-	-		0.00%	-	17,241,946	0.98%	0.12%
1210K	1210G-07	21,552,432				0.00%	-	-		0.00%	-	21,552,432	1.00%	0.15%
1210K	1210G-08	10,237,405				0.00%	-	-		0.00%	-	10,237,405	1.00%	0.07%
1210K	1210K-01	84,377,314				0.00%	-	-		0.00%	-	84,377,314	0.91%	0.53%
1210K	1210P-01	66,341				0.00%	-	-		0.00%	-	66,341	1.17%	0.00%
1210K	1210P-02	191,272				0.00%	-	-		0.00%	-	191,272	1.56%	0.00%
1210K	1210R-01	9,545,606				0.00%	-	-		0.00%	-	9,545,606	0.83%	0.06%
1210K	1210R-02	538,811				0.00%	-	-		0.00%	-	538,811	1.02%	0.00%
1210K Total		143,660,309	143,660,309	-	-	0.00%	-	-	-	0.00%	-	143,660,309		0.93%
1210P	1210P-01	5,467,181				0.00%	-	-		50.00%	(607,794)	4,859,387	1.17%	0.57%
1210P	1210P-02	5,480,383				0.00%	-	-		50.00%	(607,794)	4,872,590	1.56%	0.76%
1210P	1210Q-03	163,810				0.00%	-	-		0.00%	-	163,810	1.39%	0.02%
1210P	1210R-01	91,402				0.00%	-	-		0.00%	-	91,402	0.83%	0.01%
1210P Total		11,202,777	9,987,189	(1,215,587)	-	0.00%	-	-	(1,215,587)	100.00%	(1,215,587)	9,987,189		1.36%
1210Q	1210P-01	42,931				0.00%	-	-		0.00%	-	42,931	1.17%	0.01%
1210Q	1210P-02	142,008				0.00%	-	-		0.00%	-	142,008	1.56%	0.04%
1210Q	1210Q-02	2,079,193				0.00%	-	-		0.00%	-	2,079,193	0.02%	0.01%
1210Q	1210Q-03	2,173,952				0.00%	-	-		20.17%	(48,183)	2,125,770	1.39%	0.49%
1210Q	1210Q-04	8,337				0.00%	-	-		0.00%	-	8,337	4.00%	0.01%
1210Q	1210Q-05	1,714,346				0.00%	-	-		79.83%	(190,706)	1,523,640	1.43%	0.36%
1210Q	1210R-03	167,091				0.00%	-	-		0.00%	-	167,091	6.67%	0.18%
1210Q Total		6,327,858	6,088,969	(238,889)	-	0.00%	-	-	(238,889)	100.00%	(238,889)	6,088,969		1.08%
1210R	1210B-02	174,367				0.00%	-	-		0.00%	-	174,367	0.88%	0.01%
1210R	1210B-03	177,210				0.00%	-	-		0.00%	-	177,210	1.32%	0.01%
1210R	1210B-04	863,507				0.00%	-	-		0.00%	-	863,507	1.23%	0.04%
1210R	1210B-05	544,369				0.00%	-	-		0.00%	-	544,369	0.91%	0.02%
1210R	1210B-06	67,750				0.00%	-	-		0.00%	-	67,750	4.28%	0.01%
1210R	1210F-01	248,466				0.00%	-	-		0.00%	-	248,466	1.04%	0.01%
1210R	1210P-02	11,751				0.00%	-	-		0.00%	-	11,751	1.56%	0.00%
1210R	1210Q-02	341,233				0.00%	-	-		0.00%	-	341,233	0.02%	0.00%
1210R	1210Q-03	1,501,182				100.00%	-	-		35.52%	(56,187)	1,444,995	1.39%	0.07%
1210R	1210R-01	24,097,574				0.00%	-	-		15.71%	(24,855)	24,072,719	0.83%	0.68%
1210R	1210R-03	1,655,203				0.00%	-	-		48.77%	(77,147)	1,578,056	6.67%	0.36%

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For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1210R Total		29,682,613	29,524,423	(158,189)	-	100.00%	-	-	(158,189)	100.00%	(158,189)	29,524,423		1.19%
1210X	1210B-02	1,993,134				0.00%	-	-		0.00%	-	1,993,134	0.88%	0.24%
1210X	1210B-03	1,297,858				0.00%	-	-		0.00%	-	1,297,858	1.32%	0.24%
1210X	1210B-04	1,935,980				0.00%	-	-		100.00%	(346,132)	1,589,848	1.23%	0.27%
1210X	1210B-05	1,432,006				0.00%	-	-		0.00%	-	1,432,006	0.91%	0.18%
1210X	1210B-06	719,613				0.00%	-	-		0.00%	-	719,613	4.28%	0.43%
1210X	1210R-03	164,729				0.00%	-	-		0.00%	-	164,729	6.67%	0.15%
1210X Total		7,543,319	7,197,187	(346,132)	-	0.00%	-	-	(346,132)	100.00%	(346,132)	7,197,187		1.52%
1210W	1210B-03					0.00%	-			0.00%	-	-	1.32%	0.00%
1210W	1210B-04	587,896				100.00%	(237,251)	-		100.00%	346,132	696,776	1.23%	1.23%
1210W	1210B-05					0.00%	-			0.00%	-	-	0.91%	0.00%
1210W	1210B-06					0.00%	-			0.00%	-	-	4.28%	0.00%
1210W Total		587,896	696,776	108,881	(237,251)	100.00%	(237,251)	-	346,132	100.00%	346,132	696,776		1.23%
1210L Total	1210L	-	1,465,910	1,465,910	-	0.00%	-	-	1,465,910	100.00%	1,465,910	1,465,910	2.00%	2.00%
1300B	1300B-02	2,464,890				0.00%	-	-		8.48%	46,165	2,511,056	1.54%	0.38%
1300B	1300B-03	1,529,932				0.00%	-	-		5.26%	28,654	1,558,586	1.72%	0.26%
1300B	1300B-04	3,285,795				0.00%	-	-		78.36%	426,597	3,712,392	1.55%	0.57%
1300B	1300B-05	1,359,940				0.00%	-	-		4.68%	25,471	1,385,410	2.37%	0.32%
1300B	1300B-06	934,958				0.00%	-	-		3.22%	17,511	952,469	5.97%	0.56%
1300B Total		9,575,516	10,119,914	544,398	-	0.00%	-	-	544,398	100.00%	544,398	10,119,914		2.10%
1300C	1300B-04	497,290				100.00%	(14,654)	-		95.38%	40,831	523,467	1.55%	1.47%
1300C	1300B-05	26,627				0.00%	-	-		4.62%	1,976	28,603	2.37%	0.12%
1300C Total		523,917	552,070	28,152	(14,654)	100.00%	(14,654)	-	42,807	100.00%	42,807	552,070		1.59%
1300Q	1300Q-01	10,117,572				65.37%	(10,894)	-		47.29%	615,358	10,722,035	1.08%	0.57%
1300Q	1300Q-02	8,133,160				16.91%	(2,818)	-		52.71%	685,944	8,816,286	2.03%	0.88%
1300Q	1300Q-03	837,744				17.72%	(2,953)	-		0.00%	-	834,791	2.94%	0.12%
1300Q Total		19,088,475	20,373,112	1,284,637	(16,665)	100.00%	(16,665)	-	1,301,302	100.00%	1,301,302	20,373,112		1.57%
1300N Total	1300N	21,297,559	21,297,559	-	-	0.00%	-	-	-	0.00%	-	21,297,559	1.20%	1.20%
1300T Total	1300T	10,316,521	10,526,979	210,458	(22,992)	100.00%	(22,992)	-	233,450	100.00%	233,450	10,526,979	3.03%	3.03%
2000J	2000J-01	99,522,008				52.78%	(247,632)	922,241		51.96%	12,808,685	113,005,303	1.61%	1.08%
2000J	2000J-02	42,954,564				47.22%	(221,549)	341,103		48.04%	11,843,905	54,918,024	1.96%	0.64%
2000J Total		142,476,572	167,923,327	25,446,754	(469,180)	100.00%	(469,180)	1,263,344	24,652,590	100.00%	24,652,590	167,923,327		1.72%
2000L	2000L-01	791,218,342				50.14%	(8,431,037)	137,640,271		88.26%	41,014,952	961,442,527	1.11%	1.02%
2000L	2000L-02	80,241,187				49.86%	(8,383,725)	6,863,864		11.74%	5,456,443	84,177,769	4.47%	0.36%
2000L Total		871,459,529	1,045,620,296	174,160,767	(16,814,762)	100.00%	(16,814,762)	144,504,134	46,471,395	100.00%	46,471,395	1,045,620,296		1.38%
2000F Total	2000F	12,716,268	15,085,187	2,368,918	-	100.00%	-	-	2,368,918	100.00%	2,368,918	15,085,187	1.72%	1.72%
2000G Total	2000G	1,671,075,743	2,097,325,671	426,249,928	(1,175,798)	100.00%	(1,175,798)	335,682,115	91,743,611	100.00%	91,743,611	2,097,325,671	1.17%	1.17%
2000K Total	2000K	3,163,001	4,077,012	914,012	(242,172)	100.00%	(242,172)	-	1,156,184	100.00%	1,156,184	4,077,012	7.95%	7.95%
2000M Total	2000M	18,646,650	18,734,817	88,167	-	100.00%	-	-	88,167	100.00%	88,167	18,734,817	1.99%	1.99%
2000Z Total	2000Z	96,310,532	100,636,134	4,325,602	-	100.00%	-	3,367,490	958,112	100.00%	958,112	100,636,134	1.26%	1.26%
3000B	3000B-02	270,553,496				4.62%	(14,167)	1,895,567		38.98%	15,567,270	288,002,167	1.35%	0.50%
3000B	3000B-03	80,540,817				1.49%	(4,579)	1,123,877		11.18%	4,465,483	86,125,598	1.84%	0.21%
3000B	3000B-04	205,570,869				29.50%	(90,443)	1,421,454		27.97%	11,169,105	218,070,986	2.89%	0.82%
3000B	3000B-05	128,694,748				34.52%	(105,852)	474,112		15.88%	6,340,316	135,403,324	4.06%	0.71%
3000B	3000B-06	41,628,949				29.87%	(91,585)	-		5.98%	2,389,271	43,926,636	6.66%	0.38%
3000B Total		726,988,879	771,528,710	44,539,830	(306,625)	100.00%	(306,625)	4,915,010	39,931,445	100.00%	39,931,445	771,528,710		2.62%
3000C	3000B-02	141,377				0.00%	-	-		0.20%	13,812	155,189	1.35%	0.01%
3000C	3000B-03	1,395,361				0.00%	-	-		0.52%	35,617	1,430,977	1.84%	0.07%
3000C	3000B-04	9,743,764				0.00%	-	64,303		19.84%	1,370,945	11,179,012	2.89%	0.82%
3000C	3000B-05	11,435,968				3.67%	(7,271)	-		21.79%	1,505,852	12,934,548	4.06%	1.34%
3000C	3000B-06	9,535,125				96.33%	(190,630)	162,961		57.66%	3,984,300	13,491,756	6.66%	2.29%
3000C Total		32,251,594	39,191,483	6,939,889	(197,901)	100.00%	(197,901)	227,264	6,910,526	100.00%	6,910,526	39,191,483		4.53%
3000F	3000F-01	1,358,261,460				96.12%	(641,182)	59,146,195		96.59%	84,087,536	1,500,854,010	1.75%	1.67%

Manitoba Hydro Electric Operations
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For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MNGT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MNGT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
3000F	3000F-02	60,919,456				3.88%	(25,910)	12,557,064		3.41%	2,964,337	76,414,947	3.11%	0.15%
3000F Total		1,419,180,916	1,577,268,957	158,088,041	(667,092)	100.00%	(667,092)	71,703,259	87,051,874	100.00%	87,051,874	1,577,268,957		1.82%
3100R	3100R-01	476,766,073				91.05%	(4,121,974)	44,692,005		90.02%	56,699,806	574,035,910	1.80%	1.61%
3100R	3100R-02	58,701,887				8.95%	(405,072)	2,921,573		9.98%	6,284,959	67,503,346	3.29%	0.35%
3100R Total		535,467,959	641,539,256	106,071,296	(4,527,046)	100.00%	(4,527,046)	47,613,578	62,984,765	100.00%	62,984,765	641,539,256		1.96%
3100S	3100R-01	14,647,452				6.91%	(126,232)	-		4.87%	1,334,142	15,855,362	1.80%	0.11%
3100S	3100R-02	6,067,086				1.14%	(20,844)	-		2.90%	795,305	6,841,547	3.29%	0.09%
3100S	3100S-01	184,079,645				85.57%	(1,562,506)	11,891,782		85.39%	23,380,437	217,789,358	2.16%	1.86%
3100S	3100S-02	10,162,995				6.37%	(116,399)	-		6.83%	1,870,754	11,917,350	3.08%	0.15%
3100S Total		214,957,177	252,403,616	37,446,439	(1,825,981)	100.00%	(1,825,981)	11,891,782	27,380,638	100.00%	27,380,638	252,403,616		2.21%
3100T	3100R-02	7,942,220				2.69%	(203,919)	-		2.24%	925,532	8,663,833	3.29%	0.06%
3100T	3100S-01					0.00%	-	43,483		0.00%	-	43,483	2.16%	0.00%
3100T	3100T-01	255,168,621				41.82%	(3,169,861)	28,620,116		64.30%	26,530,633	307,149,508	2.21%	1.53%
3100T	3100T-02	19,363,560				19.60%	(1,485,822)	-		0.04%	17,019	17,894,758	1.73%	0.07%
3100T	3100T-03	99,042,821				34.87%	(2,642,805)	-		33.42%	13,789,937	110,189,953	2.51%	0.62%
3100T	3100U-02					1.02%	(77,328)	132,412		0.00%	-	55,083	1.72%	0.00%
3100T Total		381,517,222	443,996,617	62,479,396	(7,579,735)	100.00%	(7,579,735)	28,796,010	41,263,121	100.00%	41,263,121	443,996,617		2.29%
3100U	3100R-02	3,999,248				0.02%	(707)	-		1.70%	577,047	4,575,588	3.29%	0.02%
3100U	3100S-01	12,622,960				1.85%	(54,010)	-		0.16%	53,837	12,622,787	2.16%	0.04%
3100U	3100S-02	20,935,483				3.97%	(115,640)	-		3.42%	1,162,615	21,982,457	3.08%	0.09%
3100U	3100T-01	28,708,884				3.98%	(115,938)	-		1.31%	444,318	29,037,264	2.21%	0.09%
3100U	3100U-01	408,817,137				65.22%	(1,900,036)	23,131,419		62.46%	21,250,594	451,299,114	1.48%	0.89%
3100U	3100U-02	159,241,015				20.26%	(590,300)	3,964,103		12.43%	4,228,991	166,843,809	1.72%	0.38%
3100U	3100U-03	56,615,484				4.70%	(136,788)	955,931		18.53%	6,306,255	63,740,882	2.52%	0.21%
3100U Total		690,940,211	750,101,900	59,161,690	(2,913,420)	100.00%	(2,913,420)	28,051,453	34,023,656	100.00%	34,023,656	750,101,900		1.72%
3100V	3100V-01	65,892,872				41.02%	(4,680,334)	1,431,138		4.12%	2,103,231	64,746,907	1.65%	0.23%
3100V	3100V-02	287,769,701				42.61%	(4,862,475)	27,919,992		87.42%	44,635,227	355,462,445	3.72%	2.86%
3100V	3100V-03	39,488,522				16.37%	(1,868,536)	642,990		8.46%	4,321,665	42,584,641	4.27%	0.39%
3100V Total		393,151,095	462,793,993	69,642,897	(11,411,345)	100.00%	(11,411,345)	29,994,120	51,060,123	100.00%	51,060,123	462,793,993		3.48%
3000J	3000J	8,951,203				100.00%	(66,623)	-		100.00%	1,022,531	9,907,111	2.03%	2.03%
3000J Total		8,951,203	9,907,111	955,908	(66,623)	100.00%	(66,623)	-	1,022,531	100.00%	1,022,531	9,907,111		2.03%
3200M	3200M-01	211,781,161				0.00%	-	-		63.09%	4,109,543	215,890,704	1.51%	0.97%
3200M	3200M-02	27,300,000				100.00%	-	-		10.86%	707,370	28,007,370	3.89%	0.33%
3200M	3200M-03	89,491,956				0.00%	-	-		26.06%	1,697,302	91,189,258	1.78%	0.48%
3200M Total		328,573,117	335,087,331	6,514,214	-	100.00%	-	-	6,514,214	100.00%	6,514,214	335,087,331		1.78%
3200N	3200M-02	65,088,763				100.00%	-	-		100.00%	49,546	65,138,309	3.89%	3.89%
3200N Total		65,088,763	65,138,309	49,546	-	100.00%	-	-	49,546	100.00%	49,546	65,138,309		3.89%
3200P	3200P-01	605,652,960				10.16%	(8,267)	-		68.85%	67,578,734	673,223,428	2.24%	1.27%
3200P	3200P-02	451,423,190				86.22%	(70,182)	-		26.58%	26,090,538	477,443,546	2.42%	0.97%
3200P	3200S-02	23,234,706				0.00%	-	-		3.53%	3,462,813	26,697,519	1.97%	0.04%
3200P	3200S-03	9,645,914				3.63%	(2,951)	-		1.04%	1,023,878	10,666,841	2.31%	0.02%
3200P Total		1,089,956,770	1,188,031,333	98,074,563	(81,400)	100.00%	(81,400)	-	98,155,963	100.00%	98,155,963	1,188,031,333		2.31%
3200S	3200M-02	7,205,199				0.00%	-	-		0.00%	-	7,205,199	3.89%	0.12%
3200S	3200P-01	123,845,105				0.00%	-	-		33.46%	(20,368,489)	103,476,616	2.24%	0.95%
3200S	3200S-01	103,359,033				0.00%	-	-		55.61%	(33,852,975)	69,506,058	1.90%	0.54%
3200S	3200S-02	21,641,581				45.81%	(64,591)	-		0.00%	-	21,576,990	1.97%	0.17%
3200S	3200S-03	24,009,817				0.57%	(805)	-		5.58%	(3,398,970)	20,610,042	2.31%	0.20%
3200S	3200U-01	21,880,470				42.98%	(60,607)	-		3.73%	(2,273,236)	19,546,627	1.70%	0.14%
3200S	3200U-02	2,737,212				10.64%	(14,998)	-		1.61%	(980,743)	1,741,472	1.81%	0.01%
3200S Total		304,678,417	243,663,003	(61,015,414)	(141,000)	100.00%	(141,000)	-	(60,874,414)	100.00%	(60,874,414)	243,663,003		2.13%
3200U	3200P-01	1,487,095				0.00%	-	-		0.00%	-	1,487,095	2.24%	0.01%
3200U	3200P-02	4,409,676				1.15%	(10,725)	-		0.01%	557	4,399,508	2.42%	0.05%
3200U	3200S-01	26,225,619				0.10%	(916)	-		0.25%	13,450	26,238,153	1.90%	0.22%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
3200U	3200S-02	202,785				1.66%	(15,502)	-		0.00%	-	187,283	1.97%	0.00%
3200U	3200S-03	590,564				8.15%	(75,915)	-		0.00%	-	514,649	2.31%	0.01%
3200U	3200U-01	116,164,363				20.05%	(186,720)	-		43.64%	2,353,132	118,330,775	1.70%	0.89%
3200U	3200U-02	62,940,768				68.08%	(633,972)	-		55.88%	3,012,623	65,319,418	1.81%	0.52%
3200U	3200V-01	2,299,340				0.80%	(7,450)	-		0.01%	536	2,292,425	1.38%	0.01%
3200U	3200V-02	4,192,316				0.00%	-	-		0.21%	11,374	4,203,690	3.55%	0.07%
3200U	3200V-03	3,721,618				0.00%	-	-		0.00%	-	3,721,618	4.26%	0.07%
3200U Total		222,234,144	226,694,615	4,460,472	(931,200)	100.00%	(931,200)	-	5,391,672	100.00%	5,391,672	226,694,615		1.85%
3200V	3100V-01	-				0.00%	-	23,406		0.00%	-	23,406	1.65%	0.00%
3200V	3100V-02	-				0.00%	-	444,709		0.00%	-	444,709	3.72%	0.01%
3200V	3200V-01	32,028,611				49.26%	(403,528)	-		4.07%	219,661	31,844,744	1.38%	0.25%
3200V	3200V-02	122,775,345				24.50%	(200,647)	-		86.47%	4,661,689	127,236,387	3.55%	2.61%
3200V	3200V-03	13,162,597				26.24%	(214,927)	-		9.46%	509,858	13,457,529	4.26%	0.33%
3200V Total		167,966,553	173,006,774	5,040,221	(819,102)	100.00%	(819,102)	468,115	5,391,209	100.00%	5,391,209	173,006,774		3.21%
3300M	3300M-01	1,766,856				100.00%	(15,836)	-		0.00%	-	1,751,019	0.05%	0.04%
3300M	3300M-02	19,389				0.00%	-	-		100.00%	366,388	385,777	0.09%	0.02%
3300M Total		1,786,244	2,136,796	350,552	(15,836)	100.00%	(15,836)	-	366,388	100.00%	366,388	2,136,796		0.06%
3300N	3300M-02	4,469,007				100.00%	(19,389)	-		100.00%	(334,063)	4,115,555	0.09%	0.08%
3300N	3300M-03	353,452				0.00%	-	-		0.00%	-	353,452	1.43%	0.11%
3300N Total		4,822,459	4,469,007	(353,452)	(19,389)	100.00%	(19,389)	-	(334,063)	100.00%	(334,063)	4,469,007		0.20%
3300S	3300M-02	472,122				0.00%	-	-		0.00%	-	472,122	0.09%	0.09%
3300S Total		472,122	472,122	-	-	0.00%	-	-	-	0.00%	-	472,122		0.09%
3300U	3300M-02	590,990				0.00%	-	-		100.00%	9,536	600,526	0.09%	0.02%
3300U	3300U-01	2,672,786				0.00%	-	-		0.00%	-	2,672,786	0.18%	0.14%
3300U	3300V-01	58,229				0.00%	-	-		0.00%	-	58,229	0.66%	0.01%
3300U	3300V-02	55,946				0.00%	-	-		0.00%	-	55,946	0.86%	0.01%
3300U Total		3,377,950	3,387,486	9,536	-	0.00%	-	-	9,536	100.00%	9,536	3,387,486		0.18%
3300V	3300U-01	113,888				0.00%	-	-		0.00%	-	113,888	0.18%	0.00%
3300V	3300V-01	3,140,207				0.00%	-	-		0.00%	-	3,140,207	0.66%	0.30%
3300V	3300V-02	3,030,262				100.00%	(92,994)	-		100.00%	605,722	3,542,990	0.86%	0.45%
3300V Total		6,284,357	6,797,084	512,727	(92,994)	100.00%	(92,994)	-	605,722	100.00%	605,722	6,797,084		0.76%
4000L	4000L-01	750,677,524				54.35%	(3,895,266)	916,245		83.44%	111,213,374	858,911,877	1.33%	1.11%
4000L	4000L-02	135,088,183				8.43%	(603,804)	178,464		14.55%	19,390,217	154,053,060	1.73%	0.26%
4000L	4000L-03	13,377,471				37.22%	(2,667,744)	-		2.01%	2,674,330	13,384,058	2.82%	0.04%
4000L Total		899,143,179	1,026,348,995	127,205,816	(7,166,814)	100.00%	(7,166,814)	1,094,709	133,277,921	100.00%	133,277,921	1,026,348,995		1.41%
4000M	4000N-01	8,373,887				0.00%	-	-		0.39%	13,261	8,387,149	1.39%	0.25%
4000M	4000N-02	31,042,350				100.00%	-	-		91.76%	3,116,691	34,159,041	2.27%	1.66%
4000M	4000N-03	3,840,000				0.00%	-	-		7.85%	266,567	4,106,567	1.78%	0.16%
4000M Total		43,256,237	46,652,757	3,396,520	-	100.00%	-	-	3,396,520	100.00%	3,396,520	46,652,757		2.07%
4000N	4000N-01	664,323				19.36%	(262,386)	-		0.07%	72,723	474,660	1.39%	0.00%
4000N	4000N-02	65,653,113				40.11%	(543,583)	2,700,999		9.96%	10,219,371	78,029,900	2.27%	0.27%
4000N	4000N-03	474,200,900				40.53%	(549,280)	-		89.97%	92,329,844	565,981,463	1.78%	1.56%
4000N Total		540,518,336	644,486,023	103,967,687	(1,355,249)	100.00%	(1,355,249)	2,700,999	102,621,937	100.00%	102,621,937	644,486,023		1.84%
4000P	4000N-02	282,241,485				100.00%	(136,637)	4,501		100.00%	23,600,579	305,709,927	2.27%	2.27%
4000P Total		282,241,485	305,709,927	23,468,442	(136,637)	100.00%	(136,637)	4,501	23,600,579	100.00%	23,600,579	305,709,927		2.27%
4000Q	4000Q-01	247,659,826				82.81%	(16,295,058)	96,148		71.79%	54,026,095	285,487,011	1.83%	1.45%
4000Q	4000Q-02	58,109,314				17.19%	(3,382,330)	-		28.21%	21,230,034	75,957,018	7.65%	1.61%
4000Q Total		305,769,140	361,444,029	55,674,889	(19,677,388)	100.00%	(19,677,388)	96,148	75,256,129	100.00%	75,256,129	361,444,029		3.05%
4001A Total	4001A	26,901,107	29,781,484	2,880,377	-	100.00%	-	-	2,880,377	100.00%	2,880,377	29,781,484	1.26%	1.26%
4002A Total	4002A	38,677,546	38,658,226	(19,320)	(19,320)	100.00%	(19,320)	-	-	100.00%	-	38,658,226	2.28%	2.28%
4001B Total	4001B	26,560,157	29,772,790	3,212,633	-	100.00%	-	-	3,212,633	100.00%	3,212,633	29,772,790	1.29%	1.29%
4002B Total	4002B	14,887,271	14,637,916	(249,355)	(249,355)	100.00%	(249,355)	-	-	100.00%	-	14,637,916	2.47%	2.47%
4000D Total	4000D	9,742,007	11,141,698	1,399,691	(2,329)	100.00%	(2,329)	-	1,402,020	100.00%	1,402,020	11,141,698	3.36%	3.36%

Manitoba Hydro Electric Operations
Calculation of IFRS-Compliant ASL Composite Depreciation Rates by Existing Account
For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
4000G Total	4000G	12,138,708	12,850,704	711,996	-	100.00%	-	-	711,996	100.00%	711,996	12,850,704	1.60%	1.60%
4000J Total	4000J	860,523,469	1,008,724,219	148,200,750	(14,280,370)	100.00%	(14,280,370)	1,236,747	161,244,373	100.00%	161,244,373	1,008,724,219	1.26%	1.26%
4000K Total	4000K	50,696,569	74,548,147	23,851,578	-	100.00%	-	-	23,851,578	100.00%	23,851,578	74,548,147	5.69%	5.69%
4000S Total	4000S	260,639,991	290,260,443	29,620,452	(7,648,630)	100.00%	(7,648,630)	120,761	37,148,321	100.00%	37,148,321	290,260,443	1.95%	1.95%
4000T Total	4000T	15,145,190	21,793,386	6,648,197	-	100.00%	-	-	6,648,197	100.00%	6,648,197	21,793,386	2.46%	2.46%
4000V Total	4000V	2,949,862	3,559,860	609,998	(371,348)	100.00%	(371,348)	-	981,346	100.00%	981,346	3,559,860	15.02%	15.02%
4000W Total	4000W	83,596,667	91,486,828	7,890,160	-	100.00%	-	-	7,890,160	100.00%	7,890,160	91,486,828	1.12%	1.12%
4000X Total	4000X	220,358,576	238,313,149	17,954,573	(26,891,428)	100.00%	(26,891,428)	7,998	44,838,003	100.00%	44,838,003	238,313,149	1.71%	1.71%
4900V Total	4900V	22,030,704	26,034,689	4,003,985	(1,694,022)	100.00%	(1,694,022)	-	5,698,007	100.00%	5,698,007	26,034,689	6.66%	6.66%
4900Y Total	4900Y	14,382,614	11,609,248	(2,773,366)	(1,897,175)	100.00%	(1,897,175)	-	(876,191)	100.00%	(876,191)	11,609,248	2.60%	2.60%
4900W Total	4900W	46,791,500	47,437,126	645,626	(7,237,784)	100.00%	(7,237,784)	-	7,883,410	100.00%	7,883,410	47,437,126	6.73%	6.73%
4900Z Total	4900Z	11,919,636	13,352,541	1,432,905	(163,911)	100.00%	(163,911)	-	1,596,816	100.00%	1,596,816	13,352,541	1.78%	1.78%
5000B	5000B-02	3,743,491				0.00%	-	42,013		39.00%	3,907	3,789,411	1.35%	0.51%
5000B	5000B-03	1,141,024				0.00%	-	11,850		11.00%	1,102	1,153,975	2.02%	0.23%
5000B	5000B-04	2,831,897				100.00%	(2,250)	30,163		28.00%	2,805	2,862,615	3.00%	0.86%
5000B	5000B-05	1,585,427				0.00%	-	17,236		16.00%	1,603	1,604,266	4.13%	0.66%
5000B	5000B-06	558,869				0.00%	-	6,464		6.00%	601	565,934	7.77%	0.44%
5000B Total		9,860,709	9,976,202	115,493	(2,250)	100.00%	(2,250)	107,726	10,017	100.00%	10,017	9,976,202		2.71%
5000C	5000B-03	419,808				1.50%	(3,380)	-		7.44%	193,311	609,739	2.02%	0.11%
5000C	5000B-04	3,354,098				57.85%	(130,405)	-		45.01%	1,169,617	4,393,310	3.00%	1.22%
5000C	5000B-05	3,671,986				24.83%	(55,978)	-		37.93%	985,624	4,601,633	4.13%	1.76%
5000C	5000B-06	991,915				15.82%	(35,664)	-		9.61%	249,732	1,205,983	7.77%	0.87%
5000C Total		8,437,807	10,810,665	2,372,858	(225,426)	100.00%	(225,426)	-	2,598,285	100.00%	2,598,285	10,810,665		3.96%
5000D	5000B-01	4,470,592				0.00%	-	-		0.00%	-	4,470,592	1.09%	0.36%
5000D	5000B-03	2,607,102				10.84%	(24,014)	-		0.00%	-	2,583,088	2.02%	0.38%
5000D	5000B-04	2,986,186				66.06%	(146,311)	-		0.00%	-	2,839,875	3.00%	0.62%
5000D	5000B-05	2,198,781				17.31%	(38,330)	-		0.00%	-	2,160,450	4.13%	0.65%
5000D	5000B-06	1,606,154				5.80%	(12,840)	-		0.00%	-	1,593,314	7.77%	0.91%
5000D Total		13,868,814	13,647,318	(221,496)	(221,496)	100.00%	(221,496)	-	-	0.00%	-	13,647,318		2.92%
5000G	5000G-01	14,395,908				42.81%	(110,217)	296,690		86.05%	585,997	15,168,377	1.41%	1.26%
5000G	5000G-02	1,332,051				57.19%	(147,221)	32,966		13.95%	94,984	1,312,779	2.44%	0.19%
5000G	5000G-03	525,342				0.00%	-	-		0.00%	-	525,342	3.86%	0.12%
5000G Total		16,253,301	17,006,498	753,197	(257,439)	100.00%	(257,439)	329,655	680,981	100.00%	680,981	17,006,498		1.57%
5000J	5000J-01	29,433,804				12.30%	(752,127)	278,524		33.46%	2,604,897	31,565,099	4.49%	0.90%
5000J	5000J-02	7,047,848				3.46%	(211,435)	-		5.70%	443,582	7,279,995	2.53%	0.12%
5000J	5000J-03	101,319,160				18.19%	(1,111,975)	1,455,492		40.44%	3,148,092	104,810,769	3.74%	2.48%
5000J	5000J-04	5,476,539				4.62%	(282,295)	78,680		2.11%	163,923	5,436,848	3.87%	0.13%
5000J	5000J-05	10,920,576				61.43%	(3,754,912)	148,746		18.29%	1,423,740	8,738,150	6.15%	0.34%
5000J Total		154,197,928	157,830,861	3,632,933	(6,112,744)	100.00%	(6,112,744)	1,961,442	7,784,235	100.00%	7,784,235	157,830,861		3.97%
5000K	5000B-06	751,804				5.27%	(394,774)	-		7.62%	282,306	639,336	7.77%	0.82%
5000K	5000K-01	2,919,554				1.05%	(78,516)	-		29.60%	1,096,308	3,937,345	14.83%	9.61%
5000K	5000K-02	6,120,911				93.68%	(7,016,833)	-		62.06%	2,298,434	1,402,512	12.67%	2.92%
5000K	5000M-02	71,416				0.00%	-	-		0.72%	26,817	98,233	5.58%	0.09%
5000K Total		9,863,684	6,077,426	(3,786,259)	(7,490,123)	100.00%	(7,490,123)	-	3,703,865	100.00%	3,703,865	6,077,426		13.44%
5000M	5000M-01	10,124,419				13.57%	(201,259)	-		70.46%	644,841	10,568,001	8.23%	5.85%
5000M	5000M-02	5,310,501				86.43%	(1,282,002)	11,678		29.54%	270,322	4,310,499	5.58%	1.62%
5000M Total		15,434,920	14,878,500	(556,420)	(1,483,261)	100.00%	(1,483,261)	11,678	915,163	100.00%	915,163	14,878,500		7.46%
5000R	5000R-02	992,757				35.14%	(217,819)	-		0.00%	-	774,938	1.18%	0.94%
5000R	5000R-03	227,223				16.38%	(101,536)	-		0.00%	-	125,688	5.77%	0.74%
5000R	5000R-04	9,048,523				48.47%	(300,436)	-		100.00%	(8,671,875)	76,212	2.48%	0.19%
5000R Total		10,268,504	976,838	(9,291,666)	(619,791)	100.00%	(619,791)	-	(8,671,875)	100.00%	(8,671,875)	976,838		1.87%
5000H Total	5000H	207,483,703	223,590,786	16,107,083	(203,630)	100.00%	(203,630)	13,484,275	2,826,438	100.00%	2,826,438	223,590,786	2.43%	2.43%
5000N Total	5000N	23,116,986	28,498,039	5,381,052	(8,269,094)	100.00%	(8,269,094)	499,944	13,150,202	100.00%	13,150,202	28,498,039	13.21%	13.21%

Manitoba Hydro Electric Operations
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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
6000E Total	6000E	966,994	633,617	(333,377)	(331,870)	100.00%	(331,870)	-	(1,507)	100.00%	(1,507)	633,617	9.84%	9.84%
6000F Total	6000F	74,182,974	81,672,136	7,489,161	(16,848,606)	100.00%	(16,848,606)	-	24,337,767	100.00%	24,337,767	81,672,136	7.88%	7.88%
6000G Total	6000G	90,320,443	106,361,926	16,041,483	(9,239,723)	100.00%	(9,239,723)	-	25,281,206	100.00%	25,281,206	106,361,926	5.65%	5.65%
6000H Total	6000H	30,417,023	37,133,638	6,716,616	(3,085,078)	100.00%	(3,085,078)	-	9,801,694	100.00%	9,801,694	37,133,638	3.54%	3.54%
6000I Total	6000I	20,402,145	19,968,554	(433,592)	(1,908,885)	100.00%	(1,908,885)	-	1,475,294	100.00%	1,475,294	19,968,554	3.18%	3.18%
6000J Total	6000J	23,143,252	25,143,148	1,999,896	(2,322,570)	100.00%	(2,322,570)	-	4,322,465	100.00%	4,322,465	25,143,148	3.09%	3.09%
6000K Total	6000K	6,972,075	9,833,764	2,861,689	(1,648,572)	100.00%	(1,648,572)	-	4,510,261	100.00%	4,510,261	9,833,764	6.97%	6.97%
8000B	8000B-02	34,110,914				1.50%	(38,244)	-		28.99%	183,899	34,256,569	1.45%	0.41%
8000B	8000B-03	21,096,505				9.52%	(242,253)	-		17.99%	114,144	20,968,395	1.97%	0.34%
8000B	8000B-04	34,420,734				33.99%	(865,356)	-		25.99%	164,875	33,720,252	3.19%	0.89%
8000B	8000B-05	20,445,439				44.51%	(1,133,001)	-		16.03%	101,673	19,414,111	4.33%	0.70%
8000B	8000B-06	12,128,253				10.48%	(266,723)	4,311		11.00%	69,755	11,935,596	7.45%	0.74%
8000B Total		122,201,844	120,294,923	(1,906,921)	(2,545,577)	100.00%	(2,545,577)	4,311	634,345	100.00%	634,345	120,294,923		3.09%
8000C	8000B-02	950,363				0.00%	-	-		1.06%	264,066	1,214,429	1.45%	0.02%
8000C	8000B-03	5,145,456				0.00%	-	-		7.06%	1,761,470	6,906,926	1.97%	0.14%
8000C	8000B-04	25,935,473				56.65%	(1,787,228)	-		35.66%	8,899,249	33,047,494	3.19%	1.06%
8000C	8000B-05	32,068,763				32.12%	(1,013,228)	-		41.54%	10,365,633	41,421,168	4.33%	1.81%
8000C	8000B-06	13,262,213				11.23%	(354,219)	-		14.69%	3,665,801	16,573,795	7.45%	1.25%
8000C Total		77,362,268	99,163,812	21,801,544	(3,154,675)	100.00%	(3,154,675)	-	24,956,219	100.00%	24,956,219	99,163,812		4.27%
8000D	8000B-01	59,649,105				0.00%	-	-		0.00%	-	59,649,105	1.05%	0.31%
8000D	8000B-02	12,446,426				0.00%	-	-		0.00%	-	12,446,426	1.45%	0.09%
8000D	8000B-03	42,807,488				0.00%	-	-		0.00%	-	42,807,488	1.97%	0.42%
8000D	8000B-04	76,550,722				40.15%	(18,339)	-		0.00%	-	76,532,383	3.19%	1.21%
8000D	8000B-05	10,211,043				0.00%	-	-		0.00%	-	10,211,043	4.33%	0.22%
8000D	8000B-06	980,787				59.85%	(27,335)	-		0.00%	-	953,451	7.45%	0.04%
8000D Total		202,645,571	202,599,897	(45,674)	(45,674)	100.00%	(45,674)	-	-	0.00%	-	202,599,897		2.27%
8000E	8000B-03	32,102,084				0.00%	-	-		0.00%	-	32,102,084	1.97%	0.81%
8000E	8000B-04	11,578,059				46.22%	(126,940)	-		64.00%	153,551	11,604,670	3.19%	0.48%
8000E	8000B-05	22,426,169				48.71%	(133,760)	-		27.00%	64,779	22,357,189	4.33%	1.25%
8000E	8000B-06	11,669,710				5.07%	(13,931)	-		9.00%	21,593	11,677,372	7.45%	1.12%
8000E Total		77,776,021	77,741,315	(34,707)	(274,630)	100.00%	(274,630)	-	239,923	100.00%	239,923	77,741,315		3.65%
8000F Total	8000F	57,707	147,508	89,801	(20,065)	100.00%	(20,065)	-	109,866	100.00%	109,866	147,508	10.13%	10.13%
9000H	9000H-01	56,321,883				66.71%	(10,837,953)	-		56.20%	10,878,590	56,362,520	16.93%	9.68%
9000H	9000H-02	39,177,462				33.29%	(5,408,705)	-		43.80%	8,479,288	42,248,045	7.99%	3.42%
9000H Total		95,499,346	98,610,565	3,111,219	(16,246,658)	100.00%	(16,246,658)	-	19,357,878	100.00%	19,357,878	98,610,565		13.10%
9000K	9000K-01	24,367,160				53.35%	(15,790,504)	-		58.17%	16,263,052	24,839,707	18.58%	11.47%
9000K	9000K-02	17,523,966				46.65%	(13,807,198)	-		41.83%	11,695,789	15,412,557	13.74%	5.26%
9000K Total		41,891,126	40,252,265	(1,638,862)	(29,597,702)	100.00%	(29,597,702)	-	27,958,841	100.00%	27,958,841	40,252,265		16.73%
9000L Total	9000L	28,560,439	28,362,810	(197,629)	(1,151,830)	100.00%	(1,151,830)	-	954,201	100.00%	954,201	28,362,810	4.83%	4.83%
9000M Total	9000M	1,076	-	(1,076)	(1,076)	100.00%	(1,076)	-	-	100.00%	-	-	16.83%	16.83%
A100A Total	A100A	156,800,616	198,807,920	42,007,305	-	100.00%	-	14,296,837	27,710,468	100.00%	27,710,468	198,807,920	1.33%	1.33%
A200G	A200G-01	77,028,467				0.00%	-	-		93.52%	9,957,122	86,985,589	3.68%	2.13%
A200G	A200G-02	21,505,240				0.00%	-	-		4.43%	471,323	21,976,563	1.70%	0.25%
A200G	A200G-03	23,966,043				0.00%	-	-		1.71%	182,491	24,148,533	1.96%	0.32%
A200G	A200G-04	17,055,411				100.00%	(164,409)	-		0.34%	35,961	16,926,963	0.29%	0.03%
A200G Total		139,555,161	150,037,648	10,482,488	(164,409)	100.00%	(164,409)	-	10,646,897	100.00%	10,646,897	150,037,648		2.73%
A200H	A200H-01	6,650,923				31.34%	(4,523,997)	-		4.21%	254,226	2,381,152	15.39%	0.79%
A200H	A200H-02	32,716,968				52.49%	(7,577,560)	-		75.08%	4,531,830	29,671,238	21.14%	13.46%
A200H	A200J-01	15,646,691				16.17%	(2,334,645)	-		20.70%	1,249,656	14,561,702	36.09%	11.27%
A200H Total		55,014,582	46,614,092	(8,400,490)	(14,436,202)	100.00%	(14,436,202)	-	6,035,712	100.00%	6,035,712	46,614,092		25.52%
A200J	A200J-01	7,079,876				100.00%	(11,695,784)	-		100.00%	24,681,065	20,065,157	36.09%	36.09%
A200J Total		7,079,876	20,065,157	12,985,281	(11,695,784)	100.00%	(11,695,784)	-	24,681,065	100.00%	24,681,065	20,065,157		36.09%
A200K Total	A200K	5,729,299	2,499,387	(3,229,912)	(5,029,156)	100.00%	(5,029,156)	-	1,799,244	100.00%	1,799,244	2,499,387	14.85%	14.85%

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Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MGNT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
A200L Total	A200L	13,430,074	11,722,145	(1,707,930)	(8,588,834)	100.00%	(8,588,834)	-	6,880,904	100.00%	6,880,904	11,722,145	3.59%	3.59%
Manitoba Hydro Total		**21,997,845,330**	**24,641,309,002**	**2,643,661,342**	**(322,306,159)**		**(322,306,159)**	**1,104,889,878**	**1,861,077,623**		**1,861,077,623**	**24,641,506,672**		
Wuskwatim Power Limited Partnership														
1181AWPLP	1181A-01WPLP	66,586,741				0.00%	-	-		45.00%	188,155	66,774,896	0.83%	0.37%
1181AWPLP	1181A-02WPLP	29,594,107				0.00%	-	-		20.00%	83,624	29,677,732	0.83%	0.17%
1181AWPLP	1181D-01WPLP	22,195,580				0.00%	-	-		15.00%	62,718	22,258,299	1.10%	0.16%
1181AWPLP	1181E-01WPLP	22,195,580				0.00%	-	-		15.00%	62,718	22,258,299	1.24%	0.19%
1181AWPLP	1181F-01WPLP	7,398,527				0.00%	-	-		5.00%	20,906	7,419,433	1.96%	0.10%
1181AWPLP Total		147,970,536	148,388,658	418,122	-	0.00%	-	-	418,122	100.00%	418,122	148,388,658		0.99%
1181BWPLP	1181A-01WPLP	481,764,466				0.00%	-	-		85.00%	924,212	482,688,678	0.83%	0.71%
1181BWPLP	1181B-01WPLP	10,202,071				0.00%	-	-		1.80%	19,572	10,221,643	1.01%	0.02%
1181BWPLP	1181B-03WPLP	35,707,249				0.00%	-	-		6.30%	68,500	35,775,749	1.87%	0.12%
1181BWPLP	1181B-04WPLP	25,505,178				0.00%	-	-		4.50%	48,929	25,554,106	2.98%	0.13%
1181BWPLP	1181B-05WPLP	10,202,071				0.00%	-	-		1.80%	19,572	10,221,643	4.30%	0.08%
1181BWPLP	1181B-06WPLP	3,400,690				0.00%	-	-		0.60%	6,524	3,407,214	7.58%	0.05%
1181BWPLP Total		566,781,725	567,869,033	1,087,308	-	0.00%	-	-	1,087,308	100.00%	1,087,308	567,869,033		1.10%
1181DWPLP	1181D-01WPLP	63,095,460				0.00%	-	-		70.00%	150,926	63,246,386	1.10%	0.77%
1181DWPLP	1181D-04WPLP	27,040,911				0.00%	-	-		30.00%	64,683	27,105,594	1.40%	0.42%
1181DWPLP Total		90,136,371	90,351,981	215,609	-	0.00%	-	-	215,609	100.00%	215,609	90,351,981		1.19%
1181EWPLP	1181E-01WPLP	49,488,413				0.00%	-	-		50.00%	118,902	49,607,315	1.24%	0.62%
1181EWPLP	1181P-02WPLP	4,948,841				0.00%	-	-		5.00%	11,890	4,960,731	2.39%	0.12%
1181EWPLP	1181R-01WPLP	44,539,572				0.00%	-	-		45.00%	107,012	44,646,583	1.53%	0.69%
1181EWPLP Total		98,976,826	99,214,630	237,804	-	0.00%	-	-	237,804	100.00%	237,804	99,214,630		1.43%
1181FWPLP	1181F-01WPLP	80,735,779				100.00%	(256,168)	-		100.00%	624,463	81,104,073	1.96%	1.96%
1181FWPLP Total		80,735,779	81,104,073	368,294	(256,168)	100.00%	(256,168)	-	624,463	100.00%	624,463	81,104,073		1.96%
1181GWPLP	1181G-01WPLP	12,186,427				0.00%	-	-		7.95%	33,086	12,219,513	1.07%	0.09%
1181GWPLP	1181G-02WPLP	33,077,443				0.00%	-	-		21.59%	89,806	33,167,249	1.50%	0.32%
1181GWPLP	1181G-04WPLP	11,025,814				0.00%	-	-		7.20%	29,935	11,055,750	1.80%	0.13%
1181GWPLP	1181G-05WPLP	14,507,651				0.00%	-	-		9.47%	39,389	14,547,039	1.55%	0.15%
1181GWPLP	1181G-06WPLP	26,113,771				0.00%	-	-		17.05%	70,899	26,184,670	1.97%	0.34%
1181GWPLP	1181G-07WPLP	32,497,137				0.00%	-	-		21.21%	88,230	32,585,368	1.52%	0.32%
1181GWPLP	1181G-08WPLP	15,087,957				0.00%	-	-		9.85%	40,964	15,128,921	1.90%	0.19%
1181GWPLP	1181Q-02WPLP	870,459				0.00%	-	-		0.57%	2,363	872,822	2.05%	0.01%
1181GWPLP	1181R-01WPLP	7,253,825				0.00%	-	-		4.73%	19,694	7,273,520	1.53%	0.07%
1181GWPLP	1181R-02WPLP	580,306				0.00%	-	-		0.38%	1,576	581,882	1.75%	0.01%
1181GWPLP Total		153,200,791	153,616,733	415,943	-	0.00%	-	-	415,943	100.00%	415,943	153,616,733		1.62%
1181HWPLP	1181P-02WPLP	832,802				0.00%	-	-		16.00%	2,029	834,831	2.39%	0.38%
1181HWPLP	1181Q-01WPLP	208,201				0.00%	-	-		4.00%	507	208,708	1.84%	0.07%
1181HWPLP	1181Q-02WPLP	1,717,654				0.00%	-	-		33.00%	4,185	1,721,840	2.05%	0.68%
1181HWPLP	1181Q-03WPLP	1,041,003				0.00%	-	-		20.00%	2,537	1,043,539	3.78%	0.76%
1181HWPLP	1181R-02WPLP	1,405,354				0.00%	-	-		27.00%	3,424	1,408,778	1.75%	0.47%
1181HWPLP Total		5,205,014	5,217,696	12,683	-	0.00%	-	-	12,683	100.00%	12,683	5,217,696		2.36%
1181PWPLP	1181P-01WPLP	44,604,473				0.00%	-	-		79.40%	566,546	45,171,019	1.56%	1.40%
1181PWPLP	1181P-02WPLP	4,489,936				100.00%	(125,342)	-		19.68%	140,452	4,505,046	2.39%	0.21%
1181PWPLP	1181Q-05WPLP	729,855				0.00%	-	-		0.92%	6,562	736,417	7.48%	0.11%
1181PWPLP Total		49,824,264	50,412,481	588,218	(125,342)	100.00%	(125,342)	-	713,560	100.00%	713,560	50,412,481		1.72%
1181QWPLP	1181F-01WPLP	900,115				0.00%	-	-		76.93%	68,298	968,413	1.96%	0.05%
1181QWPLP	1181P-01WPLP	4,509,177				0.00%	-	-		2.77%	2,458	4,511,635	1.56%	0.18%
1181QWPLP	1181Q-03WPLP	19,915,531				0.00%	-	-		12.23%	10,856	19,926,386	3.78%	1.95%
1181QWPLP	1181Q-04WPLP	11,272,942				0.00%	-	-		6.92%	6,145	11,279,086	3.68%	1.08%
1181QWPLP	1181Q-05WPLP	1,878,824				0.00%	-	-		1.15%	1,024	1,879,848	7.48%	0.36%
1181QWPLP Total		38,476,588	38,565,368	88,780	-	0.00%	-	-	88,780	100.00%	88,780	38,565,368		3.63%

Manitoba Hydro Electric Operations
Calculation of IFRS-Compliant ASL Composite Depreciation Rates by Existing Account
For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MNGT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MNGT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1181RWPLP	1181P-02WPLP	3,347,462				0.00%	-	-		1.55%	12,458	3,359,920	2.39%	0.12%
1181RWPLP	1181Q-04WPLP	3,347,462				0.00%	-	-		1.55%	12,458	3,359,920	3.68%	0.18%
1181RWPLP	1181Q-05WPLP	72,038				0.00%	-	-		4.76%	38,141	110,179	7.48%	0.01%
1181RWPLP	1181R-01WPLP	47,840,613				0.00%	-	-		85.92%	688,615	48,529,228	1.53%	1.08%
1181RWPLP	1181R-02WPLP	13,389,848				0.00%	-	-		6.22%	49,831	13,439,679	1.75%	0.34%
1181RWPLP Total		67,997,423	68,798,926	801,503	-	0.00%	-	-	801,503	100.00%	801,503	68,798,926		1.73%
1181WWPLP	1181B-04WPLP	37,780				0.00%	-	-		49.00%	-	37,780	2.98%	1.46%
1181WWPLP	1181B-05WPLP	23,902				0.00%	-	-		31.00%	-	23,902	4.30%	1.33%
1181WWPLP	1181B-06WPLP	15,420				0.00%	-	-		20.00%	-	15,420	7.58%	1.52%
1181WWPLP Total		77,102	77,102	-	-	0.00%	-	-	-	100.00%	-	77,102		4.31%
1181XWPLP	1181B-02WPLP	10,103,122				0.00%	-	-		29.00%	20,229	10,123,351	1.37%	0.40%
1181XWPLP	1181B-03WPLP	6,270,903				0.00%	-	-		18.00%	12,556	6,283,459	1.87%	0.34%
1181XWPLP	1181B-04WPLP	9,057,971				0.00%	-	-		26.00%	18,137	9,076,108	2.98%	0.77%
1181XWPLP	1181B-05WPLP	5,574,136				0.00%	-	-		16.00%	11,161	5,585,297	4.30%	0.69%
1181XWPLP	1181B-06WPLP	3,832,219				0.00%	-	-		11.00%	7,673	3,839,892	7.58%	0.83%
1181XWPLP Total		34,838,351	34,908,107	69,756	-	0.00%	-	-	69,756	100.00%	69,756	34,908,107		3.03%
1181YWPLP	1181YWPLP	389,662				0.00%	-	-		0.00%	-	389,662	1.07%	1.07%
1181YWPLP Total		389,662	389,662	-	-	0.00%	-	-	-	0.00%	-	389,662		1.07%
1181ZWPLP	1181ZWPLP	750,000				0.00%	-	-		100.00%	-	750,000	1.00%	1.00%
1181ZWPLP Total		750,000	750,000	-	-	0.00%	-	-	-	100.00%	-	750,000		1.00%
3181RWPLP	3181R-01WPLP	4,222,098				0.00%	-	-		94.20%	(4,222,098)	-	1.69%	1.59%
3181RWPLP	3181R-02WPLP	259,959				0.00%	-	-		5.80%	(259,959)	-	2.96%	0.17%
3181RWPLP Total		4,482,057	-	(4,482,057)	-	0.00%	-	-	(4,482,057)	100.00%	(4,482,057)	-		1.76%
5081HWPLP	5081HWPLP	150,000				0.00%	-	-		0.00%	-	150,000	2.33%	2.33%
5081HWPLP Total		150,000	150,000	-	-	0.00%	-	-	-	0.00%	-	150,000		2.33%
5081JWPLP	5081J-03WPLP	20,000				0.00%	-	-		0.00%	-	20,000	3.93%	1.57%
5081JWPLP	5081J-05WPLP	30,000				0.00%	-	-		0.00%	-	30,000	5.67%	3.40%
5081JWPLP Total		50,000	50,000	-	-	0.00%	-	-	-	0.00%	-	50,000		4.97%
6081GWPLP	6081GWPLP	46,325				0.00%	-	-		0.00%	-	46,325	2.73%	2.73%
6081GWPLP Total		46,325	46,325	-	-	0.00%	-	-	-	0.00%	-	46,325		2.73%
6081HWPLP	6081HWPLP	42,012				0.00%	-	-		0.00%	-	42,012	3.84%	3.84%
6081HWPLP Total		42,012	42,012	-	-	0.00%	-	-	-	0.00%	-	42,012		3.84%
6081JWPLP	6081JWPLP	82,208				0.00%	-	-		0.00%	-	82,208	3.02%	3.02%
6081JWPLP Total		82,208	82,208	-	-	0.00%	-	-	-	0.00%	-	82,208		3.02%
6081KWPLP	6081KWPLP	54,399				0.00%	-	-		0.00%	-	54,399	5.81%	5.81%
6081KWPLP Total		54,399	54,399	-	-	0.00%	-	-	-	0.00%	-	54,399		5.81%
9081LWPLP	9081LWPLP	220,589				0.00%	-	-		100.00%	-	220,589	4.98%	4.98%
9081LWPLP Total		220,589	220,589	-	-	0.00%	-	-	-	100.00%	-	220,589		4.98%
1181CWPLP	1181B-04WPLP					0.00%		-		100.00%	289,991	289,991	2.98%	2.98%
1181CWPLP Total			289,991	289,991	-	0.00%	-	-	289,991	100.00%	289,991	289,991		2.98%
1181LWPLP Tota	1181LWPLP		228,630	228,630	-	0.00%	-	-	228,630	100.00%	228,630	228,630	2.00%	2.00%
9081HWPLP	9081H-02WPLP					0.00%		-		100.00%	252,768	252,768	6.67%	6.67%
9081HWPLP Total			252,768	252,768	-	0.00%	-	-	252,768	100.00%	252,768	252,768		6.67%
WPLP PP&E Total		**1,340,488,019**	**1,341,081,371**	**593,351**	**(381,511)**		**(381,511)**	**-**	**974,862**		**974,862**	**1,341,462,881**		
Keeyask Hydropower Limited Partnership														
1186AKHLP	1186A-02KHLP					0.00%		717,356,325		0.00%	-	717,356,325	0.80%	0.80%
1186AKHLP Total			717,356,325	717,356,325	-	0.00%	-	717,356,325	-	0.00%	-	717,356,325		0.80%
1186BKHLP	1186A-01KHLP					0.00%		3,626,477,903		0.00%	-	3,626,477,903	0.80%	0.70%
1186BKHLP	1186B-01KHLP					0.00%		225,807,917		0.00%	-	225,807,917	1.00%	0.05%
1186BKHLP	1186B-02KHLP					0.00%		54,674,461		0.00%	-	54,674,461	1.33%	0.02%
1186BKHLP	1186B-03KHLP					0.00%		123,834,210		0.00%	-	123,834,210	1.82%	0.05%
1186BKHLP	1186B-04KHLP					0.00%		83,615,068		0.00%	-	83,615,068	2.86%	0.06%

Manitoba Hydro Electric Operations
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For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MNGT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MGNT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1186BKHLP	1186B-05KHLP					0.00%		1,831,511		0.00%	-	1,831,511	4.00%	0.00%
1186BKHLP	1186R-01KHLP					0.00%		19,444,829		0.00%	-	19,444,829	1.59%	0.01%
1186BKHLP Total			4,135,685,899	4,135,685,899	-	0.00%	-	4,135,685,899	-	0.00%	-	4,135,685,899		0.90%
1186CKHLP Total			-	-	-	0.00%	-	-	-	0.00%	-	-		2.86%
1186DKHLP	1186D-01KHLP					0.00%		485,839,166		0.00%	-	485,839,166	1.11%	1.01%
1186DKHLP	1186D-04KHLP					0.00%		49,561,336		0.00%	-	49,561,336	1.43%	0.13%
1186DKHLP Total			535,400,503	535,400,503	-	0.00%	-	535,400,503	-	0.00%	-	535,400,503		1.14%
1186EKHLP	1186E-01KHLP					0.00%		101,621,791		0.00%	-	101,621,791	1.25%	0.49%
1186EKHLP	1186P-02KHLP					0.00%		11,183,845		0.00%	-	11,183,845	2.50%	0.11%
1186EKHLP	1186R-01KHLP					0.00%		147,441,354		0.00%	-	147,441,354	1.59%	0.90%
1186EKHLP Total			260,246,991	260,246,991	-	0.00%	-	260,246,991	-	0.00%	-	260,246,991		1.50%
1186FKHLP	1186F-01KHLP					0.00%		52,328,099		0.00%	-	52,328,099	2.00%	2.00%
1186FKHLP Total			52,328,099	52,328,099	-	0.00%	-	52,328,099	-	0.00%	-	52,328,099		2.00%
1186GKHLP	1186G-01KHLP					0.00%		94,921,318		0.00%	-	94,921,318	1.08%	0.14%
1186GKHLP	1186G-02KHLP					0.00%		132,889,845		0.00%	-	132,889,845	1.52%	0.27%
1186GKHLP	1186G-04KHLP					0.00%		75,937,054		0.00%	-	75,937,054	1.82%	0.19%
1186GKHLP	1186G-05KHLP					0.00%		75,937,054		0.00%	-	75,937,054	1.56%	0.16%
1186GKHLP	1186G-06KHLP					0.00%		102,734,118		0.00%	-	102,734,118	2.00%	0.28%
1186GKHLP	1186G-07KHLP					0.00%		163,070,028		0.00%	-	163,070,028	1.54%	0.34%
1186GKHLP	1186G-08KHLP					0.00%		60,335,910		0.00%	-	60,335,910	1.92%	0.16%
1186GKHLP	1186R-01KHLP					0.00%		36,237,784		0.00%	-	36,237,784	1.59%	0.08%
1186GKHLP Total			742,063,111	742,063,111	-	0.00%	-	742,063,111	-	0.00%	-	742,063,111		1.61%
1186HKHLP	1186P-01KHLP					0.00%		10,690,771		0.00%	-	10,690,771	1.59%	0.71%
1186HKHLP	1186P-02KHLP					0.00%		607,657		0.00%	-	607,657	2.50%	0.06%
1186HKHLP	1186Q-03KHLP					0.00%		4,491,367		0.00%	-	4,491,367	4.00%	0.75%
1186HKHLP	1186R-02KHLP					0.00%		8,204,029		0.00%	-	8,204,029	1.85%	0.63%
1186HKHLP Total			23,993,824	23,993,824	-	0.00%	-	23,993,824	-	0.00%	-	23,993,824		2.15%
1186LKHLP Total			-	-	-	0.00%	-	-	-	0.00%	-	-		2.00%
1186PKHLP	1186P-01KHLP					0.00%		132,690,784		0.00%	-	132,690,784	1.59%	1.30%
1186PKHLP	1186P-02KHLP					0.00%		30,181,275		0.00%	-	30,181,275	2.50%	0.46%
1186PKHLP Total			162,872,058	162,872,058	-	0.00%	-	162,872,058	-	0.00%	-	162,872,058		1.76%
1186QKHLP	1186P-02KHLP					0.00%		30,225,091		0.00%	-	30,225,091	2.50%	0.78%
1186QKHLP	1186Q-03KHLP					0.00%		43,646,170		0.00%	-	43,646,170	4.00%	1.79%
1186QKHLP	1186Q-04KHLP					0.00%		22,338,913		0.00%	-	22,338,913	4.00%	0.92%
1186QKHLP	1186Q-05KHLP					0.00%		422,390		0.00%	-	422,390	10.00%	0.04%
1186QKHLP	1186B-02KHLP					0.00%		282,035		0.00%	-	282,035	1.33%	0.00%
1186QKHLP	1186B-03KHLP					0.00%		79,548		0.00%	-	79,548	1.82%	0.00%
1186QKHLP	1186B-04KHLP					0.00%		202,487		0.00%	-	202,487	2.86%	0.01%
1186QKHLP	1186B-05KHLP					0.00%		115,707		0.00%	-	115,707	4.00%	0.00%
1186QKHLP	1186B-06KHLP					0.00%		43,390		0.00%	-	43,390	6.67%	0.00%
1186QKHLP Total			97,355,732	97,355,732	-	0.00%	-	97,355,732	-	0.00%	-	97,355,732		3.55%
1186RKHLP	1186P-02KHLP					0.00%		24,117,521		0.00%	-	24,117,521	2.50%	0.20%
1186RKHLP	1186Q-03KHLP					0.00%		10,208,652		0.00%	-	10,208,652	4.00%	0.13%
1186RKHLP	1186Q-04KHLP					0.00%		12,447,969		0.00%	-	12,447,969	4.00%	0.16%
1186RKHLP	1186Q-05KHLP					0.00%		3,003,340		0.00%	-	3,003,340	10.00%	0.10%
1186RKHLP	1186R-01KHLP					0.00%		249,107,678		0.00%	-	249,107,678	1.59%	1.28%
1186RKHLP	1186R-02KHLP					0.00%		9,722,286		0.00%	-	9,722,286	1.85%	0.06%
1186RKHLP Total			308,607,446	308,607,446	-	0.00%	-	308,607,446	-	0.00%	-	308,607,446		1.93%
1186XKHLP	1186B-02KHLP					0.00%		1,682,483		0.00%	-	1,682,483	1.33%	0.52%
1186XKHLP	1186B-03KHLP					0.00%		474,547		0.00%	-	474,547	1.82%	0.20%
1186XKHLP	1186B-04KHLP					0.00%		1,207,937		0.00%	-	1,207,937	2.86%	0.80%
1186XKHLP	1186B-05KHLP					0.00%		690,250		0.00%	-	690,250	4.00%	0.64%
1186XKHLP	1186B-06KHLP					0.00%		258,844		0.00%	-	258,844	6.67%	0.40%

Manitoba Hydro Electric Operations
Calculation of IFRS-Compliant ASL Composite Depreciation Rates by Existing Account
For Assets in Service as at Mar 31, 2022

Existing Account	IFRS-ASL Account	Plant in Service March 31, 2019 IFRS-ASL Subcomponent Breakdown	Plant in Service Mar 31, 2022 Existing Depreciation Accounts	2020-2022 Net Change to Plant in Service	2020-2022 Retirements	2015-2019 Retirement Subcomp % of Source Account	2020-2022 Subcomp Retirements Based on 2015-2019 Actual	2020-2022 MNGT Adds Subcomp Based on Project Analysis	2020-2022 Non-MNGT Additions & Transfers	2015-2019 Additions Subcomp % of Source Account	2020-2022 Subcomp Non-MNGT Adds/Trf Based on 2015-2019 Actual	Mar 31, 2022 Estimated IFRS-ASL Subcomponent Breakdown	IFRS-ASL Subcomponent Depreciation Rates	Calculate Weighted Average IFRS-ASL Dep Rate by Source Account
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
1186XKHLP Total			4,314,060	4,314,060	-	0.00%	-	4,314,060	-	0.00%	-	4,314,060		2.56%
1186WKHLP Total			-	-	-	0.00%	-	-	-	0.00%	-	-		3.33%
1186YKHLP	1186YKHLP					0.00%		19,465,131		0.00%	-	19,465,131	1.05%	1.05%
1186YKHLP Total			19,465,131	19,465,131	-	0.00%	-	19,465,131	-	0.00%	-	19,465,131		1.05%
1186ZKHLP	1186ZKHLP					0.00%		168,876,698		0.00%	-	168,876,698	1.05%	1.05%
1186ZKHLP Total			168,876,698	168,876,698	-	0.00%	-	168,876,698	-	0.00%	-	168,876,698		1.05%
4086JKHLP	4086JKHLP					0.00%		318,087		0.00%	-	318,087	1.67%	1.67%
4086JKHLP Total			318,087	318,087	-	0.00%	-	318,087	-	0.00%	-	318,087		1.67%
4086LKHLP	4086L-01KHLP					0.00%		100,922		0.00%	-	100,922	1.54%	1.40%
4086LKHLP	4086L-02KHLP					0.00%		9,981		0.00%	-	9,981	2.50%	0.22%
4086LKHLP Total			110,903	110,903	-	0.00%	-	110,903	-	0.00%	-	110,903		1.63%
4086NKHLP	4086N-02KHLP					0.00%		161,222		0.00%	-	161,222	2.50%	2.50%
4086NKHLP Total			161,222	161,222	-	0.00%	-	161,222	-	0.00%	-	161,222		2.50%
4086PKHLP	4086N-02KHLP					0.00%		17,868		0.00%	-	17,868	2.50%	2.50%
4086PKHLP Total			17,868	17,868	-	0.00%	-	17,868	-	0.00%	-	17,868		2.50%
4086QKHLP	4086Q-01KHLP					0.00%		46,914		0.00%	-	46,914	2.00%	2.00%
4086QKHLP Total			46,914	46,914	-	0.00%	-	46,914	-	0.00%	-	46,914		2.00%
4086SKHLP	4086SKHLP					0.00%		45,907		0.00%	-	45,907	2.22%	2.22%
4086SKHLP Total			45,907	45,907	-	0.00%	-	45,907	-	0.00%	-	45,907		2.22%
4086XKHLP	4086XKHLP					0.00%		211,174		0.00%	-	211,174	2.00%	2.00%
4086XKHLP Total			211,174	211,174	-	0.00%	-	211,174	-	0.00%	-	211,174		2.00%
5086MKHLP	5086M-02KHLP					0.00%		511,112		0.00%	-	511,112	6.67%	6.67%
5086MKHLP Total			511,112	511,112	-	0.00%	-	511,112	-	0.00%	-	511,112		6.67%
9086HKHLP	9086H-02KHLP					0.00%		376,916		0.00%	-	376,916	6.67%	6.67%
9086HKHLP Total			376,916	376,916	-	0.00%	-	376,916	-	0.00%	-	376,916		6.67%
KHLP PP&E Total		-	**7,230,365,981**	**7,230,365,981**	-		-	**7,230,365,981**	-		-	**7,230,365,981**		

Manitoba Hydro - Hydraulic Generation
Calculation of Weighted Average Service Life by Source Account
at March 31, 2019

Source Group Acct	2019 Dep Study Parameters	SubComponent Group Account	Sub Component Balance	IFRS ASL Parameters by SubComponent	IFRS ASL Service Life	Cost x IFRS ASL	Rounded W.Avg Service Life of IFRS ASL subcomponents	Rounded Weighted Avg ELG Life & Existing Curve
000A	125 R4	000A-01	82,363,386	125 R4	125	10,295,423,239		
000A	125 R4	000A-02	466,605,403	125 R4	125	58,325,675,419		
000A	125 R4	000A-03	250,000	40 R4	40	10,000,000		
000A	125 R4	000A-04	28,741,825	50 R4	50	1,437,091,237		
000A	125 R4	000A-05	26,179,244	75 R4	75	1,963,443,279		
000A	125 R4	000A-06	14,468,829	40 R4	40	578,753,156		
000A	125 R4	000A-08	1,242,108	25 R4	25	31,052,711		
000A	125 R4	000A-09	1,874,112	30 SQ	30	56,223,364		
000A	125 R4	000A-10	39,100,433	20 SQ	20	782,008,661		
000A	125 R4	000B-03	153,689	55 R3	55	8,452,915		
000A	125 R4	000B-04	134,178	35 R2	35	4,696,213		
000A	125 R4	000B-05	21,910	25 R3	25	547,754		
000A	125 R4	000B-06	7,825	15 R2	15	117,376		
000A	125 R4	000D-01	704,155	90 R5	90	63,373,935		
000A	125 R4	000D-02	19,252,991	45 R4	45	866,384,609		
000A	125 R4	000D-03	12,090	25 SQ	25	302,244		
000A	125 R4	000D-05	38,125	35 R4	35	1,334,373		
000A	125 R4	000E-01	2,449,389	80 R4	80	195,951,120		
000A	125 R4	000F-01	1,195,322	50 R3	50	59,766,123		
000A	125 R4	000P-02	169,903	40 R3	40	6,796,110		
000A	125 R4	000Q-01	31,301	55 R2.5	55	1,721,534		
000A	125 R4	000Q-02	1,564,752	49 R4	49	76,672,827		
000A	125 R4	000Q-03	3,262,810	25 S2	25	81,570,261		
000A	125 R4	000Q-04	520,209	25 L2.5	25	13,005,228		
000A	125 R4	000R-01	756,375	63 S2	63	47,651,650		
000A Total	125 R4		691,100,365		108	74,908,015,337	110	110 R4
000B	125 R4	000A-01	847,862,267	125 R4	125	105,982,783,375		
000B	125 R4	000A-02	5,581,199	125 R4	125	697,649,881		
000B	125 R4	000A-05	62,690,551	75 R4	75	4,701,791,341		
000B	125 R4	000A-09	2,008,793	30 SQ	30	60,263,785		
000B	125 R4	000B-01	9,244,141	100 R4	100	924,414,063		
000B	125 R4	000B-03	38,820,562	55 R3	55	2,135,130,929		
000B	125 R4	000B-04	36,394,209	35 R2	35	1,273,797,321		
000B	125 R4	000B-05	20,972,294	25 R3	25	524,307,355		
000B	125 R4	000B-06	2,079,860	15 R2	15	31,197,897		
000B	125 R4	000D-01	791,081	90 R5	90	71,197,264		
000B	125 R4	000D-04	412,370	70 R5	70	28,865,922		
000B	125 R4	000E-01	53,685	80 R4	80	4,294,761		
000B	125 R4	000F-01	646,379	50 R3	50	32,318,932		
000B	125 R4	000G-04	7,278	55 R4	55	400,306		
000B	125 R4	000P-02	27,035	40 R3	40	1,081,414		
000B	125 R4	000Q-03	7,025	25 S2	25	175,621		
000B	125 R4	000R-01	18,883	63 S2	63	1,189,642		
000B Total	125 R4		1,027,617,612		113	116,470,859,808	115	115 R4
000C	40 SQ	000A-05	1,340,462	75 R4	75	100,534,678		
000C	40 SQ	000B-03	1,249,163	55 R3	55	68,703,978		
000C	40 SQ	000B-04	1,613,848	35 R2	35	56,484,664		
000C	40 SQ	000B-05	8,081,271	25 R3	25	202,031,781		
000C	40 SQ	000B-06	108,785	15 R2	15	1,631,769		
000C	40 SQ	000P-01	29,543	63 R3	63	1,861,239		
000C	40 SQ	000P-02	442,249	40 R3	40	17,689,965		
000C	40 SQ	000Q-04	196,854	25 L2.5	25	4,921,359		
000C	40 SQ	000Q-05	27,545	10 S3	10	275,450		
000C	40 SQ	000R-03	183,490	15 SQ	15	2,752,350		
000C Total	40 SQ		13,273,211		34	456,887,233	35	35 SQ
000D	90 R3.5	000A-01	56,432,668	125 R4	125	7,054,083,515		
000D	90 R3.5	000A-02	8,988,591	125 R4	125	1,123,573,901		
000D	90 R3.5	000A-05	622,004	75 R4	75	46,650,304		
000D	90 R3.5	000B-01	54,849	100 R4	100	5,484,931		
000D	90 R3.5	000B-03	191,973	55 R3	55	10,558,494		
000D	90 R3.5	000B-04	137,123	35 R2	35	4,799,315		
000D	90 R3.5	000B-05	73,132	25 R3	25	1,828,311		

Manitoba Hydro - Hydraulic Generation
Calculation of Weighted Average Service Life by Source Account
at March 31, 2019

Source Group Acct	2019 Dep Study Parameters	SubComponent Group Account	Sub Component Balance	IFRS ASL Parameters by SubComponent	IFRS ASL Service Life	Cost x IFRS ASL	Rounded W.Avg Service Life of IFRS ASL subcomponents	Rounded Weighted Avg ELG Life & Existing Curve
000D	90 R3.5	000D-01	447,915,634	90 R5	90	40,312,407,065		
000D	90 R3.5	000D-02	7,877,409	45 R4	45	354,483,415		
000D	90 R3.5	000D-03	5,254,737	25 SQ	25	131,368,415		
000D	90 R3.5	000D-04	194,321,438	70 R5	70	13,602,500,684		
000D	90 R3.5	000D-05	7,572,787	35 R4	35	265,047,538		
000D	90 R3.5	000E-01	4,484,056	80 R4	80	358,724,457		
000D	90 R3.5	000F-01	43,017	50 R3	50	2,150,875		
000D Total	90 R3.5		733,969,419		86	63,273,661,219	85	85 R3.5
000E	70 R3.5	000A-01	32,212	125 R4	125	4,026,539		
000E	70 R3.5	000A-05	208,201	75 R4	75	15,615,095		
000E	70 R3.5	000A-06	27,890	40 R4	40	1,115,598		
000E	70 R3.5	000B-01	235,822	100 R4	100	23,582,207		
000E	70 R3.5	000B-02	22,401	75 R4	75	1,680,066		
000E	70 R3.5	000B-03	1,506,107	55 R3	55	82,835,883		
000E	70 R3.5	000B-04	71,919	35 R2	35	2,517,178		
000E	70 R3.5	000B-05	33,965	25 R3	25	849,137		
000E	70 R3.5	000B-06	15,699	15 R2	15	235,485		
000E	70 R3.5	000D-01	4,588,629	90 R5	90	412,976,647		
000E	70 R3.5	000D-02	4,786,636	45 R4	45	215,398,626		
000E	70 R3.5	000D-04	316,210	70 R5	70	22,134,688		
000E	70 R3.5	000D-05	600,612	35 R4	35	21,021,428		
000E	70 R3.5	000E-01	285,090,754	80 R4	80	22,807,260,315		
000E	70 R3.5	000E-02	59,835,914	40 R4	40	2,393,436,554		
000E	70 R3.5	000F-01	1,569,109	50 R3	50	78,455,470		
000E	70 R3.5	000G-04	1,251,870	55 R4	55	68,852,875		
000E	70 R3.5	000P-02	4,423,647	40 R3	40	176,945,867		
000E	70 R3.5	000Q-01	11,131	55 R2.5	55	612,191		
000E	70 R3.5	000Q-02	884,462	49 R4	49	43,338,628		
000E	70 R3.5	000Q-03	3,023,054	25 S2	25	75,576,359		
000E	70 R3.5	000R-01	89,866,534	63 S2	63	5,661,591,612		
000E	70 R3.5	000R-03	301,337	15 SQ	15	4,520,049		
000E Total	70 R3.5		458,704,116		70	32,114,578,498	70	70 R3.5
000F	50 R3	000A-06	1,323,364	40 R4	40	52,934,555		
000F	50 R3	000B-04	85,163	35 R2	35	2,980,696		
000F	50 R3	000B-05	37,571	25 R3	25	939,282		
000F	50 R3	000F-01	162,650,699	50 R3	50	8,132,534,937		
000F	50 R3	000R-01	52,500	63 S2	63	3,307,477		
000F Total	50 R3		164,149,296		50	8,192,696,947	50	50 R3
000G	65 S3	000B-05	3,428	25 R3	25	85,709		
000G	65 S3	000E-01	253,549	80 R4	80	20,283,889		
000G	65 S3	000E-02	102,595	40 R4	40	4,103,792		
000G	65 S3	000F-01	233,170	50 R3	50	11,658,502		
000G	65 S3	000G-01	228,518,432	93 S2	93	21,252,214,196		
000G	65 S3	000G-02	253,253,843	66 L4	66	16,714,753,614		
000G	65 S3	000G-03	62,361,564	40 R5	40	2,494,462,576		
000G	65 S3	000G-04	124,964,551	55 R4	55	6,873,050,318		
000G	65 S3	000G-05	121,585,516	64 R4	64	7,781,473,027		
000G	65 S3	000G-06	166,847,948	50 S4	50	8,342,397,382		
000G	65 S3	000G-07	112,997,176	65 R4	65	7,344,816,448		
000G	65 S3	000G-08	214,290,944	52 S4	52	11,143,129,072		
000G	65 S3	000P-01	3,603,660	63 R3	63	227,030,610		
000G	65 S3	000P-02	241,763	40 R3	40	9,670,511		
000G	65 S3	000Q-02	1,863,944	49 R4	49	91,333,268		
000G	65 S3	000Q-03	5,070,485	25 S2	25	126,762,130		
000G	65 S3	000R-01	27,601,758	63 S2	63	1,738,910,760		
000G	65 S3	000R-02	4,329,862	54 R4	54	233,812,537		
000G	65 S3	000R-03	404,960	15 SQ	15	6,074,396		
000G Total	65 S3		1,328,529,148		64	84,416,022,739	65	65 S3
000H	50 R3	000P-01	1,739,615	63 R3	63	109,595,761		
000H	50 R3	000P-02	312,113	40 R3	40	12,484,507		
000H	50 R3	000Q-01	5,297,731	55 R2.5	55	291,375,228		
000H	50 R3	000Q-02	7,577,839	49 R4	49	371,314,102		

Manitoba Hydro - Hydraulic Generation
Calculation of Weighted Average Service Life by Source Account
at March 31, 2019

Source Group Acct	2019 Dep Study Parameters	SubComponent Group Account	Sub Component Balance	IFRS ASL Parameters by SubComponent	IFRS ASL Service Life	Cost x IFRS ASL	Rounded W.Avg Service Life of IFRS ASL subcomponents	Rounded Weighted Avg ELG Life & Existing Curve
000H	50 R3	000Q-03	42,640,285	25 S2	25	1,066,007,130		
000H	50 R3	000R-01	692,374	63 S2	63	43,619,563		
000H	50 R3	000R-02	4,841,642	54 R4	54	261,448,648		
000H Total	50 R3		63,101,599		34	2,155,844,938	35	35 R3
000L	50 SQ	000L-01	79,602,779	50 SQ	50	3,980,138,937		
000L Total	50 SQ		79,602,779		50	3,980,138,937	50	50 SQ
000P	60 R4	000B-03	11,189	55 R3	55	615,418		
000P	60 R4	000B-04	368,137	35 R2	35	12,884,792		
000P	60 R4	000B-05	31,174	25 R3	25	779,343		
000P	60 R4	000B-06	10,391	15 R2	15	155,868		
000P	60 R4	000P-01	316,961,291	63 R3	63	19,968,561,348		
000P	60 R4	000P-02	59,239,396	40 R3	40	2,369,575,853		
000P	60 R4	000Q-02	21,308,908	49 R4	49	1,044,136,496		
000P	60 R4	000Q-03	3,559,780	25 S2	25	88,994,509		
000P	60 R4	000Q-04	3,845,401	25 L2.5	25	96,135,035		
000P	60 R4	000R-01	1,570,500	63 S2	63	98,941,478		
000P	60 R4	000R-02	645,935	54 R4	54	34,880,481		
000P	60 R4	000R-03	341,435	15 SQ	15	5,121,529		
000P Total	60 R4		407,893,538		58	23,720,782,149	60	60 R4
000Q	25 S2	000B-06	44	15 R2	15	662		
000Q	25 S2	000E-01	27,142	80 R4	80	2,171,362		
000Q	25 S2	000P-01	225,284	63 R3	63	14,192,862		
000Q	25 S2	000P-02	12,866,654	40 R3	40	514,666,162		
000Q	25 S2	000Q-01	1,162,260	55 R2.5	55	63,924,309		
000Q	25 S2	000Q-02	31,774,905	49 R4	49	1,556,970,360		
000Q	25 S2	000Q-03	79,009,902	25 S2	25	1,975,247,544		
000Q	25 S2	000Q-04	4,340,405	25 L2.5	25	108,510,121		
000Q	25 S2	000Q-05	18,590,687	10 S3	10	185,906,872		
000Q	25 S2	000R-01	2,423,646	63 S2	63	152,689,684		
000Q	25 S2	000R-02	1,099,813	54 R4	54	59,389,915		
000Q	25 S2	000R-03	157,264	15 SQ	15	2,358,963		
000Q Total	25 S2		151,678,006		31	4,636,028,817	30	30 S2
000R	55 R1.5	000A-06	18,160	40 R4	40	726,382		
000R	55 R1.5	000B-02	13,193	75 R4	75	989,438		
000R	55 R1.5	000B-03	5,951,622	55 R3	55	327,339,237		
000R	55 R1.5	000B-04	3,786,755	35 R2	35	132,536,440		
000R	55 R1.5	000B-05	1,820,800	25 R3	25	45,520,004		
000R	55 R1.5	000B-06	506,547	15 R2	15	7,598,207		
000R	55 R1.5	000D-02	647,132	45 R4	45	29,120,949		
000R	55 R1.5	000F-01	2,704,062	50 R3	50	135,203,101		
000R	55 R1.5	000P-01	63,646	63 R3	63	4,009,699		
000R	55 R1.5	000P-02	6,316,355	40 R3	40	252,654,216		
000R	55 R1.5	000Q-01	3,332,175	55 R2.5	55	183,269,649		
000R	55 R1.5	000Q-02	4,898,157	49 R4	49	240,009,702		
000R	55 R1.5	000Q-03	11,483,091	25 S2	25	287,077,281		
000R	55 R1.5	000Q-04	1,642,254	25 L2.5	25	41,056,342		
000R	55 R1.5	000Q-05	2,585,940	10 S3	10	25,859,397		
000R	55 R1.5	000R-01	134,836,862	63 S2	63	8,494,722,314		
000R	55 R1.5	000R-02	6,961,506	54 R4	54	375,921,327		
000R	55 R1.5	000R-03	5,469,877	15 SQ	15	82,048,152		
000R Total	55 R1.5		193,038,135		55	10,665,661,834	55	55 R1.5
000W	20 SQ	000B-03	2,070,797	55 R3	55	113,893,831		
000W	20 SQ	000B-04	6,365,380	35 R2	35	222,788,312		
000W	20 SQ	000B-05	5,049,819	25 R3	25	126,245,473		
000W	20 SQ	000B-06	2,439,828	15 R2	15	36,597,413		
000W Total	20 SQ		15,925,824		31	499,525,029	30	30 SQ
000X	65 S3	000B-02	10,791,127	75 R4	75	809,334,489		
000X	65 S3	000B-03	7,622,834	55 R3	55	419,255,880		
000X	65 S3	000B-04	15,016,507	35 R2	35	525,577,742		
000X	65 S3	000B-05	7,940,274	25 R3	25	198,506,843		
000X	65 S3	000B-06	4,228,531	15 R2	15	63,427,971		
000X	65 S3	000F-01	803,484	50 R3	50	40,174,219		

Manitoba Hydro - Hydraulic Generation
Calculation of Weighted Average Service Life by Source Account
at March 31, 2019

Source Group Acct	2019 Dep Study Parameters	SubComponent Group Account	Sub Component Balance	IFRS ASL Parameters by SubComponent	IFRS ASL Service Life	Cost x IFRS ASL	Rounded W.Avg Service Life of IFRS ASL subcomponents	Rounded Weighted Avg ELG Life & Existing Curve
000X	65 S3	000P-02	226,106	40 R3	40	9,044,248		
000X	65 S3	000Q-02	58,000	49 R4	49	2,842,000		
000X	65 S3	000Q-03	190,319	25 S2	25	4,757,965		
000X	65 S3	000Q-04	195,000	25 L2.5	25	4,875,000		
000X	65 S3	000Q-05	194,066	10 S3	10	1,940,659		
000X	65 S3	000R-01	2,053,106	63 S2	63	129,345,690		
000X	65 S3	000R-03	1,085	15 SQ	15	16,271		
000X Total	65 S3		49,320,439		45	2,209,098,976	45	45 S3
1199V	50 R4	000B-02	32,422,166	75 R4	75	2,431,662,453		
1199V	50 R4	000B-03	20,517,043	55 R3	55	1,128,437,364		
1199V	50 R4	000B-04	29,727,985	35 R2	35	1,040,479,469		
1199V	50 R4	000B-05	20,085,049	25 R3	25	502,126,230		
1199V	50 R4	000B-06	10,361,643	15 R2	15	155,424,642		
1199V Total	50 R4		113,113,886		46	5,258,130,158	45	45 R4
1199W	35 SQ	000B-03	6,920,307	55 R3	55	380,616,897		
1199W	35 SQ	000B-04	16,546,320	35 R2	35	579,121,190		
1199W	35 SQ	000B-05	10,862,298	25 R3	25	271,557,438		
1199W	35 SQ	000B-06	6,025,286	15 R2	15	90,379,294		
1199W Total	35 SQ		40,354,211		33	1,321,674,819	35	35 SQ
1199Y	35 R4	000B-04	258,139	35 R2	35	9,034,865		
1199Y	35 R4	000B-05	1,552,865	25 R3	25	38,821,615		
1199Y	35 R4	000B-06	777,361	15 R2	15	11,660,418		
1199Y	35 R4	000Y-01	71,048,855	38 R3	38	2,699,856,478		
1199Y Total	35 R4		73,637,219		37	2,759,373,376	35	35 R4
1125Z	85 SQ	1125Z-01	25,592,289	85 SQ	85	2,175,344,582	85	85 SQ
1140Z	85 SQ	1140Z-01	187,821,533	85 SQ	85	15,964,830,323	85	85 SQ
1160Z	85 SQ	1160Z-01	500,269,212	85 SQ	85	42,522,883,054	85	85 SQ
1165Z	90 SQ	1165Z-01	393,313,694	90 SQ	90	35,398,232,496	90	90 SQ
1180Z	95 SQ	1180Z-01	35,400,112	95 SQ	95	3,363,010,640	95	95 SQ
1199Z	85 SQ	1199Z-01	3,297,342	85 SQ	85	280,274,100	85	85 SQ
000Z Total	Various		1,145,694,184			99,704,575,195		
Total Hydraulic Generation			6,750,702,987					

Notes:
>25 year SL rounded to nearest 5
<25 year SL rounded to nearest 1

Manitoba Hydro & WPLP

Calculation of ELG whole life annual accrual and adjustment required to convert Alliance ELG rer

** Note applicable to accounts A200H, A200J & A200K only: Alliance uses a 3 year period to amorize the rese*

Data Appendix 9.12 Attachment 1 (Alliance Consulting Group)

Account	Theoretical Reserve	Allocated Book Reserve	Remaining Life	Annual Accrual Amount	Accumulated Depreciation Variance
1105A	9,221,747	9,895,048	40.42	303,207	(673,301)
1105B	4,402,414	4,619,442	40.56	249,875	(217,028)
1105C	63,058	50,250	32.56	26,212	12,807
1105D	4,557,528	5,131,672	37.66	120,671	(574,144)
1105E	9,845,091	13,133,062	36.02	395,568	(3,287,970)
1105F	259,698	261,644	35.03	47,254	(1,946)
1105G	13,764,391	12,528,119	39.23	1,633,434	1,236,272
1105H	904,136	646,362	27.03	275,261	257,774
1105P	4,466,031	5,187,894	35.65	297,318	(721,863)
1105Q	10,751,368	13,295,105	14.60	616,366	(2,543,737)
1105R	4,041,156	5,075,014	28.32	197,453	(1,033,857)
1105X	955,246	946,000	15.43	35,579	9,247
1105W	5,185	7,605	24.50	843	(2,420)
1110A	93,073	344,887	35.33	330	(251,813)
1110B	1,083,736	2,693,543	35.32	29,450	(1,609,808)
1110C	394,414	561,464	30.05	74,163	(167,050)
1110E	228,019	248,335	33.79	22,597	(20,316)
1110F	252,687	367,635	30.93	36,015	(114,948)
1110G	10,339,394	18,457,337	34.57	1,130,394	(8,117,943)
1110H	54,281	85,707	24.56	7,145	(31,426)
1110L	7,504	13,659	35.50	3,529	(6,155)
1110P	2,091,449	4,271,822	33.93	158,035	(2,180,373)
1110Q	389,572	570,696	21.48	72,605	(181,125)
1110R	1,797,031	2,658,662	27.34	200,451	(861,631)
1110X	339,362	508,237	26.38	18,738	(168,875)
1110W	151,188	249,601	23.50	19,076	(98,413)
1111A	3,267,375	2,861,095	99.65	942,741	406,279
1111D	19,831,774	22,601,448	72.45	4,423,849	(2,769,675)
1111E	6,787,380	7,112,907	59.02	1,523,981	(325,528)
1111F	3,223,409	3,893,078	38.91	590,264	(669,669)
1111P	222,618	248,525	52.10	50,180	(25,906)
1111Q	82,706	101,410	22.41	19,539	(18,705)
1111X	534,233	368,200	37.54	125,352	166,034
1111W	11,609	16,833	27.50	4,454	(5,224)
1115A	15,214,377	18,558,759	46.74	372,493	(3,344,381)
1115B	7,434,919	9,275,938	40.12	109,458	(1,841,019)
1115C	115,522	118,863	28.71	18,263	(3,341)

1115D	1,633,410	1,873,796	39.12	63,429	(240,385)
1115E	2,193,198	3,434,441	32.66	34,098	(1,241,244)
1115F	189,459	204,603	35.16	25,792	(15,143)
1115G	17,044,514	20,556,248	39.12	852,612	(3,511,734)
1115H	82,171	59,970	22.94	10,052	22,202
1115P	4,886,496	6,660,116	34.01	171,898	(1,773,620)
1115Q	4,062,509	4,829,159	18.58	433,333	(766,650)
1115R	3,127,261	4,257,671	30.05	155,905	(1,130,411)
1115X	254,441	243,650	24.53	14,579	10,791
1115W	4,716	5,138	28.60	3,353	(422)
1120A	2,364,287	2,459,306	51.89	411,341	(95,019)
1120B	5,759,882	6,312,420	51.63	343,071	(552,537)
1120C	207,641	170,520	30.74	49,945	37,122
1120D	2,619,578	2,751,952	47.94	162,503	(132,373)
1120E	2,064,864	1,859,449	47.07	338,281	205,415
1120F	7,225,489	6,739,014	35.96	891,705	486,475
1120G	3,126,961	3,431,063	41.91	194,656	(304,102)
1120H	242,386	150,517	23.92	36,312	91,870
1120P	4,998,384	5,765,825	42.19	372,711	(767,440)
1120Q	1,338,520	1,540,642	21.75	265,799	(202,122)
1120R	1,104,971	1,053,654	32.37	170,603	51,317
1120X	1,293,124	717,934	25.68	100,875	575,190
1120W	237,894	369,456	25.50	47,743	(131,562)
1125A	2,523,317	2,864,210	47.75	128,857	(340,894)
1125B	5,606,148	6,227,094	47.75	81,570	(620,947)
1125C	22,622	23,611	28.50	3,446	(989)
1125D	14,623	16,384	61.62	1,535	(1,761)
1125E	1,944,392	2,924,440	31.93	24,336	(980,048)
1125F	1,061,741	1,360,152	31.93	19,171	(298,410)
1125G	7,524,453	8,101,632	51.25	894,050	(577,179)
1125H	362,370	237,974	28.17	151,156	124,396
1125P	2,467,833	3,025,481	44.83	196,941	(557,648)
1125Q	1,851,199	2,248,262	19.65	228,733	(397,064)
1125R	1,925,996	2,369,837	32.44	160,175	(443,841)
1125X	190,677	147,877	18.78	10,038	42,800
1125Z	2,930,734	3,145,443	71.39	298,078	(214,710)
1130A	4,002,627	4,107,460	64.64	201,137	(104,833)
1130B	4,037,293	4,387,190	49.30	60,654	(349,897)
1130C	163,145	142,121	30.93	40,796	21,024
1130D	1,797,777	1,965,469	44.17	56,757	(167,692)
1130E	4,591,655	6,658,297	40.16	124,243	(2,066,643)
1130F	221,782	222,995	35.95	26,297	(1,213)
1130G	4,166,333	4,952,054	13.03	7,625	(785,721)
1130H	159,108	113,717	27.92	62,870	45,391
1130P	1,545,640	1,962,806	29.24	39,820	(417,166)
1130Q	876,214	1,019,003	19.16	105,175	(142,788)
1130R	1,636,637	2,061,939	31.77	109,236	(425,302)

1135A	3,110,196	2,460,864	63.98	106,833	649,332
1135B	17,665,934	14,617,732	69.92	853,658	3,048,202
1135C	11,083	10,866	34.50	22,172	217
1135D	3,811,719	3,135,302	38.17	106,408	676,417
1135E	8,023,856	8,562,007	52.27	685,093	(538,151)
1135F	5,212,101	4,579,626	27.35	300,241	632,475
1135G	23,675,285	21,031,173	51.28	2,622,099	2,644,112
1135H	1,735,546	1,045,726	23.86	246,374	689,820
1135P	7,058,103	5,805,582	47.02	759,266	1,252,520
1135Q	5,364,478	5,678,960	17.94	565,084	(314,482)
1135R	4,017,479	4,121,470	31.57	472,206	(103,991)
1135X	3,583,961	2,023,986	20.26	233,224	1,559,975
1135W	110,432	266,820	23.95	11,724	(156,388)
1140A	23,323,105	24,754,256	55.96	569,489	(1,431,150)
1140B	11,441,812	12,538,027	55.74	213,125	(1,096,214)
1140C	169,189	106,085	31.10	45,372	63,104
1140D	3,289,159	3,623,578	33.48	54,612	(334,419)
1140E	9,801,503	14,790,240	26.92	44,286	(4,988,738)
1140F	2,141,907	2,444,493	17.77	53,259	(302,586)
1140G	40,762,524	45,375,020	39.21	1,768,245	(4,612,497)
1140H	874,076	585,698	26.96	230,097	288,378
1140L	11,748,519	12,057,452	42.56	1,571,094	(308,933)
1140P	3,850,346	4,159,323	49.05	519,336	(308,977)
1140Q	3,875,588	4,602,195	11.77	169,231	(726,607)
1140R	3,336,504	4,012,784	33.90	306,005	(676,280)
1140X	4,699,954	3,573,719	18.90	251,370	1,126,235
1140W	2,010,998	2,936,931	23.24	257,495	(925,933)
1140Z	26,918,973	33,852,515	68.93	2,109,074	(6,933,541)
1145A	19,823,359	20,517,056	59.15	418,624	(693,697)
1145B	61,150,339	65,809,683	63.49	1,271,846	(4,659,344)
1145C	7,798	-	34.50	15,822	7,798
1145D	14,099,105	15,739,886	37.29	259,211	(1,640,781)
1145E	11,189,945	16,578,422	29.32	98,048	(5,388,477)
1145F	162,684	160,580	38.93	31,398	2,104
1145G	44,819,821	46,671,933	42.02	2,254,864	(1,852,112)
1145H	3,815,335	3,330,430	21.07	390,104	484,905
1145P	6,817,929	6,975,116	48.61	849,011	(157,187)
1145Q	9,951,625	11,847,434	15.42	686,166	(1,895,809)
1145R	9,151,308	11,823,597	30.46	554,231	(2,672,289)
1145X	442,616	247,637	34.47	64,147	194,980
1150A	181,177	208,802	30.05	4,884	(27,625)
1150B	2,698,565	3,702,335	30.36	130,479	(1,003,770)
1150D	396,602	487,805	29.24	13,069	(91,203)
1150E	206,508	250,341	28.20	7,365	(43,834)
1150F	747,946	809,622	22.70	34,294	(61,675)
1150G	1,485,455	2,082,022	29.16	86,444	(596,567)
1150H	324,872	377,722	20.25	24,936	(52,850)

1150P	620,697	772,747	27.80	24,076	(152,050)
1150Q	529,102	591,251	8.78	15,927	(62,150)
1150R	358,213	468,108	23.68	13,995	(109,895)
1150X	217,011	205,038	16.96	8,895	11,974
1150W	5,376	1,385	26.50	1,687	3,991
1155A	5,063,117	5,411,451	70.69	157,043	(348,334)
1155B	28,579,631	28,847,044	68.28	702,458	(267,413)
1155C	200,066	174,500	32.50	80,679	25,566
1155D	7,465,007	7,904,957	41.32	170,336	(439,950)
1155E	9,674,452	13,020,039	33.44	181,017	(3,345,588)
1155F	1,201,760	1,209,596	32.56	95,925	(7,836)
1155G	47,616,146	50,584,294	33.12	1,545,991	(2,968,148)
1155H	229,083	158,315	28.15	92,798	70,768
1155P	13,695,142	16,115,461	31.49	437,843	(2,420,319)
1155Q	3,079,196	3,507,714	18.19	310,960	(428,519)
1155R	5,271,132	6,790,894	30.55	236,682	(1,519,762)
1155X	4,093,421	3,072,900	28.13	319,127	1,020,521
1155W	334,596	431,113	26.50	92,003	(96,517)
1160A	38,825,407	41,574,185	71.03	1,072,403	(2,748,777)
1160L	55,000	51,792	44.50	10,072	3,208
1160Z	110,721,636	117,241,609	66.19	5,787,012	(6,519,972)
1165A	47,532,145	45,368,320	69.19	1,319,866	2,163,825
1165D	28,646,872	29,387,102	42.67	708,586	(740,230)
1165E	10,618,755	14,711,195	30.30	139,421	(4,092,440)
1165F	5,277,345	5,479,472	24.91	240,427	(202,126)
1165P	1,080,968	1,245,684	21.50	20,357	(164,717)
1165Q	1,429,325	1,576,126	13.30	85,980	(146,801)
1165R	810,630	917,131	33.17	126,676	(106,501)
1165X	23,282	15,594	29.70	2,145	7,688
1165Z	93,513,822	102,425,613	68.60	4,240,246	(8,911,791)
1170A	24,621,756	23,805,581	65.13	638,553	816,176
1170B	52,523,806	52,808,530	69.01	1,321,417	(284,725)
1170D	20,685,463	21,876,096	42.04	484,533	(1,190,634)
1170E	33,705,067	48,304,038	29.12	332,280	(14,598,971)
1170F	930,756	960,412	33.94	88,499	(29,656)
1170G	89,476,275	95,982,724	23.96	1,967,885	(6,506,449)
1170H	67,918	50,417	20.86	6,779	17,501
1170P	19,401,518	22,937,979	22.12	354,164	(3,536,461)
1170Q	6,787,685	7,927,314	17.64	650,968	(1,139,629)
1170R	6,208,482	8,189,263	28.23	333,824	(1,980,781)
1170X	59,696	42,572	26.51	4,447	17,124
1170W	59,696	102,396	23.97	9,429	(42,700)
1175A	8,855,980	8,350,568	76.30	326,911	505,412
1175B	117,597,037	115,606,378	80.64	4,294,743	1,990,659
1175C	2,975	1,736	33.50	2,021	1,240
1175D	69,678,194	73,481,360	52.56	2,465,431	(3,803,166)
1175E	48,138,024	66,160,809	39.10	1,280,558	(18,022,786)

1175F	9,628,760	9,864,909	22.79	353,484	(236,149)
1175G	179,265,227	188,465,932	34.07	6,329,360	(9,200,705)
1175H	10,151,891	8,117,019	14.64	661,414	2,034,873
1175P	68,969,840	81,451,719	30.51	2,108,249	(12,481,879)
1175Q	5,645,423	6,487,385	19.12	640,505	(841,963)
1175R	17,038,145	21,729,532	29.44	753,592	(4,691,387)
1175X	3,453,563	2,504,191	19.96	195,054	949,372
1175W	184,119	284,282	21.54	17,104	(100,164)
1180A	271,007	270,376	97.27	45,476	631
1180B	1,027,194	1,048,474	101.44	169,321	(21,281)
1180D	228,379	273,971	71.05	36,616	(45,593)
1180E	310,215	359,453	57.35	47,561	(49,238)
1180F	364,432	372,054	38.00	55,866	(7,623)
1180G	469,669	541,325	54.49	75,434	(71,657)
1180H	34,374	23,880	25.12	5,782	10,494
1180P	191,641	217,664	50.04	28,963	(26,023)
1180Q	254,143	337,515	20.66	38,926	(83,372)
1180R	272,393	368,005	36.19	45,914	(95,613)
1180X	141,765	101,546	35.56	23,297	40,219
1180Z	1,676,847	1,387,014	90.50	375,835	289,834
1199F	17,163,695	16,152,493	21.93	699,786	1,011,202
1199V	41,586,087	31,889,492	27.21	2,985,512	9,696,596
1199W	8,118,600	13,897,154	27.96	946,295	(5,778,554)
1199Y	15,071,933	9,109,529	26.36	2,447,991	5,962,404
1199Z	173,223	695,234	80.53	32,310	(522,011)
1210B	12,139,142	14,338,901	24.86	434,204	(2,199,759)
1210C	180,763	807,891	32.20	45,091	(627,128)
1210F	1,490,042	2,747,694	20.40	24,108	(1,257,652)
1210G	4,550,177	6,907,319	36.78	202,207	(2,357,142)
1210K	54,999,953	99,639,504	26.11	1,685,993	(44,639,552)
1210P	5,476,959	7,016,260	24.61	170,086	(1,539,301)
1210Q	3,231,397	5,351,205	13.59	71,875	(2,119,808)
1210R	11,972,517	23,268,972	30.41	210,892	(11,296,454)
1210X	3,956,983	7,428,269	20.47	5,620	(3,471,285)
1210W	8,399	40,834	34.50	15,857	(32,436)
1300B	5,309,704	6,695,297	12.98	221,980	(1,385,593)
1300C	66,401	159,499	30.56	11,923	(93,097)
1300N	9,721,767	16,545,182	15.46	307,430	(6,823,415)
1300Q	9,463,737	14,262,732	12.05	400,504	(4,798,995)
1300T	3,877,085	4,654,451	15.27	370,709	(777,366)
2000F	2,462,146	2,735,132	39.60	252,034	(272,985)
2000G	153,551,950	158,418,675	72.70	20,806,286	(4,866,725)
2000J	48,613,241	54,859,739	33.31	2,630,495	(6,246,498)
2000K	1,222,824	1,311,008	7.36	251,603	(88,184)
2000L	132,233,743	173,487,918	59.10	11,809,455	(41,254,175)
2000M	1,989,649	2,010,146	42.13	394,895	(20,497)
2000Z	1,905,685	2,273,636	77.43	1,214,369	(367,951)

3000B	88,807,786	81,582,285	37.97	16,998,049	7,225,501
3000C	8,072,461	10,007,211	18.74	1,186,836	(1,934,750)
3000F	175,968,965	218,139,375	45.46	26,421,624	(42,170,409)
3000J	2,998,327	3,240,692	27.55	207,313	(242,365)
3100R	176,637,169	146,183,354	27.75	14,029,246	30,453,815
3100S	58,029,057	52,096,808	28.60	5,694,738	5,932,249
3100T	109,668,109	91,440,119	25.63	11,317,021	18,227,990
3100U	228,144,712	273,029,390	30.64	13,640,611	(44,884,678)
3100V	132,873,680	148,123,518	14.06	17,427,392	(15,249,838)
3200M	64,362,054	62,683,084	42.24	6,294,434	1,678,970
3200N	24,595,403	32,736,434	12.44	2,600,146	(8,141,031)
3200P	226,995,786	319,846,577	26.85	28,677,641	(92,850,791)
3200S	147,308,784	205,757,034	17.80	5,557,028	(58,448,250)
3200U	66,650,016	91,447,528	28.56	4,580,083	(24,797,512)
3200V	37,374,482	50,944,785	18.33	6,385,570	(13,570,303)
3300M	1,265,041	1,768,515	20.23	876	(503,474)
3300N	2,892,374	4,708,810	9.21	12,346	(1,816,436)
3300S	462,482	446,731	0.54	47,301	15,751
3300U	1,677,433	3,207,727	21.83	7,797	(1,530,294)
3300V	4,476,024	5,721,043	8.84	63,712	(1,245,019)
4001A	2,005,179	3,299,293	65.34	361,223	(1,294,115)
4002A	15,867,673	16,035,195	23.72	954,614	(167,521)
4001B	3,645,643	4,193,958	61.09	366,142	(548,315)
4002B	6,107,584	5,436,188	23.72	398,463	671,395
4000D	1,936,355	1,640,658	21.57	375,665	295,697
4000G	2,564,226	2,642,623	42.52	223,341	(78,397)
4000J	238,876,736	334,376,687	34.12	15,418,839	(95,499,952)
4000K	18,278,020	23,005,862	9.59	2,886,874	(4,727,843)
4000L	303,175,057	337,824,859	32.92	17,050,476	(34,649,802)
4000M	10,263,905	7,746,529	28.57	1,242,836	2,517,375
4000N	118,755,647	113,766,825	38.49	11,087,557	4,988,821
4000P	109,971,929	109,126,485	23.08	7,500,064	845,444
4000Q	76,118,875	98,853,884	30.43	6,800,402	(22,735,008)
4000S	83,255,151	97,417,189	28.03	5,822,354	(14,162,037)
4000T	1,530,234	1,580,176	31.50	430,673	(49,942)
4000V	1,326,064	999,036	4.40	442,995	327,028
4000W	42,085,692	64,422,902	16.44	1,166,080	(22,337,210)
4000X	72,311,296	82,922,539	30.58	4,494,272	(10,611,243)
4900V	9,915,905	8,837,847	7.81	1,755,139	1,078,057
4900W	21,140,484	20,909,435	8.21	3,143,074	231,049
4900Y	10,523,059	10,101,290	8.30	410,082	421,769
4900Z	4,417,889	4,785,353	29.15	266,411	(367,464)
5000B	3,643,817	3,475,733	28.83	221,457	168,084
5000C	1,840,525	2,756,443	23.46	242,212	(915,918)
5000D	5,407,191	4,048,889	32.07	306,211	1,358,302
5000G	5,232,704	4,784,056	39.12	293,152	448,648
5000H	51,964,170	51,061,337	26.93	5,808,015	902,833

5000J	69,385,436	77,386,823	11.19	6,863,993		(8,001,386)
5000K	4,312,197	5,646,549	3.94	1,070,408		(1,334,352)
5000M	5,447,374	8,268,915	6.47	1,107,446		(2,821,541)
5000N	11,932,181	11,292,888	3.87	3,054,786		639,293
5000R	5,112,554	6,842,396	11.38	301,050		(1,729,842)
6000E	608,874	508,597	3.29	109,918		100,277
6000F	35,583,271	32,921,169	4.95	6,841,450		2,662,102
6000G	36,931,158	33,006,966	9.08	5,613,605		3,924,191
6000H	9,707,209	9,658,652	10.40	1,410,409		48,557
6000I	6,885,573	6,039,464	12.99	869,870		846,108
6000J	7,759,226	5,838,901	16.38	915,381		1,920,325
6000K	3,386,216	3,156,310	4.34	638,793		229,906
8000B	50,301,199	34,741,113	24.65	3,548,384		15,560,087
8000C	18,297,199	26,020,715	22.90	2,241,539		(7,723,516)
8000D	37,228,082	21,527,586	46.25	3,916,230		15,700,497
8000E	24,417,126	18,075,336	22.18	2,691,720		6,341,790
8000F	36,837	36,557	3.62	5,848		279
9000H	55,692,258	42,673,533	5.00	9,236,262		13,018,724
9000K	19,152,311	22,015,297	3.26	6,102,787		(2,862,986)
9000L	13,866,744	14,352,631	10.29	1,380,801		(485,887)
9000M	807	802	1.50	183		5
A100A	19,986,161	20,004,919	65.44	2,090,388		(18,757)
A200G	78,888,559	110,710,452	6.49	4,443,937		(31,821,893)
A200H	33,883,453	23,599,640	2.69	9,389,141	*	10,283,812
A200J	5,217,780	4,433,158	1.05	1,221,540	*	784,622
A200K	3,578,139	4,462,593	1.88	851,042	*	(884,454)
A200L	9,747,384	12,370,980	2.00	529,797		(2,623,597)
1181AWPLP	9,276,390	8,499,841	96.79	1,440,948		776,549
1181BWPLP	34,106,331	32,577,270	101.08	5,285,033		1,529,060
1181DWPLP	7,556,795	8,572,181	70.75	1,152,804		(1,015,386)
1181EWPLP	10,051,205	11,458,279	57.29	1,527,765		(1,407,074)
1181FWPLP	11,719,171	11,929,939	38.03	1,809,313		(210,768)
1181GWPLP	16,259,176	17,661,370	54.17	2,501,940		(1,402,194)
1181HWPLP	1,067,529	731,178	25.07	178,422		336,352
1181PWPLP	5,678,134	6,521,307	50.10	864,349		(843,173)
1181QWPLP	9,212,690	11,244,567	20.24	1,345,155		(2,031,877)
1181RWPLP	10,168,810	11,345,557	36.12	1,568,460		(1,176,747)
1181XWPLP	4,752,809	3,346,186	36.23	869,152		1,406,623
1181WWPLP	6,425	20,958	27.50	2,042		(14,533)
1181YWPLP	26,530	18,899	88.97	4,187		7,631
1181ZWPLP	35,351	64,600	90.97	7,573		(29,249)
3181RWPLP	739,845	780,026	32.88	112,600		(40,181)
5081HWPLP	27,183	32,529	29.37	4,000		(5,346)
5081JWPLP	15,490	19,835	14.48	2,083		(4,346)
6081GWPLP	17,562	29,733	9.45	1,413		(12,171)
6081HWPLP	11,840	9,597	11.95	2,009		2,244
6081JWPLP	19,339	15,014	18.37	3,211		4,325

6081KWPLP	27,044	27,594	4.61	4,041	(550)
9081LWPLP	16,527	17,439	18.50	10,980	(912)

naining life results to ELG whole life results

rve differences on amortized accounts with a remaining life of less than 3 years

Calculated by Manitoba Hydro using Alliance Data

AD Variance True-up Embedded in Alliance Annual Accrual Amount	Alliance Annual Accrual Excluding AD True-up	Whole-life Annual Accrual	Adjustment Required to Apply Whole Life Technique
(16,658)	319,865	313,504	(6,361)
(5,351)	255,226	247,389	(7,837)
393	25,819	25,819	-
(15,245)	135,915	135,842	(73)
(91,276)	486,844	479,233	(7,611)
(56)	47,309	47,230	(79)
31,510	1,601,924	1,570,308	(31,617)
9,538	265,722	261,294	(4,429)
(20,251)	317,569	311,146	(6,423)
(174,252)	790,619	763,488	(27,130)
(36,503)	233,956	230,583	(3,373)
599	34,980	25,089	(9,891)
(99)	942	942	-
(7,128)	7,458	7,458	(0)
(45,571)	75,021	75,019	(3)
(5,559)	79,722	79,722	-
(601)	23,199	23,168	(31)
(3,717)	39,732	39,714	(18)
(234,826)	1,365,220	1,363,570	(1,650)
(1,279)	8,425	8,424	(0)
(173)	3,702	5,003	1,301
(64,261)	222,297	222,141	(156)
(8,433)	81,037	80,765	(272)
(31,515)	231,966	231,278	(688)
(6,401)	25,139	24,606	(533)
(4,188)	23,263	23,263	-
4,077	938,664	938,664	(0)
(38,226)	4,462,075	4,462,061	(14)
(5,515)	1,529,496	1,529,489	(7)
(17,209)	607,473	607,344	(129)
(497)	50,678	50,678	(0)
(835)	20,374	20,374	(0)
4,423	120,929	120,929	(0)
(190)	4,644	4,644	-
(71,560)	444,052	435,683	(8,369)
(45,893)	155,351	146,842	(8,510)
(116)	18,379	18,379	-

(6,144)	69,574	64,623	(4,950)
(38,002)	72,100	67,762	(4,338)
(431)	26,222	24,335	(1,887)
(89,760)	942,372	924,249	(18,123)
968	9,084	8,995	(89)
(52,157)	224,056	217,793	(6,263)
(41,252)	474,585	460,187	(14,398)
(37,619)	193,524	188,614	(4,910)
440	14,139	13,887	(252)
(15)	3,367	3,367	-
(1,831)	413,172	412,916	(256)
(10,702)	353,774	353,769	(4)
1,208	48,738	48,738	-
(2,761)	165,265	165,233	(31)
4,364	333,917	333,242	(675)
13,528	878,177	877,998	(179)
(7,256)	201,913	201,663	(250)
3,841	32,470	32,132	(338)
(18,191)	390,902	390,474	(427)
(9,293)	275,092	274,633	(459)
1,585	169,018	170,480	1,462
22,400	78,476	78,475	(0)
(5,159)	52,902	52,902	-
(7,140)	135,997	103,885	(32,112)
(13,005)	94,575	93,018	(1,557)
(35)	3,480	3,480	-
(29)	1,564	1,563	(1)
(30,696)	55,032	52,648	(2,385)
(9,346)	28,518	36,220	7,702
(11,261)	905,311	892,864	(12,447)
4,416	146,740	146,711	(29)
(12,440)	209,382	205,062	(4,320)
(20,205)	248,938	243,575	(5,363)
(13,683)	173,859	169,751	(4,108)
2,279	7,759	7,759	(0)
(3,008)	301,086	317,174	16,089
(1,622)	202,759	197,964	(4,795)
(7,097)	67,751	67,099	(652)
680	40,116	40,116	-
(3,797)	60,554	57,124	(3,430)
(51,465)	175,708	174,227	(1,481)
(34)	26,330	25,809	(521)
(60,286)	67,911	66,715	(1,196)
1,626	61,245	60,926	(319)
(14,266)	54,087	50,324	(3,763)
(7,454)	112,629	105,461	(7,168)
(13,386)	122,622	119,051	(3,571)

10,148	96,685	95,324	(1,361)
43,595	810,063	796,317	(13,747)
6	22,166	22,166	-
17,721	88,687	86,124	(2,563)
(10,296)	695,390	688,994	(6,395)
23,124	277,117	260,794	(16,323)
51,559	2,570,541	2,566,117	(4,423)
28,913	217,460	217,226	(234)
26,639	732,627	731,153	(1,474)
(17,532)	582,616	568,830	(13,786)
(3,294)	475,500	472,439	(3,061)
77,001	156,222	154,782	(1,441)
(6,530)	18,254	18,254	-
(25,577)	595,066	584,991	(10,075)
(19,667)	232,792	231,638	(1,154)
2,029	43,343	43,343	-
(9,990)	64,602	64,225	(377)
(185,305)	229,591	224,502	(5,089)
(17,027)	70,285	62,223	(8,063)
(117,633)	1,885,878	1,874,721	(11,156)
10,695	219,402	219,121	(281)
(7,259)	1,578,354	1,578,354	-
(6,299)	525,635	521,984	(3,650)
(61,742)	230,972	196,234	(34,738)
(19,948)	325,953	323,687	(2,266)
59,598	191,771	186,410	(5,362)
(39,848)	297,343	297,343	-
(100,591)	2,209,665	2,329,485	119,820
(11,727)	430,350	430,207	(144)
(73,385)	1,345,232	1,343,715	(1,517)
226	15,596	15,596	-
(43,996)	303,207	303,207	-
(183,770)	281,818	277,428	(4,390)
54	31,344	31,321	(23)
(44,080)	2,298,944	2,258,766	(40,178)
23,015	367,089	339,938	(27,150)
(3,233)	852,245	850,454	(1,791)
(122,977)	809,143	737,661	(71,482)
(87,736)	641,967	615,175	(26,792)
5,656	58,491	58,090	(402)
(919)	5,803	5,801	(2)
(33,058)	163,537	163,499	(38)
(3,119)	16,188	16,188	-
(1,554)	8,920	8,914	(6)
(2,717)	37,011	36,319	(692)
(20,455)	106,899	106,454	(445)
(2,610)	27,546	27,446	(100)

(5,470)	29,546	29,538	(8)
(7,080)	23,007	21,318	(1,689)
(4,641)	18,636	18,573	(62)
706	8,189	8,189	-
151	1,536	1,536	-
(4,927)	161,970	161,159	(811)
(3,916)	706,375	705,738	(637)
787	79,892	79,892	-
(10,648)	180,984	180,945	(38)
(100,061)	281,078	277,663	(3,415)
(241)	96,166	93,604	(2,562)
(89,617)	1,635,607	1,616,171	(19,436)
2,514	90,283	90,282	(1)
(76,854)	514,696	505,392	(9,304)
(23,553)	334,513	318,791	(15,722)
(49,743)	286,425	278,201	(8,225)
36,285	282,842	277,767	(5,075)
(3,642)	95,645	95,645	-
(38,696)	1,111,100	1,109,851	(1,248)
72	10,000	10,000	-
(98,508)	5,885,520	5,885,520	-
31,274	1,288,592	1,287,732	(860)
(17,348)	725,933	724,241	(1,692)
(135,056)	274,477	272,842	(1,634)
(8,116)	248,543	232,775	(15,767)
(7,661)	28,018	27,827	(192)
(11,038)	97,018	82,677	(14,341)
(3,211)	129,887	129,142	(745)
259	1,886	1,885	(1)
(129,906)	4,370,152	4,370,152	-
12,532	626,020	625,539	(482)
(4,126)	1,325,543	1,324,565	(977)
(28,324)	512,857	512,807	(49)
(501,340)	833,620	833,504	(117)
(874)	89,372	86,627	(2,746)
(271,584)	2,239,469	2,237,549	(1,920)
839	5,940	5,870	(70)
(159,906)	514,069	511,307	(2,762)
(64,619)	715,588	668,724	(46,863)
(70,175)	403,999	386,924	(17,074)
646	3,801	3,798	(3)
(1,782)	11,211	11,211	-
6,624	320,287	320,281	(6)
24,685	4,270,059	4,269,766	(293)
37	1,984	1,984	-
(72,355)	2,537,786	2,537,334	(452)
(460,953)	1,741,511	1,741,339	(172)

(10,364)	363,849	362,300	(1,549)
(270,057)	6,599,417	6,598,250	(1,167)
138,955	522,459	497,572	(24,887)
(409,076)	2,517,324	2,516,658	(666)
(44,032)	684,538	654,228	(30,309)
(159,374)	912,966	902,614	(10,352)
47,566	147,487	146,575	(913)
(4,651)	21,755	21,755	-
6	45,469	45,469	(0)
(210)	169,531	169,530	(0)
(642)	37,258	37,258	(0)
(859)	48,420	48,420	(0)
(201)	56,066	56,066	-
(1,315)	76,749	76,749	(0)
418	5,364	5,364	(0)
(520)	29,483	29,483	-
(4,036)	42,962	42,960	(1)
(2,642)	48,556	48,556	0
1,131	22,166	22,166	(0)
3,203	372,633	372,633	-
46,110	653,676	623,842	(29,834)
356,411	2,629,101	2,561,481	(67,620)
(206,683)	1,152,977	1,152,977	-
226,196	2,221,795	2,203,841	(17,955)
(6,482)	38,792	38,792	-
(88,487)	522,692	499,183	(23,509)
(19,476)	64,567	64,567	-
(61,640)	85,748	82,308	(3,439)
(64,094)	266,301	266,014	(287)
(1,709,691)	3,395,684	3,394,736	(947)
(62,537)	232,624	224,360	(8,264)
(156,002)	227,877	193,847	(34,030)
(371,448)	582,340	569,934	(12,405)
(169,558)	175,178	173,004	(2,175)
(940)	16,797	16,797	-
(106,788)	328,768	324,309	(4,459)
(3,046)	14,969	14,969	-
(441,404)	748,834	730,643	(18,191)
(398,284)	798,789	770,667	(28,121)
(50,896)	421,605	407,362	(14,244)
(6,893)	258,928	257,093	(1,835)
(66,941)	20,873,227	20,823,796	(49,431)
(187,537)	2,818,032	2,762,494	(55,538)
(11,980)	263,583	263,583	-
(698,007)	12,507,462	12,345,475	(161,987)
(487)	395,382	392,514	(2,867)
(4,752)	1,219,121	1,219,165	45

190,298	16,807,751	16,491,465	(316,286)
(103,227)	1,290,064	1,290,064	-
(927,704)	27,349,328	27,173,280	(176,048)
(8,799)	216,112	213,060	(3,052)
1,097,511	12,931,735	12,482,096	(449,639)
207,433	5,487,305	5,317,841	(169,464)
711,144	10,605,877	10,114,855	(491,022)
(1,465,036)	15,105,647	14,759,481	(346,167)
(1,084,633)	18,512,025	17,291,545	(1,220,479)
39,746	6,254,688	6,127,883	(126,805)
(654,292)	3,254,438	3,254,438	-
(3,457,611)	32,135,252	32,022,408	(112,843)
(3,283,401)	8,840,429	8,109,936	(730,493)
(868,397)	5,448,480	5,333,021	(115,459)
(740,496)	7,126,066	6,250,118	(875,948)
(24,889)	25,766	25,730	(35)
(197,326)	209,672	209,672	-
29,342	17,959	17,821	(138)
(70,090)	77,887	76,172	(1,715)
(140,814)	204,526	202,589	(1,937)
(19,806)	381,029	380,992	(37)
(7,063)	961,677	961,677	-
(8,976)	375,119	373,338	(1,781)
28,306	370,157	370,157	-
13,712	361,953	360,953	(1,000)
(1,844)	225,185	223,568	(1,617)
(2,798,646)	18,217,485	17,938,266	(279,219)
(492,898)	3,379,771	3,379,771	-
(1,052,514)	18,102,990	17,776,361	(326,629)
88,108	1,154,728	1,144,976	(9,752)
129,616	10,957,941	10,853,893	(104,048)
36,628	7,463,436	7,350,582	(112,854)
(747,201)	7,547,603	7,432,631	(114,971)
(505,177)	6,327,531	6,214,895	(112,637)
(1,586)	432,258	431,365	(894)
74,262	368,733	368,733	-
(1,358,470)	2,524,550	2,387,195	(137,355)
(346,996)	4,841,268	4,701,304	(139,964)
138,083	1,617,057	1,548,271	(68,786)
28,131	3,114,942	3,114,942	-
50,794	359,288	345,984	(13,304)
(12,607)	279,018	271,214	(7,804)
5,830	215,627	208,105	(7,523)
(39,048)	281,260	281,260	-
42,355	263,856	263,856	(0)
11,467	281,685	274,923	(6,761)
33,523	5,774,493	5,710,110	(64,383)

(715,020)	7,579,013	7,245,852	(333,161)
(338,690)	1,409,098	1,409,098	-
(436,046)	1,543,492	1,543,492	-
165,163	2,889,623	2,889,623	-
(152,000)	453,050	435,135	(17,915)
30,474	79,445	72,966	(6,479)
538,143	6,303,308	5,938,754	(364,554)
432,014	5,181,591	5,035,193	(146,398)
4,667	1,405,742	1,334,705	(71,037)
65,120	804,751	773,148	(31,603)
117,267	798,114	774,316	(23,798)
53,020	585,774	534,688	(51,085)
631,291	2,917,093	2,809,136	(107,957)
(337,204)	2,578,742	2,578,742	-
339,485	3,576,745	3,576,738	(7)
285,932	2,405,789	2,405,343	(446)
77	5,771	5,771	-
2,602,718	6,633,543	6,633,543	-
(879,068)	6,981,854	6,981,854	-
(47,221)	1,428,022	1,428,022	-
4	179	179	-
(287)	2,090,675	2,090,675	-
(4,902,614)	9,346,551	9,285,826	(60,725)
3,427,937	5,961,204	5,961,204	-
261,541	959,999	959,999	-
(294,818)	1,145,860	1,145,860	-
(1,312,418)	1,842,214	1,723,411	(118,804)
8,023	1,432,925	1,432,924	(1)
15,127	5,269,905	5,269,897	(8)
(14,351)	1,167,155	1,167,151	(4)
(24,563)	1,552,327	1,552,320	(8)
(5,542)	1,814,855	1,814,816	(39)
(25,883)	2,527,823	2,527,823	(0)
13,414	165,008	165,003	(5)
(16,830)	881,180	881,177	(2)
(100,367)	1,445,521	1,445,460	(61)
(32,579)	1,601,039	1,602,185	1,146
38,821	830,330	830,330	(0)
(528)	2,570	2,570	-
86	4,102	4,081	(20)
(322)	7,895	7,856	(39)
(1,222)	113,822	113,822	-
(182)	4,182	4,182	-
(300)	2,383	2,383	-
(1,289)	2,702	2,702	-
188	1,822	1,822	-
235	2,975	2,975	-

(119)	4,161	4,161	-
(49)	11,029	11,029	-

Cross over points Age % of average service life

Curve Mode Group	Cross-over point	Age % with Immediate Gain/Loss Recognition	Age % with Gain/Loss Deferral & Amortization
High-1st	1st	55.0%	68.0%
High-2nd	2nd	99.0%	113.0%
Medium-1st	1st	28.0%	48.0%
Medium-2nd	2nd	103.0%	120.0%
Low-1st	1st	15.0%	34.0%
Low-2nd	2nd	125.0%	156.0%

Current Componentization (ELG & CGAAP)			**Immediate G/L Recognition**		
Curve mode group	Age % of average service life	Plant Investment at March 31, 2019	Investment Prior to 1st Cross-over	Investment between 1st & Second Cross-over	Investment beyond Second Cross-over
High	0.00%	-	-	-	-
High	1.43%	1,909,560	1,909,560	-	-
High	3.00%	185,103	185,103	-	-
High	3.17%	96,809,302	96,809,302	-	-
High	4.29%	69,424	69,424	-	-
High	4.74%	36,150,112	36,150,112	-	-
High	4.88%	101,023	101,023	-	-
High	5.27%	3,297,342	3,297,342	-	-
High	5.30%	18,225,096	18,225,096	-	-
High	5.46%	4,693,699	4,693,699	-	-
High	5.65%	566,781,725	566,781,725	-	-
High	5.90%	147,970,536	147,970,536	-	-
High	6.36%	96,310,532	96,310,532	-	-
High	6.84%	389,662	389,662	-	-
High	7.39%	2,862,890	2,862,890	-	-
High	7.41%	2,796,227	2,796,227	-	-
High	7.50%	220,589	220,589	-	-
High	8.33%	216,411	216,411	-	-
High	8.57%	903,653	903,653	-	-
High	10.81%	49,824,264	49,824,264	-	-
High	10.83%	1,667,112	1,667,112	-	-
High	11.13%	26,901,107	26,901,107	-	-
High	11.36%	500,000	500,000	-	-
High	11.43%	356,536	356,536	-	-
High	11.67%	46,079	46,079	-	-
High	11.69%	2,869,336	2,869,336	-	-
High	12.18%	2,580,648	2,580,648	-	-
High	12.50%	33,744	33,744	-	-
High	12.63%	23,803,107	23,803,107	-	-
High	12.70%	2,259,834	2,259,834	-	-

High	12.78%	1,705,824	1,705,824	-	-
High	12.94%	3,733,852	3,733,852	-	-
High	13.70%	1,404,069	1,404,069	-	-
High	14.00%	25,592,289	25,592,289	-	-
High	14.21%	24,024,306	24,024,306	-	-
High	14.97%	78,917,675	78,917,675	-	-
High	14.99%	1,587,048	1,587,048	-	-
High	15.19%	523,917	523,917	-	-
High	15.36%	1,517,006	1,517,006	-	-
High	16.52%	2,790,272	2,790,272	-	-
High	16.62%	7,664,146	7,664,146	-	-
High	17.28%	9,633,911	9,633,911	-	-
High	17.38%	202,645,571	202,645,571	-	-
High	18.57%	121,809	121,809	-	-
High	19.38%	643,264	643,264	-	-
High	19.82%	187,821,533	187,821,533	-	-
High	22.52%	336,330	336,330	-	-
High	23.02%	21,490,093	21,490,093	-	-
High	23.19%	28,266	28,266	-	-
High	23.20%	547,608	547,608	-	-
High	24.06%	461,947,134	461,947,134	-	-
High	24.44%	41,504,874	41,504,874	-	-
High	25.18%	33,293,497	33,293,497	-	-
High	25.47%	48,248,179	48,248,179	-	-
High	25.86%	8,920,283	8,920,283	-	-
High	26.62%	40,354,211	40,354,211	-	-
High	28.22%	697,897	697,897	-	-
High	28.23%	652,644	652,644	-	-
High	28.71%	156,800,616	156,800,616	-	-
High	29.57%	355,538	355,538	-	-
High	30.67%	500,269,212	500,269,212	-	-
High	33.65%	393,313,694	393,313,694	-	-
High	34.07%	8,437,807	8,437,807	-	-
High	34.19%	32,251,594	32,251,594	-	-
High	34.38%	16,513,182	16,513,182	-	-
High	34.95%	77,362,268	77,362,268	-	-
High	35.04%	144,005,495	144,005,495	-	-
High	35.21%	1,441,945	1,441,945	-	-
High	35.88%	76,811,703	76,811,703	-	-
High	35.92%	136,689,888	136,689,888	-	-
High	36.45%	65,392,344	65,392,344	-	-
High	36.69%	117,751,824	117,751,824	-	-
High	37.26%	13,868,814	13,868,814	-	-
High	38.93%	74,306,777	74,306,777	-	-
High	39.29%	53,564,816	53,564,816	-	-
High	40.23%	146,561,039	146,561,039	-	-
High	40.56%	1,671,075,743	1,671,075,743	-	-

High	40.97%	15,434,920	15,434,920	-	-
High	41.47%	9,296,418	9,296,418	-	-
High	42.11%	45,280,663	45,280,663	-	-
High	42.22%	26,560,157	26,560,157	-	-
High	43.06%	15,786,005	15,786,005	-	-
High	43.73%	22,150,455	22,150,455	-	-
High	45.41%	35,967,401	35,967,401	-	-
High	45.41%	24,417,132	24,417,132	-	-
High	45.78%	17,109,720	17,109,720	-	-
High	45.82%	56,620,206	56,620,206	-	-
High	46.14%	145,779,452	145,779,452	-	-
High	48.68%	65,088,763	65,088,763	-	-
High	49.17%	9,016,581	9,016,581	-	-
High	51.07%	73,637,219	73,637,219	-	-
High	51.77%	50,696,569	50,696,569	-	-
High	51.84%	3,163,001	3,163,001	-	-
High	51.99%	29,634,721	29,634,721	-	-
High	52.85%	1,419,180,916	1,419,180,916	-	-
High	53.00%	17,307	17,307	-	-
High	53.45%	14,754,887	14,754,887	-	-
High	53.54%	9,863,684	9,863,684	-	-
High	54.41%	1,089,956,770	1,089,956,770	-	-
High	55.56%	7,377,467	-	7,377,467	-
High	57.52%	41,891,126	-	41,891,126	-
High	57.83%	10,121,717	-	10,121,717	-
High	58.34%	2,949,862	-	2,949,862	-
High	58.36%	28,560,439	-	28,560,439	-
High	58.74%	18,646,650	-	18,646,650	-
High	61.49%	12,505,538	-	12,505,538	-
High	61.86%	46,724,135	-	46,724,135	-
High	63.06%	4,822,459	-	4,822,459	-
High	65.81%	13,666,861	-	13,666,861	-
High	65.92%	30,770,617	-	30,770,617	-
High	66.14%	29,904,204	-	29,904,204	-
High	66.48%	23,116,986	-	23,116,986	-
High	67.57%	113,113,886	-	113,113,886	-
High	68.23%	1,683,369	-	1,683,369	-
High	69.19%	11,853,436	-	11,853,436	-
High	70.47%	11,202,777	-	11,202,777	-
High	71.33%	5,729,299	-	5,729,299	-
High	72.12%	57,707	-	57,707	-
High	72.39%	139,555,161	-	139,555,161	-
High	74.45%	6,122,394	-	6,122,394	-
High	75.00%	1,076	-	1,076	-
High	76.21%	25,133,066	-	25,133,066	-
High	76.47%	6,284,357	-	6,284,357	-
High	80.66%	95,499,346	-	95,499,346	-

High	83.30%	3,962,949	-	3,962,949	-
High	87.36%	41,728,425	-	41,728,425	-
High	88.36%	16,526,037	-	16,526,037	-
High	94.20%	3,127,193	-	3,127,193	-
High	95.36%	3,839,997	-	3,839,997	-
High	96.01%	304,678,417	-	304,678,417	-
High	130.03%	472,122	-	-	472,122
High	137.49%	167,966,553	-	-	167,966,553
High Total		10,394,865,039	9,165,269,411	1,061,156,952	168,438,676
High % of total investment		100.0%	88.2%	10.2%	1.6%
Medium	0.00%	-	-	-	-
Medium	5.26%	343,130,442	343,130,442	-	-
Medium	6.38%	97,062,968	97,062,968	-	-
Medium	7.26%	2,875,421	2,875,421	-	-
Medium	7.34%	2,770,375	2,770,375	-	-
Medium	7.64%	90,136,371	90,136,371	-	-
Medium	8.08%	4,496,212	4,496,212	-	-
Medium	9.17%	3,086,847	3,086,847	-	-
Medium	9.28%	98,976,826	98,976,826	-	-
Medium	9.47%	4,651,419	4,651,419	-	-
Medium	9.93%	5,073,748	5,073,748	-	-
Medium	9.95%	153,200,791	153,200,791	-	-
Medium	11.46%	26,863,202	26,863,202	-	-
Medium	12.66%	110,978	110,978	-	-
Medium	12.97%	80,735,779	80,735,779	-	-
Medium	13.00%	2,494,848	2,494,848	-	-
Medium	13.06%	1,382,904	1,382,904	-	-
Medium	13.66%	1,481,524	1,481,524	-	-
Medium	13.78%	539,264	539,264	-	-
Medium	13.97%	34,838,351	34,838,351	-	-
Medium	14.25%	930,007	930,007	-	-
Medium	14.85%	1,916,956	1,916,956	-	-
Medium	14.91%	17,782,476	17,782,476	-	-
Medium	15.06%	57,535,146	57,535,146	-	-
Medium	15.90%	6,789,793	6,789,793	-	-
Medium	16.25%	150,000	150,000	-	-
Medium	16.83%	38,804,345	38,804,345	-	-
Medium	17.94%	1,011,906	1,011,906	-	-
Medium	18.09%	15,145,190	15,145,190	-	-
Medium	18.35%	169,142	169,142	-	-
Medium	18.46%	261,220	261,220	-	-
Medium	18.54%	5,205,014	5,205,014	-	-
Medium	18.97%	10,542,084	10,542,084	-	-
Medium	19.86%	1,141,713	1,141,713	-	-
Medium	21.37%	155,501,124	155,501,124	-	-
Medium	21.52%	38,476,588	38,476,588	-	-

Medium	21.67%	82,208	82,208	-	-
Medium	23.82%	9,742,007	9,742,007	-	-
Medium	24.65%	6,923,740	6,923,740	-	-
Medium	25.08%	11,588,780	11,588,780	-	-
Medium	25.79%	7,321,831	7,321,831	-	-
Medium	26.44%	4,603,136	4,603,136	-	-
Medium	26.46%	2,130,167	2,130,167	-	-
Medium	28.82%	870,000	-	870,000	-
Medium	29.23%	77,776,021	-	77,776,021	-
Medium	29.55%	50,000	-	50,000	-
Medium	30.11%	79,309	-	79,309	-
Medium	30.19%	14,343,781	-	14,343,781	-
Medium	32.57%	203,071,057	-	203,071,057	-
Medium	32.60%	12,716,268	-	12,716,268	-
Medium	33.33%	12,138,708	-	12,138,708	-
Medium	33.73%	458,033	-	458,033	-
Medium	34.47%	1,869,299	-	1,869,299	-
Medium	34.80%	2,458,999	-	2,458,999	-
Medium	36.27%	143,660,309	-	143,660,309	-
Medium	36.63%	3,308,252	-	3,308,252	-
Medium	36.85%	882,653	-	882,653	-
Medium	37.19%	540,518,336	-	540,518,336	-
Medium	38.03%	1,018,953	-	1,018,953	-
Medium	38.06%	160,484	-	160,484	-
Medium	38.24%	46,325	-	46,325	-
Medium	39.13%	207,483,703	-	207,483,703	-
Medium	39.59%	116,229,365	-	116,229,365	-
Medium	39.83%	9,676,327	-	9,676,327	-
Medium	40.31%	114,709,762	-	114,709,762	-
Medium	41.32%	27,382,314	-	27,382,314	-
Medium	41.39%	44,368,979	-	44,368,979	-
Medium	42.51%	404,104,029	-	404,104,029	-
Medium	42.60%	290,552	-	290,552	-
Medium	43.85%	191,824	-	191,824	-
Medium	45.07%	11,647,385	-	11,647,385	-
Medium	45.89%	8,951,203	-	8,951,203	-
Medium	46.54%	871,459,529	-	871,459,529	-
Medium	47.53%	42,244,358	-	42,244,358	-
Medium	47.95%	305,769,140	-	305,769,140	-
Medium	48.43%	59,622,870	-	59,622,870	-
Medium	48.69%	14,942,733	-	14,942,733	-
Medium	49.08%	53,913,384	-	53,913,384	-
Medium	49.25%	260,639,991	-	260,639,991	-
Medium	50.69%	16,253,301	-	16,253,301	-
Medium	51.14%	1,588,097	-	1,588,097	-
Medium	51.49%	142,476,572	-	142,476,572	-
Medium	52.45%	53,901,601	-	53,901,601	-

Medium	53.31%	8,085,360	-	8,085,360	-
Medium	53.75%	76,614,820	-	76,614,820	-
Medium	54.23%	690,940,211	-	690,940,211	-
Medium	54.55%	29,682,613	-	29,682,613	-
Medium	54.61%	282,241,485	-	282,241,485	-
Medium	54.62%	336,412	-	336,412	-
Medium	54.71%	25,406,960	-	25,406,960	-
Medium	54.77%	6,743,338	-	6,743,338	-
Medium	55.12%	1,002,556	-	1,002,556	-
Medium	55.14%	17,919,064	-	17,919,064	-
Medium	55.59%	12,550,747	-	12,550,747	-
Medium	56.68%	601,290	-	601,290	-
Medium	57.15%	21,297,559	-	21,297,559	-
Medium	57.78%	6,397,266	-	6,397,266	-
Medium	57.81%	6,748,875	-	6,748,875	-
Medium	57.84%	57,980,005	-	57,980,005	-
Medium	57.94%	15,815,262	-	15,815,262	-
Medium	57.99%	19,072,443	-	19,072,443	-
Medium	58.76%	222,234,144	-	222,234,144	-
Medium	58.82%	18,935,911	-	18,935,911	-
Medium	58.89%	355,919	-	355,919	-
Medium	58.94%	101,788,270	-	101,788,270	-
Medium	59.06%	23,143,252	-	23,143,252	-
Medium	59.22%	1,168,477	-	1,168,477	-
Medium	59.46%	7,543,319	-	7,543,319	-
Medium	59.77%	4,333,359	-	4,333,359	-
Medium	60.30%	10,316,521	-	10,316,521	-
Medium	60.39%	12,048,479	-	12,048,479	-
Medium	60.57%	328,573,117	-	328,573,117	-
Medium	61.83%	3,377,950	-	3,377,950	-
Medium	61.90%	143,128,145	-	143,128,145	-
Medium	61.96%	5,451,760	-	5,451,760	-
Medium	61.99%	141,415,720	-	141,415,720	-
Medium	62.04%	53,923,984	-	53,923,984	-
Medium	62.61%	12,882,412	-	12,882,412	-
Medium	63.46%	9,575,516	-	9,575,516	-
Medium	63.92%	220,358,576	-	220,358,576	-
Medium	63.94%	9,860,709	-	9,860,709	-
Medium	65.19%	19,453,374	-	19,453,374	-
Medium	65.71%	23,638,427	-	23,638,427	-
Medium	65.74%	7,196,926	-	7,196,926	-
Medium	66.94%	90,320,443	-	90,320,443	-
Medium	67.53%	122,201,844	-	122,201,844	-
Medium	67.70%	19,088,475	-	19,088,475	-
Medium	68.06%	154,197,928	-	154,197,928	-
Medium	68.25%	3,963,846	-	3,963,846	-
Medium	69.04%	8,323,870	-	8,323,870	-

Medium	70.56%	15,982,492	-	15,982,492	-
Medium	70.74%	726,988,879	-	726,988,879	-
Medium	72.42%	3,239,567	-	3,239,567	-
Medium	72.76%	4,472,231	-	4,472,231	-
Medium	74.09%	3,701,439	-	3,701,439	-
Medium	74.31%	1,033,229	-	1,033,229	-
Medium	74.39%	31,498,880	-	31,498,880	-
Medium	75.71%	9,165,187	-	9,165,187	-
Medium	75.95%	1,786,244	-	1,786,244	-
Medium	76.05%	4,355,273	-	4,355,273	-
Medium	76.61%	22,540,820	-	22,540,820	-
Medium	76.73%	17,802,829	-	17,802,829	-
Medium	77.39%	18,734,738	-	18,734,738	-
Medium	78.97%	4,548,181	-	4,548,181	-
Medium	79.28%	15,023,580	-	15,023,580	-
Medium	80.64%	11,467,476	-	11,467,476	-
Medium	82.71%	12,791,706	-	12,791,706	-
Medium	84.11%	393,151,095	-	393,151,095	-
Medium	86.71%	22,292,832	-	22,292,832	-
Medium	86.82%	74,182,974	-	74,182,974	-
Medium	87.23%	1,656,471	-	1,656,471	-
Medium	95.36%	6,522,621	-	6,522,621	-
Medium	95.62%	13,430,074	-	13,430,074	-
Medium	95.83%	19,407,787	-	19,407,787	-
Medium	98.28%	5,051,428	-	5,051,428	-
Medium	102.05%	3,390,955	-	3,390,955	-
Medium	102.31%	11,549,647	-	11,549,647	-
Medium	105.45%	22,425,340	-	-	22,425,340
Medium	105.53%	731,054	-	-	731,054
Medium	108.95%	966,994	-	-	966,994
Medium	110.83%	3,033,690	-	-	3,033,690
Medium	110.86%	1,111,413	-	-	1,111,413
Medium	123.77%	1,972,243	-	-	1,972,243
Medium	124.32%	2,719,606	-	-	2,719,606
Medium	132.21%	6,593,785	-	-	6,593,785
Medium	135.62%	6,327,858	-	-	6,327,858
Medium	154.51%	1,494,975	-	-	1,494,975
Medium Total		9,692,319,176	1,347,662,841	8,297,279,378	47,376,957
Medium % of total investment		100.0%	13.9%	85.6%	0.5%
Low	0.00%	-	-	-	-
Low	10.24%	2,029,554	2,029,554	-	-
Low	11.79%	67,997,423	67,997,423	-	-
Low	13.00%	4,482,057	4,482,057	-	-
Low	17.19%	6,576,050	-	6,576,050	-
Low	24.03%	8,139,134	-	8,139,134	-
Low	30.77%	43,256,237	-	43,256,237	-

Low	32.48%	14,386,900	-	14,386,900	-
Low	32.50%	42,012	-	42,012	-
Low	35.00%	5,119,305	-	5,119,305	-
Low	42.24%	799,506	-	799,506	-
Low	44.44%	860,523,469	-	860,523,469	-
Low	46.44%	19,028,922	-	19,028,922	-
Low	47.03%	10,667,328	-	10,667,328	-
Low	49.00%	43,912,527	-	43,912,527	-
Low	54.92%	7,565,326	-	7,565,326	-
Low	56.38%	14,022,049	-	14,022,049	-
Low	58.50%	899,143,179	-	899,143,179	-
Low	59.32%	8,942,463	-	8,942,463	-
Low	59.39%	5,532,589	-	5,532,589	-
Low	62.20%	214,957,177	-	214,957,177	-
Low	64.19%	535,467,959	-	535,467,959	-
Low	65.00%	54,399	-	54,399	-
Low	66.46%	28,704,580	-	28,704,580	-
Low	67.00%	17,611,901	-	17,611,901	-
Low	70.98%	10,268,504	-	10,268,504	-
Low	74.78%	30,417,023	-	30,417,023	-
Low	75.39%	381,517,222	-	381,517,222	-
Low	77.69%	83,596,667	-	83,596,667	-
Low	79.70%	20,402,145	-	20,402,145	-
Low	125.87%	6,972,075	-	-	6,972,075
Low	134.64%	13,506,423	-	-	13,506,423
Low Total		3,365,642,106	74,509,035	3,270,654,573	20,478,498
Low % of total investment		100.0%	2.2%	97.2%	0.6%

G/L Deferral & Amortization			IFRS-Compliant ASL Componer	
Investment Prior to 1st Cross-over	Investment between 1st & Second Cross-over	Investment beyond Second Cross-over	Curve mode group	Age % of average service life
-	-	-	High	0.00%
1,909,560	-	-	High	2.79%
185,103	-	-	High	3.00%
96,809,302	-	-	High	4.74%
69,424	-	-	High	4.80%
36,150,112	-	-	High	4.96%
101,023	-	-	High	5.08%
3,297,342	-	-	High	5.19%
18,225,096	-	-	High	5.19%
4,693,699	-	-	High	5.27%
566,781,725	-	-	High	5.58%
147,970,536	-	-	High	5.95%
96,310,532	-	-	High	5.96%
389,662	-	-	High	6.36%
2,862,890	-	-	High	6.38%
2,796,227	-	-	High	6.49%
220,589	-	-	High	6.81%
216,411	-	-	High	6.84%
903,653	-	-	High	7.21%
49,824,264	-	-	High	7.50%
1,667,112	-	-	High	7.87%
26,901,107	-	-	High	8.12%
500,000	-	-	High	8.38%
356,536	-	-	High	8.44%
46,079	-	-	High	8.55%
2,869,336	-	-	High	8.81%
2,580,648	-	-	High	9.28%
33,744	-	-	High	9.33%
23,803,107	-	-	High	9.47%
2,259,834	-	-	High	9.54%

1,705,824	-	-	High	9.62%
3,733,852	-	-	High	9.80%
1,404,069	-	-	High	9.95%
25,592,289	-	-	High	10.00%
24,024,306	-	-	High	10.11%
78,917,675	-	-	High	10.50%
1,587,048	-	-	High	10.83%
523,917	-	-	High	11.13%
1,517,006	-	-	High	11.20%
2,790,272	-	-	High	11.25%
7,664,146	-	-	High	11.36%
9,633,911	-	-	High	11.76%
202,645,571	-	-	High	11.84%
121,809	-	-	High	12.02%
643,264	-	-	High	12.14%
187,821,533	-	-	High	12.18%
336,330	-	-	High	12.22%
21,490,093	-	-	High	12.32%
28,266	-	-	High	12.37%
547,608	-	-	High	12.44%
461,947,134	-	-	High	12.50%
41,504,874	-	-	High	12.66%
33,293,497	-	-	High	12.94%
48,248,179	-	-	High	12.94%
8,920,283	-	-	High	13.20%
40,354,211	-	-	High	13.23%
697,897	-	-	High	13.47%
652,644	-	-	High	14.00%
156,800,616	-	-	High	14.21%
355,538	-	-	High	14.66%
500,269,212	-	-	High	14.97%
393,313,694	-	-	High	15.00%
8,437,807	-	-	High	15.45%
32,251,594	-	-	High	16.21%
16,513,182	-	-	High	16.50%
77,362,268	-	-	High	16.51%
144,005,495	-	-	High	17.80%
1,441,945	-	-	High	18.22%
76,811,703	-	-	High	18.33%
136,689,888	-	-	High	19.18%
65,392,344	-	-	High	19.69%
117,751,824	-	-	High	19.82%
13,868,814	-	-	High	20.29%
74,306,777	-	-	High	20.42%
53,564,816	-	-	High	20.53%
146,561,039	-	-	High	20.88%
1,671,075,743	-	-	High	21.36%

15,434,920	-	-	High	21.70%
9,296,418	-	-	High	22.00%
45,280,663	-	-	High	22.17%
26,560,157	-	-	High	22.18%
15,786,005	-	-	High	22.73%
22,150,455	-	-	High	23.33%
35,967,401	-	-	High	23.59%
24,417,132	-	-	High	24.29%
17,109,720	-	-	High	24.81%
56,620,206	-	-	High	25.00%
145,779,452	-	-	High	25.25%
65,088,763	-	-	High	25.38%
9,016,581	-	-	High	25.38%
73,637,219	-	-	High	25.78%
50,696,569	-	-	High	26.43%
3,163,001	-	-	High	27.47%
29,634,721	-	-	High	27.72%
1,419,180,916	-	-	High	27.85%
17,307	-	-	High	27.94%
14,754,887	-	-	High	28.71%
9,863,684	-	-	High	28.83%
1,089,956,770	-	-	High	30.00%
7,377,467	-	-	High	30.03%
41,891,126	-	-	High	30.55%
10,121,717	-	-	High	30.55%
2,949,862	-	-	High	30.66%
28,560,439	-	-	High	30.67%
18,646,650	-	-	High	30.79%
12,505,538	-	-	High	31.43%
46,724,135	-	-	High	31.73%
4,822,459	-	-	High	31.82%
13,666,861	-	-	High	32.34%
30,770,617	-	-	High	32.38%
29,904,204	-	-	High	32.40%
23,116,986	-	-	High	32.67%
113,113,886	-	-	High	32.96%
-	1,683,369	-	High	33.00%
-	11,853,436	-	High	33.00%
-	11,202,777	-	High	33.02%
-	5,729,299	-	High	33.20%
-	57,707	-	High	33.20%
-	139,555,161	-	High	33.21%
-	6,122,394	-	High	33.36%
-	1,076	-	High	33.65%
-	25,133,066	-	High	33.67%
-	6,284,357	-	High	34.39%
-	95,499,346	-	High	34.47%

-	3,962,949	-	High	34.64%
-	41,728,425	-	High	34.65%
-	16,526,037	-	High	34.67%
-	3,127,193	-	High	34.74%
-	3,839,997	-	High	34.90%
-	304,678,417	-	High	35.33%
-	-	472,122	High	36.45%
-	-	167,966,553	High	36.56%
9,549,441,358	676,985,005	168,438,676	High	36.88%
91.9%	6.5%	1.6%	High	37.20%
			High	37.20%
-	-	-	High	37.69%
343,130,442	-	-	High	37.74%
97,062,968	-	-	High	37.82%
2,875,421	-	-	High	38.54%
2,770,375	-	-	High	39.29%
90,136,371	-	-	High	39.59%
4,496,212	-	-	High	40.50%
3,086,847	-	-	High	40.56%
98,976,826	-	-	High	40.66%
4,651,419	-	-	High	41.10%
5,073,748	-	-	High	41.25%
153,200,791	-	-	High	41.50%
26,863,202	-	-	High	41.57%
110,978	-	-	High	41.58%
80,735,779	-	-	High	41.60%
2,494,848	-	-	High	41.97%
1,382,904	-	-	High	42.22%
1,481,524	-	-	High	42.43%
539,264	-	-	High	42.45%
34,838,351	-	-	High	42.55%
930,007	-	-	High	42.78%
1,916,956	-	-	High	43.08%
17,782,476	-	-	High	43.09%
57,535,146	-	-	High	43.46%
6,789,793	-	-	High	44.17%
150,000	-	-	High	44.18%
38,804,345	-	-	High	44.22%
1,011,906	-	-	High	44.22%
15,145,190	-	-	High	44.57%
169,142	-	-	High	45.00%
261,220	-	-	High	45.40%
5,205,014	-	-	High	45.46%
10,542,084	-	-	High	46.00%
1,141,713	-	-	High	46.11%
155,501,124	-	-	High	46.30%
38,476,588	-	-	High	46.44%

82,208	-	-	High	46.50%
9,742,007	-	-	High	46.61%
6,923,740	-	-	High	46.75%
11,588,780	-	-	High	46.79%
7,321,831	-	-	High	46.80%
4,603,136	-	-	High	46.85%
2,130,167	-	-	High	47.35%
870,000	-	-	High	47.48%
77,776,021	-	-	High	47.65%
50,000	-	-	High	47.65%
79,309	-	-	High	47.68%
14,343,781	-	-	High	47.72%
203,071,057	-	-	High	48.18%
12,716,268	-	-	High	48.56%
12,138,708	-	-	High	49.00%
458,033	-	-	High	49.04%
1,869,299	-	-	High	49.15%
2,458,999	-	-	High	49.18%
143,660,309	-	-	High	49.58%
3,308,252	-	-	High	49.65%
882,653	-	-	High	49.78%
540,518,336	-	-	High	49.78%
1,018,953	-	-	High	49.86%
160,484	-	-	High	50.07%
46,325	-	-	High	50.28%
207,483,703	-	-	High	50.29%
116,229,365	-	-	High	50.31%
9,676,327	-	-	High	50.80%
114,709,762	-	-	High	51.03%
27,382,314	-	-	High	51.38%
44,368,979	-	-	High	51.60%
404,104,029	-	-	High	51.67%
290,552	-	-	High	51.77%
191,824	-	-	High	51.84%
11,647,385	-	-	High	51.86%
8,951,203	-	-	High	52.14%
871,459,529	-	-	High	53.00%
42,244,358	-	-	High	53.07%
305,769,140	-	-	High	53.18%
-	59,622,870	-	High	53.23%
-	14,942,733	-	High	53.38%
-	53,913,384	-	High	53.64%
-	260,639,991	-	High	53.75%
-	16,253,301	-	High	54.00%
-	1,588,097	-	High	54.44%
-	142,476,572	-	High	54.48%
-	53,901,601	-	High	54.61%

-	8,085,360	-	High	54.68%
-	76,614,820	-	High	55.13%
-	690,940,211	-	High	55.75%
-	29,682,613	-	High	56.00%
-	282,241,485	-	High	56.37%
-	336,412	-	High	57.24%
-	25,406,960	-	High	57.72%
-	6,743,338	-	High	57.86%
-	1,002,556	-	High	58.00%
-	17,919,064	-	High	58.13%
-	12,550,747	-	High	58.20%
-	601,290	-	High	58.34%
-	21,297,559	-	High	58.36%
-	6,397,266	-	High	58.44%
-	6,748,875	-	High	58.74%
-	57,980,005	-	High	58.76%
-	15,815,262	-	High	59.29%
-	19,072,443	-	High	59.44%
-	222,234,144	-	High	60.67%
-	18,935,911	-	High	61.31%
-	355,919	-	High	61.33%
-	101,788,270	-	High	61.54%
-	23,143,252	-	High	61.61%
-	1,168,477	-	High	61.86%
-	7,543,319	-	High	62.00%
-	4,333,359	-	High	62.19%
-	10,316,521	-	High	62.31%
-	12,048,479	-	High	62.48%
-	328,573,117	-	High	62.55%
-	3,377,950	-	High	62.63%
-	143,128,145	-	High	62.75%
-	5,451,760	-	High	63.14%
-	141,415,720	-	High	63.89%
-	53,923,984	-	High	64.26%
-	12,882,412	-	High	64.50%
-	9,575,516	-	High	64.54%
-	220,358,576	-	High	64.66%
-	9,860,709	-	High	64.94%
-	19,453,374	-	High	64.96%
-	23,638,427	-	High	65.00%
-	7,196,926	-	High	65.06%
-	90,320,443	-	High	65.63%
-	122,201,844	-	High	65.91%
-	19,088,475	-	High	66.25%
-	154,197,928	-	High	66.25%
-	3,963,846	-	High	66.43%
-	8,323,870	-	High	66.48%

-	15,982,492	-	High	66.52%
-	726,988,879	-	High	66.84%
-	3,239,567	-	High	66.88%
-	4,472,231	-	High	67.50%
-	3,701,439	-	High	69.22%
-	1,033,229	-	High	69.74%
-	31,498,880	-	High	70.29%
-	9,165,187	-	High	70.45%
-	1,786,244	-	High	71.11%
-	4,355,273	-	High	71.24%
-	22,540,820	-	High	71.33%
-	17,802,829	-	High	71.33%
-	18,734,738	-	High	71.54%
-	4,548,181	-	High	71.67%
-	15,023,580	-	High	71.68%
-	11,467,476	-	High	71.94%
-	12,791,706	-	High	72.12%
-	393,151,095	-	High	72.14%
-	22,292,832	-	High	72.22%
-	74,182,974	-	High	72.70%
-	1,656,471	-	High	73.15%
-	6,522,621	-	High	73.23%
-	13,430,074	-	High	73.31%
-	19,407,787	-	High	73.50%
-	5,051,428	-	High	73.87%
-	3,390,955	-	High	74.44%
-	11,549,647	-	High	74.45%
-	22,425,340	-	High	74.76%
-	731,054	-	High	74.93%
-	966,994	-	High	75.00%
-	3,033,690	-	High	75.12%
-	1,111,413	-	High	75.24%
-	-	1,972,243	High	75.28%
-	-	2,719,606	High	75.41%
-	-	6,593,785	High	76.72%
-	-	6,327,858	High	79.73%
-	-	1,494,975	High	80.60%
4,527,598,098	5,145,612,612	19,108,466	High	80.82%
46.7%	53.1%	0.2%	High	81.00%
			High	81.22%
-	-	-	High	81.29%
2,029,554	-	-	High	83.30%
67,997,423	-	-	High	83.43%
4,482,057	-	-	High	83.57%
6,576,050	-	-	High	83.57%
8,139,134	-	-	High	83.75%
43,256,237	-	-	High	83.78%

14,386,900	-	-	High	83.84%
42,012	-	-	High	84.04%
-	5,119,305	-	High	84.16%
-	799,506	-	High	84.22%
-	860,523,469	-	High	85.18%
-	19,028,922	-	High	85.41%
-	10,667,328	-	High	86.25%
-	43,912,527	-	High	86.58%
-	7,565,326	-	High	87.50%
-	14,022,049	-	High	88.75%
-	899,143,179	-	High	90.63%
-	8,942,463	-	High	92.14%
-	5,532,589	-	High	92.62%
-	214,957,177	-	High	95.00%
-	535,467,959	-	High	95.78%
-	54,399	-	High	96.43%
-	28,704,580	-	High	97.22%
-	17,611,901	-	High	97.26%
-	10,268,504	-	High	97.66%
-	30,417,023	-	High	98.63%
-	381,517,222	-	High	98.78%
-	83,596,667	-	High	99.46%
-	20,402,145	-	High	100.15%
-	6,972,075	-	High	104.64%
-	13,506,423	-	High	104.88%
146,909,367	3,218,732,738	-	High	112.05%
4.4%	95.6%	0.0%	High	113.09%
			High	113.20%
			High	115.34%
			High	115.36%
			High	121.25%
			High	123.29%
			High	125.00%
			High	126.70%
			High	128.22%
			High	129.06%
			High	129.96%
			High	132.93%
			High	133.49%
			High	133.75%
			High	135.80%
			High	136.00%
			High	138.57%
			High	148.09%
			High	153.03%
			High	155.48%
			High	158.93%

High	170.94%
High	174.62%
High	175.31%
High	177.66%
High	187.53%
High	203.73%
High	204.94%
High	213.27%
High	219.76%
High	233.19%
High	313.01%
High	382.91%
High	423.75%
High Total	
High % of total investment	
Medium	0.00%
Medium	2.73%
Medium	6.62%
Medium	6.96%
Medium	7.59%
Medium	7.84%
Medium	9.56%
Medium	10.25%
Medium	10.29%
Medium	10.30%
Medium	10.85%
Medium	11.08%
Medium	11.46%
Medium	11.68%
Medium	11.75%
Medium	11.76%
Medium	11.80%
Medium	11.82%
Medium	12.62%
Medium	12.77%
Medium	12.92%
Medium	12.94%
Medium	13.63%
Medium	13.66%
Medium	14.75%
Medium	15.00%
Medium	15.71%
Medium	15.82%
Medium	15.95%
Medium	16.07%
Medium	16.20%

Medium	16.25%
Medium	17.08%
Medium	17.17%
Medium	17.52%
Medium	17.62%
Medium	17.87%
Medium	18.09%
Medium	18.41%
Medium	21.22%
Medium	21.67%
Medium	22.09%
Medium	22.50%
Medium	22.64%
Medium	22.73%
Medium	23.54%
Medium	23.82%
Medium	23.94%
Medium	23.97%
Medium	24.63%
Medium	24.98%
Medium	25.69%
Medium	25.96%
Medium	25.96%
Medium	26.34%
Medium	26.57%
Medium	26.61%
Medium	27.79%
Medium	29.05%
Medium	29.55%
Medium	29.79%
Medium	29.80%
Medium	30.53%
Medium	30.53%
Medium	30.78%
Medium	31.15%
Medium	32.60%
Medium	33.33%
Medium	33.72%
Medium	34.10%
Medium	35.10%
Medium	35.41%
Medium	35.50%
Medium	35.71%
Medium	36.76%
Medium	37.11%
Medium	37.27%
Medium	38.10%

Medium	38.21%
Medium	38.24%
Medium	38.30%
Medium	39.13%
Medium	39.63%
Medium	40.19%
Medium	40.29%
Medium	40.78%
Medium	42.00%
Medium	42.21%
Medium	42.48%
Medium	42.53%
Medium	42.58%
Medium	43.29%
Medium	43.35%
Medium	43.44%
Medium	43.55%
Medium	43.68%
Medium	43.95%
Medium	44.02%
Medium	44.10%
Medium	44.14%
Medium	44.17%
Medium	44.62%
Medium	45.89%
Medium	46.10%
Medium	46.89%
Medium	46.89%
Medium	47.45%
Medium	47.66%
Medium	47.84%
Medium	48.29%
Medium	48.70%
Medium	49.25%
Medium	49.54%
Medium	49.62%
Medium	49.88%
Medium	50.00%
Medium	50.22%
Medium	51.11%
Medium	51.14%
Medium	51.50%
Medium	52.26%
Medium	52.45%
Medium	52.65%
Medium	53.02%
Medium	53.29%

Medium	53.42%
Medium	54.08%
Medium	54.94%
Medium	55.14%
Medium	55.23%
Medium	55.49%
Medium	55.49%
Medium	55.59%
Medium	56.32%
Medium	56.39%
Medium	56.68%
Medium	56.77%
Medium	56.95%
Medium	57.00%
Medium	57.15%
Medium	57.37%
Medium	58.12%
Medium	58.16%
Medium	58.75%
Medium	58.82%
Medium	58.91%
Medium	59.06%
Medium	59.22%
Medium	59.31%
Medium	59.53%
Medium	59.58%
Medium	59.67%
Medium	60.01%
Medium	60.30%
Medium	60.55%
Medium	60.58%
Medium	60.75%
Medium	61.03%
Medium	61.37%
Medium	61.79%
Medium	62.69%
Medium	62.72%
Medium	62.92%
Medium	63.32%
Medium	63.35%
Medium	63.47%
Medium	63.73%
Medium	63.80%
Medium	63.80%
Medium	63.92%
Medium	64.26%
Medium	64.78%

Medium	64.89%
Medium	64.90%
Medium	65.01%
Medium	65.27%
Medium	65.48%
Medium	65.71%
Medium	66.94%
Medium	67.11%
Medium	68.13%
Medium	68.34%
Medium	68.52%
Medium	68.58%
Medium	68.96%
Medium	69.11%
Medium	69.50%
Medium	70.00%
Medium	70.83%
Medium	71.36%
Medium	71.48%
Medium	72.19%
Medium	73.16%
Medium	73.48%
Medium	73.80%
Medium	74.17%
Medium	74.31%
Medium	74.39%
Medium	74.45%
Medium	74.70%
Medium	75.01%
Medium	75.07%
Medium	75.15%
Medium	75.74%
Medium	76.08%
Medium	76.15%
Medium	76.33%
Medium	76.61%
Medium	77.61%
Medium	77.91%
Medium	78.02%
Medium	78.29%
Medium	78.86%
Medium	78.93%
Medium	79.28%
Medium	79.74%
Medium	80.71%
Medium	80.78%
Medium	81.12%

Medium	81.57%
Medium	82.19%
Medium	82.23%
Medium	82.42%
Medium	82.66%
Medium	82.75%
Medium	83.47%
Medium	84.13%
Medium	85.21%
Medium	86.82%
Medium	86.83%
Medium	87.23%
Medium	88.03%
Medium	88.18%
Medium	89.39%
Medium	89.44%
Medium	89.55%
Medium	90.05%
Medium	90.72%
Medium	91.63%
Medium	92.35%
Medium	92.59%
Medium	93.64%
Medium	94.34%
Medium	94.81%
Medium	95.01%
Medium	95.36%
Medium	95.62%
Medium	96.07%
Medium	96.56%
Medium	96.93%
Medium	97.66%
Medium	98.41%
Medium	100.15%
Medium	100.70%
Medium	100.89%
Medium	101.65%
Medium	102.58%
Medium	103.22%
Medium	103.90%
Medium	104.49%
Medium	104.82%
Medium	107.32%
Medium	108.12%
Medium	108.95%
Medium	109.66%
Medium	111.69%

Medium	111.75%
Medium	111.90%
Medium	111.95%
Medium	112.73%
Medium	113.13%
Medium	113.40%
Medium	113.64%
Medium	115.58%
Medium	115.62%
Medium	115.90%
Medium	116.33%
Medium	116.50%
Medium	116.72%
Medium	118.18%
Medium	120.47%
Medium	122.65%
Medium	122.81%
Medium	123.63%
Medium	127.10%
Medium	127.50%
Medium	129.49%
Medium	129.84%
Medium	129.85%
Medium	130.85%
Medium	131.40%
Medium	131.91%
Medium	135.29%
Medium	138.40%
Medium	139.84%
Medium	141.36%
Medium	145.24%
Medium	148.06%
Medium	148.62%
Medium	150.02%
Medium	152.51%
Medium	156.01%
Medium	158.00%
Medium	159.69%
Medium	162.30%
Medium	166.00%
Medium	167.41%
Medium	174.02%
Medium	180.07%
Medium	190.22%
Medium	204.97%
Medium	246.71%
Medium	258.00%

Medium	321.64%
Medium Total	
Medium % of total investment	
Low	21.67%
Low	28.20%
Low	32.50%
Low	43.33%
Low	44.44%
Low	51.28%
Low	54.81%
Low	65.00%
Low	70.29%
Low	74.78%
Low	77.69%
Low	79.70%
Low	87.65%
Low	90.78%
Low	100.24%
Low	125.87%
Low	134.64%
Low Total	
Low % of total investment	

ntization	Immediate G/L Recognition			G/L D
Plant Investment at March 31, 2019	Investment Prior to 1st Cross-over	Investment between 1st & Second Cross-over	Investment beyond Second Cross-over	Investment Prior to 1st Cross-over
-	-	-	-	-
96,809,302	96,809,302	-	-	96,809,302
185,103	185,103	-	-	185,103
36,150,112	36,150,112	-	-	36,150,112
938,873	938,873	-	-	938,873
240,191,309	240,191,309	-	-	240,191,309
6,713,937	6,713,937	-	-	6,713,937
29,594,107	29,594,107	-	-	29,594,107
548,351,207	548,351,207	-	-	548,351,207
3,297,342	3,297,342	-	-	3,297,342
97,062,968	97,062,968	-	-	97,062,968
1,634,801	1,634,801	-	-	1,634,801
1,472,065	1,472,065	-	-	1,472,065
96,310,532	96,310,532	-	-	96,310,532
102,939,133	102,939,133	-	-	102,939,133
10,202,071	10,202,071	-	-	10,202,071
2,716,949	2,716,949	-	-	2,716,949
389,662	389,662	-	-	389,662
85,291,040	85,291,040	-	-	85,291,040
220,589	220,589	-	-	220,589
2,247,578	2,247,578	-	-	2,247,578
71,683,993	71,683,993	-	-	71,683,993
10,103,122	10,103,122	-	-	10,103,122
539,264	539,264	-	-	539,264
269,820	269,820	-	-	269,820
862,626	862,626	-	-	862,626
27,040,911	27,040,911	-	-	27,040,911
1,004,284	1,004,284	-	-	1,004,284
986,804	986,804	-	-	986,804
2,511,945	2,511,945	-	-	2,511,945

440,465	440,465	-	-	440,465
33,077,443	33,077,443	-	-	33,077,443
32,497,137	32,497,137	-	-	32,497,137
1,615,603	1,615,603	-	-	1,615,603
14,507,651	14,507,651	-	-	14,507,651
59,649,105	59,649,105	-	-	59,649,105
225,602	225,602	-	-	225,602
26,901,107	26,901,107	-	-	26,901,107
334,744	334,744	-	-	334,744
1,323,364	1,323,364	-	-	1,323,364
500,000	500,000	-	-	500,000
11,025,814	11,025,814	-	-	11,025,814
458,094	458,094	-	-	458,094
15,375,508	15,375,508	-	-	15,375,508
733,122	733,122	-	-	733,122
2,580,648	2,580,648	-	-	2,580,648
143,426	143,426	-	-	143,426
792,707	792,707	-	-	792,707
47,641,125	47,641,125	-	-	47,641,125
15,087,957	15,087,957	-	-	15,087,957
33,744	33,744	-	-	33,744
2,054,728	2,054,728	-	-	2,054,728
82,257	82,257	-	-	82,257
26,113,771	26,113,771	-	-	26,113,771
25,719,265	25,719,265	-	-	25,719,265
2,588,113	2,588,113	-	-	2,588,113
43,280,798	43,280,798	-	-	43,280,798
25,592,289	25,592,289	-	-	25,592,289
22,191,717	22,191,717	-	-	22,191,717
60,137,063	60,137,063	-	-	60,137,063
78,917,675	78,917,675	-	-	78,917,675
225,042	225,042	-	-	225,042
1,183,596	1,183,596	-	-	1,183,596
759,266	759,266	-	-	759,266
557,368	557,368	-	-	557,368
22,351,023	22,351,023	-	-	22,351,023
445,860	445,860	-	-	445,860
3,480,389	3,480,389	-	-	3,480,389
656,017	656,017	-	-	656,017
13,113,310	13,113,310	-	-	13,113,310
5,089,957	5,089,957	-	-	5,089,957
187,821,533	187,821,533	-	-	187,821,533
4,953,963	4,953,963	-	-	4,953,963
551,841	551,841	-	-	551,841
3,215,897	3,215,897	-	-	3,215,897
713,110	713,110	-	-	713,110
29,801,399	29,801,399	-	-	29,801,399

30,626	30,626	-	-	30,626
13,081	13,081	-	-	13,081
11,492,757	11,492,757	-	-	11,492,757
466,427,122	466,427,122	-	-	466,427,122
634,458	634,458	-	-	634,458
368,671	368,671	-	-	368,671
1,010,297	1,010,297	-	-	1,010,297
66,065	66,065	-	-	66,065
3,415,062	3,415,062	-	-	3,415,062
1,848,000	1,848,000	-	-	1,848,000
303,637	303,637	-	-	303,637
21,552,432	21,552,432	-	-	21,552,432
1,285,368	1,285,368	-	-	1,285,368
952,000	952,000	-	-	952,000
74,274	74,274	-	-	74,274
1,827,544	1,827,544	-	-	1,827,544
1,648,680	1,648,680	-	-	1,648,680
345,135	345,135	-	-	345,135
8,015,475	8,015,475	-	-	8,015,475
156,800,616	156,800,616	-	-	156,800,616
7,736,610	7,736,610	-	-	7,736,610
952,000	952,000	-	-	952,000
20,994,575	20,994,575	-	-	20,994,575
1,492,678	1,492,678	-	-	1,492,678
538,811	538,811	-	-	538,811
1,512,626	1,512,626	-	-	1,512,626
500,269,212	500,269,212	-	-	500,269,212
140,903,599	140,903,599	-	-	140,903,599
93,376	93,376	-	-	93,376
10,237,405	10,237,405	-	-	10,237,405
142,469	142,469	-	-	142,469
115,539,484	115,539,484	-	-	115,539,484
36,035,091	36,035,091	-	-	36,035,091
155,292,831	155,292,831	-	-	155,292,831
2,611,923	2,611,923	-	-	2,611,923
64,751,530	64,751,530	-	-	64,751,530
17,241,946	17,241,946	-	-	17,241,946
1,285,368	1,285,368	-	-	1,285,368
5,381,917	5,381,917	-	-	5,381,917
80,606,373	80,606,373	-	-	80,606,373
98,957,852	98,957,852	-	-	98,957,852
202,778	202,778	-	-	202,778
1,728,345	1,728,345	-	-	1,728,345
393,313,694	393,313,694	-	-	393,313,694
71,757	71,757	-	-	71,757
15,414,372	15,414,372	-	-	15,414,372
15,557,578	15,557,578	-	-	15,557,578

105,578,550	105,578,550	-	-	105,578,550
40,679,866	40,679,866	-	-	40,679,866
1,853,834	1,853,834	-	-	1,853,834
1,817,268	1,817,268	-	-	1,817,268
1,765,465	1,765,465	-	-	1,765,465
106,881	106,881	-	-	106,881
47,507,703	47,507,703	-	-	47,507,703
23,806,937	23,806,937	-	-	23,806,937
3,078,064	3,078,064	-	-	3,078,064
125,214,115	125,214,115	-	-	125,214,115
37,278,583	37,278,583	-	-	37,278,583
257,898	257,898	-	-	257,898
18,860,195	18,860,195	-	-	18,860,195
1,864,997	1,864,997	-	-	1,864,997
1,904,712	1,904,712	-	-	1,904,712
53,564,816	53,564,816	-	-	53,564,816
60,387,257	60,387,257	-	-	60,387,257
1,285,948	1,285,948	-	-	1,285,948
1,671,075,743	1,671,075,743	-	-	1,671,075,743
1,819,174	1,819,174	-	-	1,819,174
32,422,166	32,422,166	-	-	32,422,166
41,781	41,781	-	-	41,781
179,496	179,496	-	-	179,496
837,744	837,744	-	-	837,744
1,672,408	1,672,408	-	-	1,672,408
15,628,101	15,628,101	-	-	15,628,101
59,179,216	59,179,216	-	-	59,179,216
26,560,157	26,560,157	-	-	26,560,157
20,728,240	20,728,240	-	-	20,728,240
13,733,692	13,733,692	-	-	13,733,692
57,780,018	57,780,018	-	-	57,780,018
9,077,379	9,077,379	-	-	9,077,379
3,743,491	3,743,491	-	-	3,743,491
31,139,157	31,139,157	-	-	31,139,157
17,523,966	17,523,966	-	-	17,523,966
2,245,776	2,245,776	-	-	2,245,776
791,218,342	791,218,342	-	-	791,218,342
12,539,833	12,539,833	-	-	12,539,833
22,968,751	22,968,751	-	-	22,968,751
10,124,419	10,124,419	-	-	10,124,419
29,259,213	29,259,213	-	-	29,259,213
23,270,259	23,270,259	-	-	23,270,259
19,802,293	19,802,293	-	-	19,802,293
5,926	5,926	-	-	5,926
17,699,799	17,699,799	-	-	17,699,799
19,772,483	19,772,483	-	-	19,772,483
2,393,841	2,393,841	-	-	2,393,841

2,941,485	2,941,485	-	-	2,941,485
1,170,413	1,170,413	-	-	1,170,413
2,677,162	2,677,162	-	-	2,677,162
189,568	189,568	-	-	189,568
3,650,661	3,650,661	-	-	3,650,661
864,642	864,642	-	-	864,642
2,336,689	2,336,689	-	-	2,336,689
170,763	170,763	-	-	170,763
129,147	129,147	-	-	129,147
6,613,044	6,613,044	-	-	6,613,044
3,062,025	3,062,025	-	-	3,062,025
71,755	71,755	-	-	71,755
6,120,911	6,120,911	-	-	6,120,911
42,916,903	42,916,903	-	-	42,916,903
257,898	257,898	-	-	257,898
2,011,013	2,011,013	-	-	2,011,013
15,660,627	15,660,627	-	-	15,660,627
7,060,027	7,060,027	-	-	7,060,027
2,680,166	2,680,166	-	-	2,680,166
270,694,874	270,694,874	-	-	270,694,874
9,077,379	9,077,379	-	-	9,077,379
4,561,625	4,561,625	-	-	4,561,625
752,542	752,542	-	-	752,542
1,299,783	1,299,783	-	-	1,299,783
99,522,008	99,522,008	-	-	99,522,008
29,641,317	29,641,317	-	-	29,641,317
9,542,519	9,542,519	-	-	9,542,519
946,120	946,120	-	-	946,120
13,032,817	13,032,817	-	-	13,032,817
13,418,792	13,418,792	-	-	13,418,792
11,277,903	11,277,903	-	-	11,277,903
14,733,141	14,733,141	-	-	14,733,141
50,696,569	50,696,569	-	-	50,696,569
3,163,001	3,163,001	-	-	3,163,001
28,741,825	28,741,825	-	-	28,741,825
5,607,135	5,607,135	-	-	5,607,135
17,307	17,307	-	-	17,307
234,984	234,984	-	-	234,984
57,780,018	57,780,018	-	-	57,780,018
1,765,150	1,765,150	-	-	1,765,150
1,358,261,460	1,358,261,460	-	-	1,358,261,460
5,321,514	5,321,514	-	-	5,321,514
321,702	321,702	-	-	321,702
8,635,042	8,635,042	-	-	8,635,042
870,000	870,000	-	-	870,000
50,718,877	50,718,877	-	-	50,718,877
2,038,696	2,038,696	-	-	2,038,696

54,019,224	54,019,224	-	-	54,019,224
7,047,848	-	7,047,848	-	7,047,848
2,587,832	-	2,587,832	-	2,587,832
16,191,382	-	16,191,382	-	16,191,382
24,205,357	-	24,205,357	-	24,205,357
300,567	-	300,567	-	300,567
33,972,786	-	33,972,786	-	33,972,786
12,510,403	-	12,510,403	-	12,510,403
502,596	-	502,596	-	502,596
17,318,091	-	17,318,091	-	17,318,091
42,954,564	-	42,954,564	-	42,954,564
2,949,862	-	2,949,862	-	2,949,862
28,560,439	-	28,560,439	-	28,560,439
78,169	-	78,169	-	78,169
18,646,650	-	18,646,650	-	18,646,650
5,735,210	-	5,735,210	-	5,735,210
4,429,185	-	4,429,185	-	4,429,185
4,007,473	-	4,007,473	-	4,007,473
5,607,135	-	5,607,135	-	5,607,135
20,711,550	-	20,711,550	-	20,711,550
9,665,500	-	9,665,500	-	9,665,500
3,110,420	-	3,110,420	-	3,110,420
13,638,537	-	13,638,537	-	13,638,537
46,724,135	-	46,724,135	-	46,724,135
262,515	-	262,515	-	262,515
13,018,371	-	13,018,371	-	13,018,371
19,246,716	-	19,246,716	-	19,246,716
57,476,836	-	57,476,836	-	57,476,836
10,424,603	-	10,424,603	-	10,424,603
4,097,916	-	4,097,916	-	4,097,916
302,901	-	302,901	-	302,901
10,738,905	-	10,738,905	-	10,738,905
5,635,867	-	5,635,867	-	5,635,867
21,505,240	-	21,505,240	-	21,505,240
28,263	-	28,263	-	28,263
836,547	-	836,547	-	836,547
3,872,881	-	3,872,881	-	3,872,881
4,854,884	-	4,854,884	-	4,854,884
1,242,108	-	1,242,108	-	1,242,108
1,250,714	-	1,250,714	-	1,250,714
342,413	-	342,413	-	342,413
9,831,610	-	9,831,610	-	9,831,610
12,138,833	-	12,138,833	-	12,138,833
90,770	-	90,770	-	90,770
218,657	-	218,657	-	218,657
6,314,203	-	6,314,203	-	6,314,203
23,116,986	-	23,116,986	-	23,116,986

3,198,436	-	3,198,436	-	3,198,436
40,794,687	-	40,794,687	-	40,794,687
979,024	-	979,024	-	979,024
260,406	-	260,406	-	260,406
236,886	-	236,886	-	-
5,321,514	-	5,321,514	-	-
17,055,411	-	17,055,411	-	-
9,667,828	-	9,667,828	-	-
925,574	-	925,574	-	-
30,536,851	-	30,536,851	-	-
5,729,299	-	5,729,299	-	-
5,464	-	5,464	-	-
7,658,138	-	7,658,138	-	-
1,753,623	-	1,753,623	-	-
1,911,200	-	1,911,200	-	-
3,336,369	-	3,336,369	-	-
57,707	-	57,707	-	-
1,300,861	-	1,300,861	-	-
5,111,366	-	5,111,366	-	-
511,999	-	511,999	-	-
10,912,969	-	10,912,969	-	-
7,699,218	-	7,699,218	-	-
2,954,291	-	2,954,291	-	-
12,993,253	-	12,993,253	-	-
24,367,160	-	24,367,160	-	-
959,831	-	959,831	-	-
6,122,394	-	6,122,394	-	-
13,377,471	-	13,377,471	-	-
22,246,298	-	22,246,298	-	-
792,157	-	792,157	-	-
2,844,528	-	2,844,528	-	-
498,975	-	498,975	-	-
6,650,923	-	6,650,923	-	-
245,726	-	245,726	-	-
13,564,232	-	13,564,232	-	-
7,181,475	-	7,181,475	-	-
7,726,679	-	7,726,679	-	-
2,897,833	-	2,897,833	-	-
19,246,716	-	19,246,716	-	-
6,231,809	-	6,231,809	-	-
10,671,117	-	10,671,117	-	-
3,962,949	-	3,962,949	-	-
4,892,287	-	4,892,287	-	-
1,332,051	-	1,332,051	-	-
4,132,541	-	4,132,541	-	-
316,188	-	316,188	-	-
1,483,593	-	1,483,593	-	-

212,444	-	212,444	-	-
13,107,960	-	13,107,960	-	-
2,532,721	-	2,532,721	-	-
4,353,930	-	4,353,930	-	-
2,007,731	-	2,007,731	-	-
2,919,554	-	2,919,554	-	-
159,913	-	159,913	-	-
5,895,795	-	5,895,795	-	-
647,904	-	647,904	-	-
193,894	-	193,894	-	-
742,369	-	742,369	-	-
705,431	-	705,431	-	-
65,892,872	-	65,892,872	-	-
31,576	-	31,576	-	-
1,024,281	-	1,024,281	-	-
382,950	-	382,950	-	-
174,090	-	174,090	-	-
2,420,426	-	2,420,426	-	-
11,642,687	-	11,642,687	-	-
538,128	-	538,128	-	-
38,022,510	-	38,022,510	-	-
236,083	-	-	236,083	-
469,977	-	-	469,977	-
290,090	-	-	290,090	-
21,434	-	-	21,434	-
372,058	-	-	372,058	-
795,242	-	-	795,242	-
34,327,950	-	-	34,327,950	-
227,223	-	-	227,223	-
492,349	-	-	492,349	-
508,422	-	-	508,422	-
538,128	-	-	538,128	-
1,570	-	-	1,570	-
441,303	-	-	441,303	-
538,128	-	-	538,128	-
119,666	-	-	119,666	-
14,832,027	-	-	14,832,027	-
29,421	-	-	29,421	-
80,241,187	-	-	80,241,187	-
250,000	-	-	250,000	-
56,076	-	-	56,076	-
483,767	-	-	483,767	-
964,288	-	-	964,288	-
10,074,657	-	-	10,074,657	-
906,651	-	-	906,651	-
189,090	-	-	189,090	-
758,607	-	-	758,607	-

291,791	-	-	291,791	-
764,884	-	-	764,884	-
2,489,726	-	-	2,489,726	-
108,496	-	-	108,496	-
2,780,163	-	-	2,780,163	-
116,369	-	-	116,369	-
4,470,592	-	-	4,470,592	-
345,158	-	-	345,158	-
529,941	-	-	529,941	-
157,044	-	-	157,044	-
-	-	-	-	-
105,966	-	-	105,966	-
-	-	-	-	-
11,494,671,167	10,319,774,739	1,014,570,904	160,325,523	10,893,311,721
100.0%	89.8%	8.8%	1.4%	94.8%
-	-	-	-	-
33,563	33,563	-	-	33,563
370,027	370,027	-	-	370,027
12,186,427	12,186,427	-	-	12,186,427
488,173	488,173	-	-	488,173
1,050,665	1,050,665	-	-	1,050,665
3,273,767	3,273,767	-	-	3,273,767
1,654,096	1,654,096	-	-	1,654,096
99,634,010	99,634,010	-	-	99,634,010
49,113,650	49,113,650	-	-	49,113,650
5,889,279	5,889,279	-	-	5,889,279
2,862,890	2,862,890	-	-	2,862,890
26,863,202	26,863,202	-	-	26,863,202
6,767	6,767	-	-	6,767
261,220	261,220	-	-	261,220
41,978,152	41,978,152	-	-	41,978,152
208,201	208,201	-	-	208,201
4,222,098	4,222,098	-	-	4,222,098
1,297,742	1,297,742	-	-	1,297,742
1,319,783	1,319,783	-	-	1,319,783
2,729,566	2,729,566	-	-	2,729,566
89,034,420	89,034,420	-	-	89,034,420
3,246,267	3,246,267	-	-	3,246,267
1,481,524	1,481,524	-	-	1,481,524
21,214,697	21,214,697	-	-	21,214,697
1,167,937	1,167,937	-	-	1,167,937
432,762	432,762	-	-	432,762
7,133,827	7,133,827	-	-	7,133,827
1,950,310	1,950,310	-	-	1,950,310
1,795,642	1,795,642	-	-	1,795,642
13,619,041	13,619,041	-	-	13,619,041

150,000	150,000	-	-	150,000
4,328,911	4,328,911	-	-	4,328,911
39,223,865	39,223,865	-	-	39,223,865
3,612,722	3,612,722	-	-	3,612,722
752,831	752,831	-	-	752,831
812,174	812,174	-	-	812,174
15,145,190	15,145,190	-	-	15,145,190
34,600,929	34,600,929	-	-	34,600,929
40,328,273	40,328,273	-	-	40,328,273
82,208	82,208	-	-	82,208
47,690,692	47,690,692	-	-	47,690,692
13,518,429	13,518,429	-	-	13,518,429
1,168,712	1,168,712	-	-	1,168,712
353,452	353,452	-	-	353,452
443,992	443,992	-	-	443,992
9,742,007	9,742,007	-	-	9,742,007
638,904	638,904	-	-	638,904
1,783,388	1,783,388	-	-	1,783,388
5,035,410	5,035,410	-	-	5,035,410
14,790,326	14,790,326	-	-	14,790,326
15,800,109	15,800,109	-	-	15,800,109
20,956,533	20,956,533	-	-	20,956,533
14,620,404	14,620,404	-	-	14,620,404
257,898	257,898	-	-	257,898
2,225,695	2,225,695	-	-	2,225,695
2,489,133	2,489,133	-	-	2,489,133
2,774,835	2,774,835	-	-	2,774,835
682,301	-	682,301	-	682,301
20,000	-	20,000	-	20,000
558,370	-	558,370	-	558,370
114,364,515	-	114,364,515	-	114,364,515
478,040,900	-	478,040,900	-	478,040,900
9,000,124	-	9,000,124	-	9,000,124
2,018,902	-	2,018,902	-	2,018,902
101,151,532	-	101,151,532	-	101,151,532
12,716,268	-	12,716,268	-	12,716,268
12,138,708	-	12,138,708	-	12,138,708
1,287,653	-	1,287,653	-	1,287,653
13,319,515	-	13,319,515	-	13,319,515
473,428	-	473,428	-	473,428
2,638,086	-	2,638,086	-	2,638,086
1,001,405	-	1,001,405	-	1,001,405
900,984	-	900,984	-	900,984
13,230,175	-	13,230,175	-	13,230,175
36,200,540	-	36,200,540	-	36,200,540
81,827	-	81,827	-	81,827
12,909,987	-	12,909,987	-	12,909,987

138,044,833	-	138,044,833	-	138,044,833
46,325	-	46,325	-	46,325
3,527,186	-	3,527,186	-	3,527,186
207,483,703	-	207,483,703	-	207,483,703
115,448	-	115,448	-	115,448
646,764	-	646,764	-	646,764
3,477,845	-	3,477,845	-	3,477,845
84,743,704	-	84,743,704	-	84,743,704
4,167,934	-	4,167,934	-	4,167,934
2,412,985	-	2,412,985	-	2,412,985
1,809,585	-	1,809,585	-	1,809,585
28,815,269	-	28,815,269	-	28,815,269
7,248,329	-	7,248,329	-	7,248,329
5,214,368	-	5,214,368	-	5,214,368
41,205,958	-	41,205,958	-	41,205,958
1,787,420	-	1,787,420	-	1,787,420
39,883,069	-	39,883,069	-	39,883,069
933,470	-	933,470	-	933,470
114,616,611	-	114,616,611	-	114,616,611
9,912,536	-	9,912,536	-	9,912,536
247,659,826	-	247,659,826	-	247,659,826
978,675	-	978,675	-	978,675
16,432,469	-	16,432,469	-	16,432,469
19,171,002	-	19,171,002	-	19,171,002
8,951,203	-	8,951,203	-	8,951,203
336,145	-	336,145	-	336,145
3,688,132	-	3,688,132	-	3,688,132
71,048,855	-	71,048,855	-	71,048,855
15,455,496	-	15,455,496	-	15,455,496
14,395,908	-	14,395,908	-	14,395,908
287,769,701	-	287,769,701	-	287,769,701
2,478,456	-	2,478,456	-	-
9,191,866	-	9,191,866	-	-
260,639,991	-	260,639,991	-	-
649,565	-	649,565	-	-
9,535,550	-	9,535,550	-	-
3,783,085	-	3,783,085	-	-
17,325,966	-	17,325,966	-	-
27,437,350	-	27,437,350	-	-
148,484,987	-	148,484,987	-	-
1,588,097	-	1,588,097	-	-
211,781,161	-	211,781,161	-	-
126,967,662	-	126,967,662	-	-
53,901,601	-	53,901,601	-	-
6,490,249	-	6,490,249	-	-
408,817,137	-	408,817,137	-	-
4,148,997	-	4,148,997	-	-

1,788,265	-	1,788,265	-	-
8,891,494	-	8,891,494	-	-
3,239,595	-	3,239,595	-	-
17,919,064	-	17,919,064	-	-
13,167,827	-	13,167,827	-	-
2,464,890	-	2,464,890	-	-
1,529,932	-	1,529,932	-	-
12,550,747	-	12,550,747	-	-
9,552,498	-	9,552,498	-	-
2,976,028	-	2,976,028	-	-
730,985,160	-	730,985,160	-	-
40,464,517	-	40,464,517	-	-
4,639,534	-	4,639,534	-	-
960,604	-	960,604	-	-
21,297,559	-	21,297,559	-	-
2,786,674	-	2,786,674	-	-
581,467	-	581,467	-	-
8,802,732	-	8,802,732	-	-
9,048,523	-	9,048,523	-	-
491,413,525	-	491,413,525	-	-
10,117,572	-	10,117,572	-	-
23,143,252	-	23,143,252	-	-
1,168,477	-	1,168,477	-	-
56,615,484	-	56,615,484	-	-
5,581,357	-	5,581,357	-	-
57,094	-	57,094	-	-
99,042,821	-	99,042,821	-	-
378,936,948	-	378,936,948	-	-
10,316,521	-	10,316,521	-	-
1,387,895	-	1,387,895	-	-
525,342	-	525,342	-	-
1,553,629	-	1,553,629	-	-
196,702,605	-	196,702,605	-	-
89,491,956	-	89,491,956	-	-
21,661,795	-	21,661,795	-	-
2,760,302	-	2,760,302	-	-
83,815	-	83,815	-	-
764,258	-	764,258	-	-
5,248,652	-	5,248,652	-	-
16,652,278	-	16,652,278	-	-
24,052,592	-	24,052,592	-	-
4,435,120	-	4,435,120	-	-
81,936,178	-	81,936,178	-	-
70,028,548	-	70,028,548	-	-
220,358,576	-	220,358,576	-	-
3,397,471	-	3,397,471	-	-
2,680,716	-	2,680,716	-	-

8,133,160	-	8,133,160	-	-
178,987	-	178,987	-	-
5,476,539	-	5,476,539	-	-
455,832,866	-	455,832,866	-	-
101,319,160	-	101,319,160	-	-
23,638,427	-	23,638,427	-	-
90,320,443	-	90,320,443	-	-
9,172,181	-	9,172,181	-	-
77,028,467	-	77,028,467	-	-
1,290,292	-	1,290,292	-	-
8,714,738	-	8,714,738	-	-
99,593,962	-	99,593,962	-	-
1,450,437	-	1,450,437	-	-
12,347,137	-	12,347,137	-	-
283,877,505	-	283,877,505	-	-
3,912	-	3,912	-	-
3,559,761	-	3,559,761	-	-
5,197,102	-	5,197,102	-	-
5,825,414	-	5,825,414	-	-
39,488,522	-	39,488,522	-	-
496,178	-	496,178	-	-
4,579,922	-	4,579,922	-	-
65,677,980	-	65,677,980	-	-
32,263	-	32,263	-	-
1,033,229	-	1,033,229	-	-
31,498,880	-	31,498,880	-	-
2,015,380	-	2,015,380	-	-
17,397	-	17,397	-	-
4,280,908	-	4,280,908	-	-
46,532,444	-	46,532,444	-	-
6,927,131	-	6,927,131	-	-
4,494,361	-	4,494,361	-	-
2,173,794	-	2,173,794	-	-
1,766,856	-	1,766,856	-	-
13,903,831	-	13,903,831	-	-
22,540,820	-	22,540,820	-	-
1,386,567	-	1,386,567	-	-
60,919,456	-	60,919,456	-	-
16,896,028	-	16,896,028	-	-
2,444,776	-	2,444,776	-	-
8,185,233	-	8,185,233	-	-
16,884,215	-	16,884,215	-	-
15,023,580	-	15,023,580	-	-
11,835,084	-	11,835,084	-	-
5,551,508	-	5,551,508	-	-
85,151,414	-	85,151,414	-	-
3,363,271	-	3,363,271	-	-

12,853,834	-	12,853,834	-	-
135,088,183	-	135,088,183	-	-
19,363,560	-	19,363,560	-	-
14,883,858	-	14,883,858	-	-
6,044,075	-	6,044,075	-	-
1,984,176	-	1,984,176	-	-
29,433,804	-	29,433,804	-	-
8,224,773	-	8,224,773	-	-
417,453	-	417,453	-	-
74,182,974	-	74,182,974	-	-
2,050,918	-	2,050,918	-	-
1,656,471	-	1,656,471	-	-
5,698,495	-	5,698,495	-	-
543,368	-	543,368	-	-
2,784,614	-	2,784,614	-	-
7,456,194	-	7,456,194	-	-
857,986	-	857,986	-	-
3,086,208	-	3,086,208	-	-
263,745	-	263,745	-	-
31,098,478	-	31,098,478	-	-
610,968	-	610,968	-	-
6,672,772	-	6,672,772	-	-
1,967,372	-	1,967,372	-	-
778,135	-	778,135	-	-
3,815,381	-	3,815,381	-	-
333,498	-	333,498	-	-
6,522,621	-	6,522,621	-	-
13,430,074	-	13,430,074	-	-
853,910	-	853,910	-	-
6,536,304	-	6,536,304	-	-
215,314,632	-	215,314,632	-	-
12,101,614	-	12,101,614	-	-
13,355,129	-	13,355,129	-	-
2,275,210	-	2,275,210	-	-
387,465	-	387,465	-	-
3,472,758	-	3,472,758	-	-
2,524,363	-	2,524,363	-	-
1,668,538	-	1,668,538	-	-
51,164,075	-	-	51,164,075	-
35,048,837	-	-	35,048,837	-
7,897,584	-	-	7,897,584	-
4,201,543	-	-	4,201,543	-
5,205,752	-	-	5,205,752	-
30,806	-	-	30,806	-
966,994	-	-	966,994	-
4,042,569	-	-	4,042,569	-
310,194	-	-	310,194	-

3,802,445	-	-	3,802,445	-
38,040,963	-	-	38,040,963	-
17,164,290	-	-	17,164,290	-
1,193,730	-	-	1,193,730	-
19,250,891	-	-	19,250,891	-
3,323,375	-	-	3,323,375	-
1,197	-	-	1,197	-
195,916	-	-	195,916	-
4,747,888	-	-	4,747,888	-
23,966,043	-	-	23,966,043	-
2,296,883	-	-	2,296,883	-
3,401,939	-	-	3,401,939	-
32,500,211	-	-	32,500,211	-
348,030	-	-	348,030	-
129,584,652	-	-	129,584,652	-
913,695	-	-	913,695	-
4,967,958	-	-	4,967,958	-
3,908,742	-	-	3,908,742	-
1,374,038	-	-	1,374,038	-
9,192,310	-	-	9,192,310	-
934,958	-	-	934,958	-
992,757	-	-	992,757	-
2,253,894	-	-	2,253,894	-
2,344,163	-	-	2,344,163	-
1,948,880	-	-	1,948,880	-
140,130,715	-	-	140,130,715	-
1,600,674	-	-	1,600,674	-
164,288	-	-	164,288	-
2,151,549	-	-	2,151,549	-
6,926,718	-	-	6,926,718	-
55,774	-	-	55,774	-
2,176,842	-	-	2,176,842	-
2,025,822	-	-	2,025,822	-
125,559	-	-	125,559	-
38,137	-	-	38,137	-
585,029	-	-	585,029	-
8,337	-	-	8,337	-
7,538,638	-	-	7,538,638	-
914,481	-	-	914,481	-
7,316	-	-	7,316	-
2,172,604	-	-	2,172,604	-
1,412,156	-	-	1,412,156	-
1,135,177	-	-	1,135,177	-
426,588	-	-	426,588	-
45,079,071	-	-	45,079,071	-
517,940	-	-	517,940	-
62,545	-	-	62,545	-

431,712	-	-	431,712	-
9,843,407,607	689,846,726	8,520,355,006	633,205,875	2,884,562,699
100.0%	7.0%	86.6%	6.4%	29.3%
259,959	-	259,959	-	259,959
9,038,210	-	9,038,210	-	9,038,210
42,012	-	42,012	-	42,012
30,000	-	30,000	-	-
860,523,469	-	860,523,469	-	-
159,241,015	-	159,241,015	-	-
750,677,524	-	750,677,524	-	-
54,399	-	54,399	-	-
58,109,314	-	58,109,314	-	-
30,417,023	-	30,417,023	-	-
83,596,667	-	83,596,667	-	-
20,402,145	-	20,402,145	-	-
34,246,295	-	34,246,295	-	-
10,920,576	-	10,920,576	-	-
76,710,441	-	76,710,441	-	-
6,972,075	-	-	6,972,075	-
13,506,423	-	-	13,506,423	-
2,114,747,547	-	2,094,269,049	20,478,498	9,340,182
100.0%	0.0%	99.0%	1.0%	0.4%

eferral & Amortization	
Investment between 1st & Second Cross-over	Investment beyond Second Cross-over
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236,886	-
5,321,514	-
17,055,411	-
9,667,828	-
925,574	-
30,536,851	-
5,729,299	-
5,464	-
7,658,138	-
1,753,623	-
1,911,200	-
3,336,369	-
57,707	-
1,300,861	-
5,111,366	-
511,999	-
10,912,969	-
7,699,218	-
2,954,291	-
12,993,253	-
24,367,160	-
959,831	-
6,122,394	-
13,377,471	-
22,246,298	-
792,157	-
2,844,528	-
498,975	-
6,650,923	-
245,726	-
13,564,232	-
7,181,475	-
7,726,679	-
2,897,833	-
19,246,716	-
6,231,809	-
10,671,117	-
3,962,949	-
4,892,287	-
1,332,051	-
4,132,541	-
316,188	-
1,483,593	-

212,444	-
13,107,960	-
2,532,721	-
4,353,930	-
2,007,731	-
2,919,554	-
159,913	-
5,895,795	-
647,904	-
193,894	-
742,369	-
705,431	-
65,892,872	-
31,576	-
1,024,281	-
382,950	-
174,090	-
2,420,426	-
11,642,687	-
538,128	-
38,022,510	-
236,083	-
469,977	-
290,090	-
21,434	-
372,058	-
-	795,242
-	34,327,950
-	227,223
-	492,349
-	508,422
-	538,128
-	1,570
-	441,303
-	538,128
-	119,666
-	14,832,027
-	29,421
-	80,241,187
-	250,000
-	56,076
-	483,767
-	964,288
-	10,074,657
-	906,651
-	189,090
-	758,607

-	291,791
-	764,884
-	2,489,726
-	108,496
-	2,780,163
-	116,369
-	4,470,592
-	345,158
-	529,941
-	157,044
-	-
-	105,966
-	-
442,423,565	158,935,882
3.8%	1.4%
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2,478,456	-
9,191,866	-
260,639,991	-
649,565	-
9,535,550	-
3,783,085	-
17,325,966	-
27,437,350	-
148,484,987	-
1,588,097	-
211,781,161	-
126,967,662	-
53,901,601	-
6,490,249	-
408,817,137	-
4,148,997	-

1,788,265	-
8,891,494	-
3,239,595	-
17,919,064	-
13,167,827	-
2,464,890	-
1,529,932	-
12,550,747	-
9,552,498	-
2,976,028	-
730,985,160	-
40,464,517	-
4,639,534	-
960,604	-
21,297,559	-
2,786,674	-
581,467	-
8,802,732	-
9,048,523	-
491,413,525	-
10,117,572	-
23,143,252	-
1,168,477	-
56,615,484	-
5,581,357	-
57,094	-
99,042,821	-
378,936,948	-
10,316,521	-
1,387,895	-
525,342	-
1,553,629	-
196,702,605	-
89,491,956	-
21,661,795	-
2,760,302	-
83,815	-
764,258	-
5,248,652	-
16,652,278	-
24,052,592	-
4,435,120	-
81,936,178	-
70,028,548	-
220,358,576	-
3,397,471	-
2,680,716	-

8,133,160	-
178,987	-
5,476,539	-
455,832,866	-
101,319,160	-
23,638,427	-
90,320,443	-
9,172,181	-
77,028,467	-
1,290,292	-
8,714,738	-
99,593,962	-
1,450,437	-
12,347,137	-
283,877,505	-
3,912	-
3,559,761	-
5,197,102	-
5,825,414	-
39,488,522	-
496,178	-
4,579,922	-
65,677,980	-
32,263	-
1,033,229	-
31,498,880	-
2,015,380	-
17,397	-
4,280,908	-
46,532,444	-
6,927,131	-
4,494,361	-
2,173,794	-
1,766,856	-
13,903,831	-
22,540,820	-
1,386,567	-
60,919,456	-
16,896,028	-
2,444,776	-
8,185,233	-
16,884,215	-
15,023,580	-
11,835,084	-
5,551,508	-
85,151,414	-
3,363,271	-

12,853,834	-
135,088,183	-
19,363,560	-
14,883,858	-
6,044,075	-
1,984,176	-
29,433,804	-
8,224,773	-
417,453	-
74,182,974	-
2,050,918	-
1,656,471	-
5,698,495	-
543,368	-
2,784,614	-
7,456,194	-
857,986	-
3,086,208	-
263,745	-
31,098,478	-
610,968	-
6,672,772	-
1,967,372	-
778,135	-
3,815,381	-
333,498	-
6,522,621	-
13,430,074	-
853,910	-
6,536,304	-
215,314,632	-
12,101,614	-
13,355,129	-
2,275,210	-
387,465	-
3,472,758	-
2,524,363	-
1,668,538	-
51,164,075	-
35,048,837	-
7,897,584	-
4,201,543	-
5,205,752	-
30,806	-
966,994	-
4,042,569	-
310,194	-

3,802,445	-
38,040,963	-
17,164,290	-
1,193,730	-
19,250,891	-
3,323,375	-
1,197	-
195,916	-
4,747,888	-
23,966,043	-
2,296,883	-
3,401,939	-
32,500,211	-
348,030	-
-	129,584,652
-	913,695
-	4,967,958
-	3,908,742
-	1,374,038
-	9,192,310
-	934,958
-	992,757
-	2,253,894
-	2,344,163
-	1,948,880
-	140,130,715
-	1,600,674
-	164,288
-	2,151,549
-	6,926,718
-	55,774
-	2,176,842
-	2,025,822
-	125,559
-	38,137
-	585,029
-	8,337
-	7,538,638
-	914,481
-	7,316
-	2,172,604
-	1,412,156
-	1,135,177
-	426,588
-	45,079,071
-	517,940
-	62,545

-	431,712
6,584,741,187	374,103,720
66.9%	3.8%
-	-
-	-
-	-
30,000	-
860,523,469	-
159,241,015	-
750,677,524	-
54,399	-
58,109,314	-
30,417,023	-
83,596,667	-
20,402,145	-
34,246,295	-
10,920,576	-
76,710,441	-
6,972,075	-
13,506,423	-
2,105,407,365	-
99.6%	0.0%